

Welcome to RoboHELP. Click Topic (Ctrl+T) to add your first Help topic.

f_Cfif~fbfNfŠf“fNf%ofCfuf%ofŠ (DLL)

ŽQAE

f_Cfif~fbfNfŠf“fNf%ofCfuf%ofŠ (DLL) ,í¼,ì DLL
,Ü,½,íAfvfŠfP[fVf+f“,É,æ,Á,Žg,í,è,éR[fh,âfŠf\[]fX,“ü,Á,½ŽÀ[s%oÁ“\f,fWf...[]f< (Šg’£Žq
.DLL) ,Á,·BWindows ŠÁ««,Á,íCDLL ,É,æ,è•i“,íAfvfŠfP[fVf+f“,âfR[fh,âfŠf\[]fX,ð«—
L,Á,«,Ü,·B

DLL ,ÉÁ,à,æ,Ž—,½ C++Builder
,İT“O,íftfjfbfg,Á,·B,µ,©,µCftfjfbfg“à,í<[]f`f“,íŠf“fNŽž,ÉŽÀ[s%oÁ“\
ftf@fCf<,ÆfŠf“fN,³,è,Ü,· (fXf^fefBfbfNfŠf“fN)[]B,±,è,É’Í,µ DLL
,í<[]f`f“,íCEÁ•É,íftf@fCf<,É, ,èCŽÀ[sŽž,É—~—p%oÁ“\,É,È,è,Ü,· (f_Cfif~fbfNfŠf“fN)[]B

DLL ,É,æ,Á,Ä•i“,íAfvfŠfP[fVf+f“,â«É,ÉŽ,Á 1 ,Á,í<[]f`f“,ð«—L,Á,«,Ü,·B.DLL
ftf@fCf<,íŽÀ[sŽž,ÉAfvfŠfP[fVf+f“,Æ“~,ífffBfCEfNfgfŠ,É,È,,Á,í,È,è,Ü,¹,ñB

fVf[]Of%of€,âf[]f,š,Éf[]f,³,è,é,ÆCfAfvfŠfP[fVf+f“,íVf[]Of%of€“à,ì **procedure**
CEÄ,Ñ[]o,µ,Æ **function** CEÄ,Ñ[]o,µ,ðVf[]Of%of€,âŽg,« DLL “à,íGf“fgfŠf|
fCf“fg,É“@“l,ÉfŠf“fN,µ,Ü,·B

f[]f,: DLL ,âGfNfXf|[]fg,Á,«,é,ì,íŽè±,«,ÆŠÖ“,¾,¯,Á,·B

C++Builder fAfvfŠfP[fVf+f“,í Object Pascal ,Á<L[]q,³,è,Ä,ç,È,ç DLL
,ðŽg,ì,Ü,·B¼,ìCE¾CEê,Á<L[]q,³,è,½fVf[]Of%of€,à Object Pascal ,Á<L[]q,³,è,½ DLL
,ðŽg,ì,Ü,·B

DLL ,ìŽg,ç•ù,É,Á,ç,Ä,ìÚ×,íŽÿ,ífgsfbfN,ðŽQAE,µ,Ä,,¾,³,çB

DLL ,ÉSi“l,µ,Ä, ,é<[]f`f“,íAfnfZfX

DLL ,ì[]ç

ŽQÆ

ŠÖ"CEÄ,Ño,μ

fC"f[fgftjfbfg

DLL ,ÉŠI"l,μ,Ä, ,éf<[]f`f" ,lfAfNfZfX

ŽQ[]Æ —á

DLL ,ÉŠI"l,³,è,½f<[]f`f" ,ÉfAfNfZfX,μ,½,èÆÄ,Ñ[]o,·,É,í 2 ,Á,ì•û-@,ª, ,è,Ü,·[]B

- fvf[]fOf%of€"à,Ä external []éÆ¾,ðŽg,π (Ä"lfCf"f[]fg,Ü,½,Í^Ä-Ü,lf[]fh) external []éÆ¾,ðŽg,Á,ÄÄ"l DLL fCf"f[]fg,ðŽÀ[]s,·,é,Æ[]CDLL ,lfvf[]fOf%of€ ,ì<N" @'O,Éf[]fh,³,è,é[]BDLL ,ì-¼'O,ÍŽÀ[]sŽž,É•í[]X,Ä,«,É,ç[]BŽÀ[]sŽž,ÉŽg—p%oÄ" \ ,Ä,É,ç DLL ,ðŽw'è,·,éfvf[]fOf%of€,ÍŽÀ[]s,Ä,«,É,ç

- GetProcAddress ,Æ LoadLibrary ,ì WinAPI ÇÄ,Ñ[]o,μ,ðŽg,Á,Äfvf[]fOf%of€"à,ìžè'±,«f[]fCf"f^,ð[]%Šú%o»,·,é (" @ "lfCf"f[]fg,Ü,½,Í-¾Ž"lf[]fh) GetProcAddress ,Æ LoadLibrary ,ðŽg,Á,Ä DLL ,ðfCf"f[]fg,·,é,Æ[]Cfvf[]fOf%of€,Í,Ç,ì DLL ftf@fCf<,ðf[]fh,·,é,©,ð[]§Çä,Ä,«,Ü,· (GetProcAddress ,Æ LoadLibrary ,ì-¼•û,ðŽg,í,È,- ,Ä,Í,É,è,Ü,¹,ñ)[]B,½,Æ,ì,ì Windows ,lfffofCfXfhf%ofCfo,Í,·,x,Ä" ,lfCf"f^[]ftfF[]fX,ðŽ,Ä DLL ,Ä,·,ª[]C"à•",Ä,lfn[]fhfEfffAÇÄ—L,ì<@"\,ðŽÀ[]s,μ,Ü,·[]Bfvf[]fOf%of€,lfn[]fhfEfffA,É,Ä,ç,Ä %o½,à'm,ç,·,ÉfffofCfXfhf%ofCfo,ì DLL ,ðŽg,ì,Ü,·[]B" @ "lfCf"f[]fg,Ä,Í LoadLibrary ,ª DLL ,ðÇ©,Ä,·,ç,è,É,ç[]é[]±,àfvf[]fOf%of€,ÍŽÀ[]s,ð'±,·,é,±,Æ,ª,Ä,«,Ü,·[]B

DLL ,Í•í[]",ðŽ,Ä,Ü,·,ª[]C,»,è,ð'¼,lf,fWf...[]f<,É,lfCf"f[]fg,Ä,«,Ü,¹,ñ[]BDLL
 • í[]",Ö,lfAfNfZfX,ìžè'±,«fCf"f^[]ftfF[]fX,ð'É,¶,Ä,μ,É,Ä,Í,É,è,Ü,¹,ñ[]B

DLL ,ðŽg,πfvf[]fOf%of€,ðfRf"fpfCf<,·,é,Æ,«,ÉfRf"fpfCf<,í DLL ,ðŽQ[]Æ,μ,È,ç,ì,Ä[]CDLL ,í,È,- ,Ä,à,©,Ü,ç,Ü,¹,ñ[]B

"Æž©,ì DLL ,ð[]-·,·,é[]é[]±,É,í[]C•É,ÉfRf"fpfCf<,μ,È,,Ä,Í,É,è,Ü,¹,ñ[]B

f<[]f`f" ,lfCf"f[]fg

fCf"f[]fg,³,è,éžè'±,«,âšÖ[]",Ä,í[]éÆ¾•",ÆžÀ[]s•",ª external Žw—ß,É'u,«Š,í,è,Ü,·[]B

Object Pascal ,É,ìžè'±,«,âšÖ[]",ðfCf"f[]fg,·,é,½,ß,ì•û-@,ª 3 ,Ä, ,è,Ü,·[]B

- žè'±,«-¼/šÖ[]"-¼,É,æ,éfCf"f[]fg
- É-¼,É,æ,éfCf"f[]fg
- []~[]",É,æ,éfCf"f[]fg

žè'±,«-¼/šÖ[]"-¼,É,æ,éfCf"f[]fg

index []ß,Ü,½,Í name []ß,ðŽw'è,¹,·,É DLL ,©,çf<[]f`f" ,ðfCf"f[]fg,·,é[]é[]±Cžè'± ,«,Ü,½,ÍšÖ[]",Í-¼'O,É,æ,Ä,Ä-¾Ž"l,ÉfCf"f[]fg,³,è,Ü,·[]B

Žg,í,è,é-¼'O,í[]Cžè'±,«,Ü,½,ÍšÖ[]",ìž'•Éžq,ÆfXfyf<,à'â•¶žš[]-•¶žš,à"^-è,ì,à,ì,Ä,·[]B

name []ß,ðŽw'è,μ,½[]é[]±Cžè'±,«,Ü,½,ÍšÖ[]",í,»,ìž'•Éžq,Æ,í^Ü,È,é-¼'O,ÄfCf"f[]fg,³,è,Ü,·[]B

f[]f,: external f[]f[]fh,ìÇä,ì DLL -¼,Æ name []ß,ì't,Äžw'è,·,é[]V,μ,ç-¼'O,í•¶žš— ñšSfef%of<,Ä,È,,Ä,à,©,Ü,ç,Ü,¹,ñ[]B"C^Ó,ì•¶žš—ñž®,ªžg,ì,Ü,·[]B

•É-¼,É,æ,éfCf"f[]fg

name []ß,ðŽw'è,μ,Ä DLL ,©,çf<[]f`f" ,ðfCf"f[]fg,·,é[]é[]±Cžè'± ,«,Ü,½,ÍšÖ[]",í,»,ìž'•Éžq,Æ,í^Ü,È,é-¼'O,ÄfCf"f[]fg,³,è,Ü,·[]B

[]~[]",É,æ,éfCf"f[]fg

index []ß,ª, ,é[]ó'Ô,Ä DLL ,©,çf<[]f`f" ,ðfCf"f[]fg,·,é[]é[]±Cžè'± ,«,Ü,½,Íf<[]f`f" ,í[]~[]",É,æ,Ä,ÄfCf"f[]fg,³,è,Ü,·[]B

[]~[]",É,æ,éfCf"f[]fg,í DLL ,ì-¼'Ofe[]fuf<,É, ,é-¼'O,ð'T,·•K—v,ª,È,ç,ì,Äf[]fhžžšÖ,ª'Z,- ,Ä,·,Ý,Ü,·[]B

index □β,ÉŽw'è,.é□□",É,Í"C^Ó,ì"è□□@□"Ž®,^aŽg,!,Ü,.□B

ŽQÆ

fC“f[]fgftjfbfg

DLL ,i[]=

—á

—á (Žè'±,«-¼/ŠÖ"-¼,É,æ,éf<[f`f",.ìfCf"f|[fg)

—á (•Ê-¼,É,æ,éf<[f`f",.ìfCf"f|[fg)

—á (□~□",É,æ,éf<[f`f",.ìfCf"f|[fg)

-á

{ŽŸ,ì-á,í□Ctestlib.dll ,©,ç ImportByName Žè'±,«,ðfCf"f|□[fg,μ,Ü,·}

procedure ImportByName; **external** 'testlib.dll';

-á

```
{ŽŸ,ì-á,í Ctestlib.dll ,©,ç-¼'O 'RealName' ,ðŽg,Á,Ä ImportByNewName Žè'±  
,«,ðfCf"f|[fg,μ,Ü,·}
```

```
procedure ImportByNewName; external 'testlib.dll' name 'RealName';
```

-á

{ŽŸ,ì-á,í□Ctestlib.dll "à,ì 5 "Ô-Ú,ìfGf"fgfŠf|fCf"fg,Æ,μ,Ä ImportByOrdinal Žè'±
,«,ðfCf"f|□[fg,μ,Ü,·}

procedure ImportByOrdinal; **external** 'testlib.dll' index 5;

fCf“f|□[fgftfjfbfg

fCf“f|□[fg,·,éžè'±,«,âšÖ□”,ì□éCE¾,í,»,ê,đfCf“f|□[fg,·,éfvf□fOf
%of€“à,É'¼□Ú”z'u,Å,«,Ü,·□B□éCE¾,í DLL “à,ì,·,x,Ä,žè'±,«,ÆšÖ□”,ì□éCE¾,â“ü,Á,½fCf“f|
□[fgftfjfbfg“à,Å□CDLL ,Æ,lfCf“f^□[ftfF□[fX,É•K—v,È'è□”,âCE^,Æ^ê□□,ÉfOf<□[fv%»»,³,ê,Ü,·□B

fCf“f|□[fgftfjfbfg,đŽg,±,É,í

► CEÁ,Ñ□o,μCE¾ftfjfbfg,ì uses □B,É'Ç%oÁ,·,é

fCf“f|□[fgftfjfbfg,í DLL fCf“f^□[ftfF□[fX,É•K□{,Å,í,·,è,Ü,¹,ñ,²□C•i□”,ì DLL
,đŽg,±fvf□fwfFfNfg,ìšÇ—□,đšÈ'P,É,μ,Ü,·□BšÖ~A•t,·,ç,ê,½ DLL ,đ•ĩ□X,·,é□ê□±□CfCf“f|
□[fgftfjfbfg,đ•ĩ□X,É□±,í,¹,Å□X□V,·,é,¾,·,Á,·,Ý,Ü,·□B

DLL ,đŽg,±fvf□fOf%of€,đfRf“fpfCf<,·,é□ê□±□CfRf“fpfCf%o,í DLL ,đ'T,³,È,ç,ì,Å DLL ,í,È,-
,Ä,à,©,Ü,ç,Ü,¹,ñ□B,μ,©,μ□Cfvf□fOf%of€,ìžÁ□sžž,É,í•K—v,Å,·□B

“Æž©,ì DLL ,đ□□¬,·,é□ê□±,É,í□C•Ê,ÉfRf“fpfCf<,μ,È,,Ä,í,È,è,Ü,¹,ñ□B

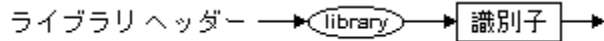
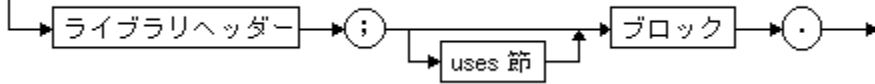
DLL ,ìòìò-

ŽQ□Æ —á

Object Pascal DLL ,ìòìò- ,Æfvf□fOf%of€ ,ìòìò- ,í DLL ,ìžn,β,ªfvf□fOf%of€fwfbf_□[,Á,í,È, f%ofCfuf %ofŠfwfbf_□[,Á, ,é“_ ,ð□œ,«“~ ,¶,Á,·□B

f%ofCfuf%ofŠfwfbf_□[,í C++Builder ,ÉŠg'£Žq .EXE ,Á,í,È, .DLL ,ìžÀ□s%oÁ“\ ftj@fCf< ,ð□ìò- ,· ,é,æ,ª,ÉŽwŽì ,μ,Ü,·□BŽÀ□s%oÁ“\ftj@fCf< ,É DLL ,ìf}□[fN,ð•t, ~ ,Ü,·□B

ライブラリ



Žè'±,« ,âŠÖ□” ,ð DLL ,É,æ,Á,ÄfGfNfXf|□[fg,· ,é,Æ,«□Cstdcall Žè'±,«Žw— β,ðŽg,Á,ÄfRf“fpfCf< ,· ,é,±,Æ,ª,æ,, ,è,Ü,·□B,±,è,í•K□{ ,Á,í , ,è,Ü,¹,ñ,ª□Cstdcall ĄÄ,Ñ□o,μ<K- ñ,ðŽg,ª,±,Æ,Á□C,Ü, © ,ìĄE¾ĄEê,Á□' , © ,ê,½fAfvfŠfP□[fvf†” , © ,ç,» ,ì DLL ,ðŽg,ª,±,Æ,ª%oÁ“\ ,É,È,è,Ü,·□B

ŽÀ□Ü,Éf<□[f“ ,ðfGfNfXf|□[fg,· ,é,É,í exports □β,ðŽg,ç,Ü,·□B

f%ofCfuf%ofŠ ,í•i□” ,ì††fjfbfg ,Á,Á,« ,Ä,ç ,é□ê□† ,ª,æ,, ,è,Ü,·□B,» ,ì□ê□†□Cf%ofCfuf%ofŠ ,ì† □[fXftj@fCf< ,ª uses □β□Cexports □β□Cf%ofCfuf%ofŠ□%oŠú%o»fR□[fh ,É,È,Á,Ä,ç ,é□ê□† ,ª,æ,- , ,è,Ü,·□B

fOf□□[fof<•i□”

DLL “à,Á□éĄ¾,³,è,éfOf□□[fof<•i□” ,í,» ,ì DLL ,É'í,μ,ÄĄÄ—L,ì•i□” ,Á,·□B

DLL ,ìž©•ª,ðĄÄ,Ñ□o,·f,fWf...□[f< ,É,æ,Á,Ä□éĄ¾,³,è,é•i□” ,ÉfAfnfzfx,Á,« , ,□C'¼,ìf,fWf... □[f< ,ªŽg,ª,½,β,ì•i□” ,ðfGfNfXf|□[fg,Á,« ,Ü,¹,ñ□B,±,ì,æ,ª,ÉfAfnfzfx,ìžè'± ,«fCf“f^□[ftjF□[fX,ð'É,¶,Á,μ,È,,Á,í,È,è,Ü,¹,ñ□B

1 ,Á,ì DLL ,ð“~žž,É•i□” ,ìfAfvfŠfP□[fvf†” , © ,çŽg,ª,±,Æ,í,Á,« ,Ü,· ,ª□CDLL ‘ª, © ,çĄE© ,ê,ìfNf %ofCfAf“fg,í 1 ,Á,¾, ~ ,Á , ,è□CDLL ,ìŠefCf“fxf^f“fx,²,Æ,É,» ,è,¾,ê“ÆŽ© ,ìfOf□□[fof<•i□” ^êž® ,ª•Úž□,³,è,Ü,·□B•i□” ,ì DLL (,Ü,½,í 1 ,Á,ì DLL ,ì•i□” ,ìfCf“fxf^f“fx ,ªf□f,š,ð<ª—L,· ,é,½,β,É,í□C,» ,ì DLL ,Á,ìf□f,šf}fbfvfhftj@fCf< ,ðŽg—p,μ,È, ~ ,ê,í,È,è,Ü,¹,ñ□B□Ú□x ,í Windows API ,ìfhfLf... f□f“fg,ðŽQ□Æ,μ,Á,,¾,³,ç□B

-á

{ŽŸ,ì-á,í 2 ,Â,ìfGfNfXf|[]fg,³,ê,éšÖ",ðž,ÂšÈ'P,È DLL ,ðžÀ«»,μ,Ü,·}

library MinMax;

{stdcall Žè'±,«Žw-β,í[]C,Ù,©,ìĚ¾Ěê,âfTf|[]fg,·,éĚÄ,Ñ[]o,μ<K-ñ,Å Min ,Æ Max
,ðfGfNfXf|[]fg,μ,Ü,·}

function Min(X, Y: Integer): Integer; **export;**

begin

if X < Y **then** Min := X **else** Min := Y;

end;

function Max(X, Y: Integer): Integer; **export;**

begin

if X > Y **then** Max := X **else** Max := Y;

end;

{**exports** []β,í 2 ,Â,ìf<[]f`f",ðfGfNfXf|[]fg,μ, ,»,ê,¼,ê,Éf|fvfvf†f",ì~[]",ð-^,!,Ü,·}

exports

Min **index** 1,

Max **index** 2;

begin

end.

ŽQÆ

DLL,ÉŠi”[,u.Ä, ,éf<[f`f” ,)fAfNfZfX

DLL ,Æ System ftjfbfg

fCf“f|[fgftfjfbfg

f%ofCfuf%ofŠ%Šú%»fR|[fh

DLL ,Å,ì—áŠO,ÆŽÀ[sŽžGf%|[

<α—Lf[f,fŠf}f|[fWff

DLLProc •İ”

f%ofCfuf%ofŠ%Šú%»fR[fh

—á DLL,ì[]-

f%ofCfuf%ofŠ,ìŽÀs•”,íf%ofCfuf%ofŠ,ì%Šú%»fR[fh,ð\¬,μ,Ä,ç,Ü,·B%Šú%»fR[fh,ìCf%ofCfuf%ofŠ,â%o,ß,Äf[]fh,³,è,½,Æ,«,É 1 %oñ,¾, -ŽÀs,³,è,Ü,·B

’Êí[]Cf%ofCfuf%ofŠ,ì%Šú%»fR[fh,íf%ofCfuf%ofŠ,É“ü,Á,Ä,ç,éfEfBf“fhfEfVf[]fVff,ìfEfBf“fhfEfNf%ofX,ð“o~^,μ,½,è[]Cf%ofCfuf%ofŠ,ìfOf[]fof<•ì” ,É[]%Šú%’l,ðY’è,μ,½,è,μ,Ü,·B,³,ç,É[]CExitProc •ì” ,ðŽg,Á,Ä[]—¹Žè’±,« ,ðfCf“fXfg[]f<,Á,« ,Ü,·B[]—¹Žè’±,« ,ìfìfyf[]fEfBf“fOfVfXfef€,âf%ofCfuf%ofŠ,ðfAf“f[]fh,·,é,Æ,« ,ÉŽÀs,³,è,Ü,·B

f%ofCfuf%ofŠ,ì%Šú%»fR[fh,Ä ExitCode •ì” ,ðf[]^ÈŠO,ì’l,É[]Y’è,·,é,±,Æ,É,æ,Á,Ä[]CfGf%[][]ð[] ,ð’È’m,Á,« ,Ü,·BExitCode ,í System ftjfbfg“à,É[]é[]¾,³,è,Ä,“ ,è[]CfftfHf:fg’l,ì[]%Šú%» ,ì[]-[]÷,ðŽì,· 0 ,Á,·B%Šú%»fR[fh,Ä ExitCode

,ðf[]^ÈŠO,ì’l,É[]Y’è,μ,½[]ê[]#[]CDLL ,âf[]f,š,© ,çfAf“f[]fh,³,è[]CCEÄ,Ñ[]o,μ[]³fAfVfšP[]fVf#f“ ,É DLL,ìf[]fhŽ ,”s,â’È’m,³,è,Ü,·B

f[]f, []^—[] ,Á,« ,É,ç—áŠO,âf%ofCfuf%ofŠ,ì%Šú%»fR[fh,ìŽÀs’t,É”- []μ,½[]ê[]#[]CCEÄ,Ñ[]o,μ[]³fAfVfšP[]fVf#f“ ,Ö DLL ,ìf[]fhŽ ,”s,â’È’m,³,è,Ü,·B

DLL ,âfAf“f[]fh,³,è,é,Æ[]CC++Builder ,íf%ofCfuf%ofŠ,ì[]—¹Žè’±,« ,ðŽÀs,·,é,½,ß,É[]CExitProc •ì” ,â nil ,É,È,é,Ü,Ä ExitProc ,Éšì”[,³,è,Ä,ç ,éfAfhf[]fX,ìCEÄ,Ñ[]o,μ,ð’±, ,Ü,·B,±,è,í Object Pascal fvf[]fOf%of€“à,Á,ì[]—¹Žè’±,« ,ìŽæ,è^μ,ç,Æ” ,¶,È,ì,Á[]Cfvf[]fOf%of€,Æf%ofCfuf%ofŠ,ì—¼•ú,Á” ,¶[]—¹Žè’±,« ~— [] ,ðŽg,ì,Ü,·B

f[]f, fAfVfšP[]fVf#f“ ,Ü,½,íf%ofCfuf%ofŠ,ðŽg,æ,·,×,Ä,ìftjfbfg,ì initialization •” ,ì[]C[]í,É,» ,ìfAfVfšP[]fVf#f“ ,Ü,½,íf%ofCfuf%ofŠ,ìŽÀs•” ,æ,è’O,ÉŽÀs,³,è,Ü,·B” — l,É[]Cftjfbfg,ì finalization •” ,ìfAfVfšP[]fVf#f“ ,Ü,½,íf%ofCfuf%ofŠ,âfCf“fXfg[]f<,μ,½[]—¹Žè’±,« ,ìCEä,ÉŽÀs,³,è,Ü,· (ftjfbfg,ì finalization •” ,ì[]CŽÀ[]Ü,É,í ExitProc •ì” ,ðŽg,Á,ÄŽ© •âŽ©[]g,ðfCf“fXfg[]f<,μ,Ü,·)[]B

—á

{ %Šú%»fR[fh,Æ|—¹Žè'±,«,^a, ,éf%ofCfuf%ofŠ,ì—á,đŽŸ,ÉŽ!,μ,Û,·B }

library Test;

var

SaveExit: Pointer;

procedure LibExit;

begin

:

{ f%ofCfuf%ofŠ|—¹fR[fh }

:

ExitProc := SaveExit;

{ 1 ,Â'O,| |—¹Žè'±,«,Ö,|f|fCf"f^,đ•œE³,μ,Û,· }

end;

begin

:

{ f%ofCfuf%ofŠ%Šú%»fR[fh }

:

SaveExit := ExitProc;

{ 1 ,Â'O,| |—¹Žè'±,«,Ö,|f|fCf"f^,đ•Û'¶,μ,Û,· }

ExitProc := @LibExit;

{ LibExit | |—¹Žè'±,«,đfCf"fXfg[f<,μ,Û,· }

end.

DLL ,Æ System ftjfbfg

ŽQÆ

IsLibrary ~ _—•i” ,đŽg,æ,ÆCfR[fh,æfAfvfšfP[fVf†f” ,Æf%ofCfuf
%ofš,ì,ç,ž,ç,ìfRf“fefLfXfg,ÅŽÀs,³,ê,Å,ç,é,©,đ”»•Ê,Å,«,Û,·BIsLibrary
,ìfAfvfšfP[fVf†f““à,Å,íí,É<U,Å ,èCf%ofCfuf%ofš“à,Å,íí,É^,Å,·B

DLL ,ìŽg—p’tCHInstance •i” ,í,» ,ì DLL ,ìfCf“fXf^f“fXfnf“fhf<,đ•ÛŽ,μ,Û,·B

DLL “à,Å,í CmdLine •i” ,íí,É nil ,Å,·B

ŽQÆ

DLL, iiii

DLL ,À,ì—áŠO,ÆŽÀ□sŽžfGf%□□[

ŽQ□Æ

DLL “à,À□□□—,³,è,½—áŠO,ª DLL “à,À□^—□,³,è,È,ç□ê□□□C,»ì—áŠO,í DLL
,ìŠO•”,Ö“` ,ì,ç,è,Ü,·□BCEÄ,Ñ□o,μCE³fAfvfŠfP□[fvf#f“ ,Ü,½,í DLL ,ª□CC++Builder
,À□ì□—,³,è,Ä,ç,é□ê□□,í□C’Ê□í,ì **try...except** •¶,À—áŠO,ð□^—□,À,«,Ü,·□B

CEÄ,Ñ□o,μCE³fAfvfŠfP□[fvf#f“ ,Ü,½,í DLL ,ª•Ê,ìfvf□fOf%of~f“fOCE¾CEè,À□’,©,è,Ä,ç
,é□ê□□□C,»ì—áŠO,í—áŠOfR□[fh \$0EEDFACE ,ìfìfyfCE□[fefBf“fOfVfXfef€—áŠO,Æ,μ,Ä□^—
□,À,«,Ü,·□BfìfyfCE□[fefBf“fOfVfXfef€—áŠOfCEfR□[fh,ì ExceptionInformation “z—ñ,ì□Å□%
,ìfGf“fgfŠ,É,í—áŠOfAfhfCEfX,ª“ü,Á,Ä,“,è□C2 “Ô-Ü,ìfGf“fgfŠ,É,í C++Builder —
áŠOfìfufWfFfNfg,Ö,ìŽQ□Æ,ª“ü,Á,Ä,ç,Ü,·□B

DLL ,ª SysUtils ftfjfbfg,ðŽg,í,È,ç□ê□□□CC++Builder ,ì—áŠOfTfj□[fg,ìŽg—p•s
%□□Á,É,È,è,Ü,·□B,»ì□ê□□□CDLL “à,ÀŽÀ□sŽžfGf%□□[,ª”□¶,·,é,Æ□□C,»ì DLL
,ðCEÄ,Ñ□o,μ,½fAfvfŠfP□[fvf#f“ ,í□|—¹,μ,Ü,·□BDLL ,É,í,»ìCEÄ,Ñ□o,μCE³,ª Object Pascal
fAfvfŠfP□[fvf#f“ ,À, ,é,ì,©□□C,»è,Æ,à•Ê,ìfvf□fOf
%of~f“fOCE¾CEè,À□’,©,è,½fAfvfŠfP□[fvf#f“ ,À, ,é,ì,©,ðŽ•Ê,·,éŽè’i,ª,È,ç,ì,À□CDLL
,ìfAfvfŠfP□[fvf#f“ ,ì□|—¹O,É,»ìfAfvfŠfP□[fvf#f“ ,ì□|—¹Žè’±
,«,ðCEÄ,Ñ□o,¹,Ü,¹,ñ□BfAfvfŠfP□[fvf#f“ ,í’P,É’t’f,μ□Cf□f,fŠ,©,ç□í□œ,³,è,Ü,·□B,±,ì,æ,±,ÈfGf
%□□[,ª<N,±,ç,È,ç,æ,±,É□□C•K, , DLL fR□[fh,ì’t,À□\•ª,Èf fFfbfN,ð,μ,Ä,¾,¾,ç□□B

ŽQÆ

—áŠO^—

DLL ,iì

<α—Lj□f,fŠf}f□□fWff

DLL ,ì□□□□

'·,ϕ•¶Žš—ñ,đfpf%of□□[f^,Ü,½,ÍŠÖ□"CE<%oÊ,Æ,μ,Ä"n,·Žè'±,«,âšÖ□",đ DLL
,©□i'¼□Ú□C,Ü,½,ÍfCEfR□[fh,âfIfufWfFfNfg"à,ÉfIfXfg,μ,Ä□jfGfNfXf□[fg,μ,½□ê□#□C,»),ì DLL
,Æ,»),ì DLL ,IfNf%ofCfAf"fjgAfvfŠfP□[fVf#f"□i,Ü,½,Í DLL□j,Í,·,×,Ä ShareMem
ftfjfbfg,đŽg,í,É,¯,ê,î,È,è,Ü,¹,ñ□B1 ,Ä,If,fWf...□[f<□ifAfvfŠfP□[fVf#f",Ü,½,Í DLL□j,^a New ,©
GetMem ,đŽg,Á,Äf□f,fŠ,đŠ,,,"è"-,Ä□C,»),If□f,fŠ,^a·É,If,fWf...□[f<"à,ì Dispose ,© FreeMem
,ìCEÄ,Ñ□o,μ,É,æ,Á,ÄŠ,,,"è"-,Ä%ođ□œ,³,ê,é□ê□#,à"¯,¶,Á,·□B

ShareMem ,í DCP3230MT.DLL <α—

Lf□f,fŠf}f□□fWff,IfCf"f^□[ftfF□[fXftfjfbfg,Á, ,è□CShareMem ,đŽg,xfAfvfŠfP□[fVf#f",©f
%ofCfuf%ofŠ□C,Ü,½,Í,»,ì—

¼•ù,Æ^ê□□,ÉfAfvfŠfP□[fVf#f"%o»,³,ê,È,¯,ê,î,È,è,Ü,¹,ñ□BfAfvfŠfP□[fVf#f",Ü,½,Í DLL ,^a
ShareMem ,đŽg,xfê□#□C,»),IfAfvfŠfP□[fVf#f",Ü,½,Í DLL ,If□f,fŠf}f□□fWff,í CP3230MT.DLL
"à,If□f,fŠf}f□□fWff,É'u,«Š·,l,ç,ê□C,»,ê,É,æ,Á,Ä□C"®"l,ÉŠ,,,"è"-,Ä,ç,ê,½f□f,fŠ,đ•i□",If,fWf...
□[f<,^a<α—L,Á,«,é,æ,α,É,È,è,Ü,·□B

fAfvfŠfP□[fVf#f",Ü,½,Íf%ofCfuf%ofŠ,Á ShareMem

ftfjfbfg,đŽg,xfê□#,í□CfAfvfŠfP□[fVf#f",Ü,½,Íf%ofCfuf%ofŠ,ì **uses** □ß,Á ShareMem
ftfjfbfg,đ□Á□%o,Ifftfjfbfg,É,μ,È,¯,ê,î,È,è,Ü,¹,ñ□B

DLLProc • ĩ

DLL ĩ

System ftfjfbfg,É'è` ,³,ê,Ä,ç,é DLLProc • ĩ,žg,æ,CDLL ,lflyfCE[febf"fofvxfef€ ,©,ç,» ,ì DLL ,lfGf"fgfŠfjfcf"fg,Ö,ì, ,x,Ä,ìCEÄ,Ño,μ,đŠÄŽ<,Ä,«,Ü,·B'ÉíC,±,ì<@"\ ,f}f`f`fXfCEfbfh,đTf|fg,·,é DLL ,¾, ,É^Ó-; ,è,Ü,·B

flyfCE[febf"fofvxfef€,©,ç DLL ,lfGf"fgfŠfjfcf"fg,Ö,ìCEÄ,Ño,μ,đŠÄŽ<,·,é,É,íCŽè'± ,«,lfAfhfCEfX,žŸ,lfpf%o[f^fŠfXfg,Æ^ê,É DLLProc • ĩ,Ö'ä"ü,μ,Ü,·B

procedure DLLHandler(Reason: Integer);

System ftfjfbfg,É'è` ,³,ê,Ä,ç,é DLLProc • ĩ,žg,æ,CflyfCE[febf"fofvxfef€, DLL fGf"fgfŠ,đCEÄ,Ño,·Š,đŠÄŽ<,Ä,«,Ü,·B'ÉíC,±,ì<@"\ ,f}f`f`fXfCEfbfh,đTf|fg,·,é DLL ,¾, ,É^Ó-; ,è,Ü,·B

flyfCE[febf"fofvxfef€,ì DLL fGf"fgfŠ,ìCEÄ,Ño,μ,đŠÄŽ<,·,é,É,íC^È%o,lfpf %o[f^fŠfXfg,žŸ,ÄŽè'±,«,đ—p^Ó,μCfAfhfCEfX,đ DLLProc ,É'ä"ü,μ,Ü,·BŽw'è,μ,½Žè'± ,«,CEÄ,Ño,³,é,é,Æ,«CReason fpf%o[f^ ,É,Í^È%o,ì,ç, ,é,©,ì',ä"ü,è,Ü,·B

DLL_PROCESS_DETACH FreeLibrary ,ìCEÄ,Ño,μC,Ü,½,í³í,ÉvfzfzX,ì—
CH ¹,É,æ,èf,f,š<óšÖ,©,çšj•ú,³,é,é,±,Æ,žž,·

DLL_THREAD_ATTACH CE»Ý,lfvfzfzX,³V,μ,çfXfCEfbfh,đì—'t,Ä, ,é,±,Æ,žž,·
H

DLL_THREAD_DETACH fXfCEfbfh,³³í,Éí—'t,Ä, ,é,±,Æ,žž,·
H

Ā~Ā,ĒfAfvfŠfP[fVf#f“,ììì-

C++Builder ,íĀ~Ā,ĒfAfvfŠfP[fVf#f“,đìì-,·,é<@\n ,đ”đ,ĭ,Ā,“,èCìì-,μ,½fAfvfŠfP[fVf#f“,ĭfGf%o[,đ^êŠŃ,μ,½•û-@,Ā^—
□,·,é,½,βCfAfvfŠfP[fVf#f“,ĭ%oĀ“,Ē,ç,ĭfGf%o[,©,ç%oñ•œ,μC•K—
v,Ē,ç,ĭfVfffbfjgf_fEf“,đŽĀs,Ā,«Cff[f^ ,ÆfŠf\ [fX,àŽ ,í,é,Û,¹,ňB

C++Builder ,ĭfGf%o[[đĀ,ĭ—áŠO,Ē,æ,Ā,ĀŽ!,³,é,Û,·B

—áŠO,đŽg,Ā,Ā^Ā^S,ĒfAfvfŠfP[fVf#f“,đìì-,·,é,Ē,ĭCŽŸ,ìì<Æ,đ—%ođ,μ,Ā,“,•K—v,ª, ,è,Û,·
B

- fR[fhfuf[fbfN,ĭ•ŪĀì
- fŠA[fXŠ,,,è“-Ā,ĭ•ŪĀì
- ŽĀsŽž—áŠO,ĭ^—
- fRf“fĭ[fĭf“fg—áŠO,ĭ^—
- fTfCfĀf“fg—áŠO
- ft[fU[“ÆŽ©,ĭ—áŠO,ì'è<

fR[fhfuf[fbfN,ì•ÙCEì

ŽQÆ

fAfvfŠfP[fVf#f“, ðCE~CEÅ,É,·,é,É,ÍC”¶,μ,½—áŠO,ð”FŽ˘,μC—áŠO,É%ž“š,·,éfR[fh,ð‘,•K
—v,^a, ,è,Ü,·B%ž“š,ðŽw’è,μ,É,ç,ÆCfAfvfŠfP[fVf#f“,ÍfGf%¶[,ðà-
¾,μ,½f[fbfZ[fWf{fbfNfX,ð•Ž!,μ,Ü,·B,μ,½,^aÁ,Ä•K—v,Èì<Æ,ÍC“Á,ÉfGf
%¶[,É,æ,Á,Äff[f^,âfvfXfefçfšf¶[fX,^aŽ,í,ê,é%Ä”\¶^a, ,é—ì^æ,ÁfGf%¶[,^a<N,«,»,x
,ÈêêŠ,ðCE©<É,ßC%ž“š,ð’è<˘,·,é,±,Æ,Á,·B

—áŠO,Ö,ì%ž“š,ð¶ì¬,·,é,Æ,«,ÍCfR[fh,lfuf[fbfN,É’í,μ,Ä¶ì¬,μ,Ü,·BfGf
%¶[,É’í,μ,Ä,·,×,Ä”˘,¶Ží—p,ì%ž“š,ð•K—v,Æ,·,é^ê~A,ì•¶,^a, ,é,Æ,«,ÍC,»,è,ç,ì•¶,ð 1
,Ä,lfuf[fbfN,É,Ü,Æ,ßC,»,lfuf[fbfN’S’ì,É“K—p,·,éfGf%¶[,%ž“š,ð’è<˘,Á,«,Ü,·B

—áŠO,É’í,μ,Ä“Á’è,ì
%ž“š,ð,·,éfuf[fbfN,ðfvf¶fefNfgfuf[fbfN,ÆCEÄ,Ñ,Ü,·B,»,è,ç,lfuf[fbfN,ÍfAfvfŠfP[fVf#f“,ð¶ì—
¹,·,é,©ff[f^,ð¶¶•t,˘,é%Ä”\¶^a, ,éfGf%¶[,É’í,μ,ÄŽ©•^a,ð•ÙCEì,Ä,«,é,©,ç,Á,·B

fR[fhfuf[fbfN,ð•ÙCEì,·,é,É,ÍCŽY,ì,±,Æ,ð—¶%ð,μ,Ä,˘,•K—v,^a, ,è,Ü,·B

- —áŠO,Ö,ì%ž“š
- —áŠO,ÆŽA¶s,ì—¬,ê
- —áŠO%ž“š,lfXfg

ŽQÆ

fšf[fXŠ,,è“-Ä,ì•ÚĚì

žÀ□sžž—áŠO,ì□^—□

fRf“f|□[flf“fg—áŠO,ì□^—□

fTfCfĚf“fg—áŠO

f†□[fU□[“Æž©,ì—áŠO,ì'è<`

—áŠO,Ö,ì%ž“š

ŽQÆ

fGf%[] [ðCE],^a”[] ,·,é,ÆfAfvfŠfP[] [fvf#f“ ,í—áŠO,ð[] [] -,μ,Ü,·[] B,Á,Ü,è[] C—

áŠO[] fufWfFfNfg,ð[] [] -,μ,Ü,·[] B—

áŠO,^a[] [] -,³,ê,½CEã[] CfAfvfŠfP[] [fvf#f“ ,íNfŠ[] [f“fAfbfvfR[] [fh,ðŽÀ[] s,·,é,©[] C—áŠO,ð[] ^—
[] ,·,é,©[] C, ,é,ç,í,»,ì—¼•û,ðŽÀ[] s,μ,Ü,·[] B

fNfŠ[] [f“fAfbfvfR[] [fh,ìŽÀ[] s

—áŠO,É/í%ž,·,é[] Å,àŠÈ’P,È•û-@,í%½,©,ìNfŠ[] [f“fAfbfvfR[] [fh,^a•K, ŽÀ[] s,³,ê,é,æ,α,É,·,é,±
,Æ,Å,·[] B,±,ìŽí,ì%ž“š,Å,ìfGf%[] [,ìCE

’^ö,Æ,È,Á,½[] ðCE[],í’ù[] ³,Å,«,Ü,¹,ñ,^a[] CfAfvfŠfP[] [fvf#f“ ,ìŠÀ««,ð•s^’è,È[] ó’Ò,ì,Ü,ÜŽc,³,È,ç,æ,α
,É,Å,«,Ü,·[] B

’Ê[] í,±,ìŽí,ì%ž“š,í[] CfGf%[] [,^a<N,«,½,©,Ç,α,©,ÉŠÖCEW,È,ŠmŽÀ,ÉfAfvfŠfP[] [fvf#f“ ,ÉfŠf[] [fX,ð
%øð•ú,³,¹,é,½,β,ÉŽg,ç,Ü,·[] B

—áŠO,ì[] ^—[]

—áŠO,ì[] ^—[] ,Æ,í“Á’è,ìŽí—p,ì—áŠO,É’í,μ,Ä“Á’è,ì%ž“š,ð[] [] -,·,é,±,Æ,Å,·[] B,±,ì[] ^—

[] ,É,æ,Á,ÄfGf%[] [ðCE],^afNfŠfA,³,ê[] C—

áŠO[] fufWfFfNfg,^a”pŠü,³,ê,é,½,β[] CfAfvfŠfP[] [fvf#f“ ,ìŽÀ[] s,ð’±,¯,ç,ê,Ü,·[] B

’Ê[] í,í—áŠOfnf“fhf%ø,ð’è<` ,μ[] CfAfvfŠfP[] [fvf#f“ ,^afGf%[] [,©,ç%ñ•œ,μ,ÄŽÀ[] s,ð’±,¯,ç,ê,é,æ,α
,É,μ,Ü,·[] B[] ^—[] ,Å,«,é—áŠO,ìŽí—p,Æ,μ,Ä,í[] C’[] [] Ý,μ,È,çftf@fCf<,ðŠ],±,α,Æ,μ,½,±,Æ[] C,ç

,Á,í,ç,É,È,Á,½fffBfXfN,Ö,ì[] ‘,«[] ž,Ý[] C—LCEø”í’í,ð’’,ì,½CEvŽZ,È,Ç,^a, ,è,Ü,·[] B,±

,é,ç,ì^ê”[] C,½,Æ,ì,ì[] uftf@fCf<,^aCE@,Å,©,è,Ü,¹,ñ[] v,È,Ç,í’ù[] ³,Æ[] ÄŽŽ[] s,^a—

e^Ö,Å,·,^a[] Cf[] f,fŠ•s’«,È,ÇfAfvfŠfP[] [fvf#f“ ,âft[] [fU[] [,^aŠÈ’P,É’ù[] ³,Å,«,È,ç—áŠO,à, ,è,Ü,·[] B

ŽQÆ

—áŠO,ì□□□□□

—áŠO%ož“š,ìfXfg

fŠf□□fXŠ,,è“-,Ä,ì•ÚŒì

ŽÀ□sŽž—áŠO,ì□^—□

fRf“f□□fXfg—áŠO,ì□^—□

fTfCfŒf“fg—áŠO

f†□□fU□□[“ÆŽ©,ì—áŠO,ì'è<`

—áŠO,ÆŽÀ□s,ì—¬,ê

ŽQ□Æ =á

Object Pascal ,Å,í—áŠO,ª'Ê□í,ìfR□[fh,ì—¬,ê,ì't,É"ü,Á,Ä,±,È,ç,ì,Å□CfGf%□[□^—
□,ðŠÈ'P,ÉfAfvfŠfP□[fvf#f" ,ì't,Ö'g,Ý□ž,ß,Ü,·□BfGf%□[CEÝ□ ,ÆfGf%□[□^—□,ðfAf<fSfŠfyf€
,ìf□fCf" ,ì—¬,ê,ìŠO,Ö□o,·,±,Æ,É,æ,è□C□' ,fR□[fh,à'P□f,É,È,é%□Å"□«^a , ,è,Ü,·□B

fvf□fefNfgfuf□fbfN,ð□éCE¾,·,é,Æ,«□C,» ,ìfuf□fbfN"à,Å<N,« ,é%□Å"□«^a , ,é—áŠO,É'Î,μ,Ä"Á'è,ì
%□ž"š,ð'è` ,μ,Ü,·□B,» ,ìfuf□fbfN"à,Å—áŠO,ª<N,« ,é,Æ□C'è` ,μ,½
%□ž"š,Ö,·,® ,ÉŽÀ□s,ª^Ú,è□C,» ,ìfuf□fbfN,ìŽÀ□s,í□l—¹ ,μ,Ü,·□B

—á

fvf[]fefNfgfuf[]fbfN,á“ü,Á,½fR[]fh,ðŽŸ,ÉŽ!,μ,Ü,·[]B,±,lfvf[]fefNfgfuf[]fbfN“à,Á—
áŠO,á<N,«,é,Æ[]C—áŠO[]^—[]•”,ÖŽÀ[]s,á^Ú,é,½,ß[]CCEx[]%o¹,á-
Â,è,Ü,·[]BŽÀ[]s,ífuf[]fbfN,ìŠO•”,Â[]ĂŠJ,³,é,Ü,·[]B

```
...  
try { fvf[]fefNfgfuf[]fbfN,ðŠJŽn,μ,Ü,· }  
    Font.Name := 'Courier'; { ,±,ê,ç,ì•¶,ì'†,Â ... }  
    Font.Size := 24; { ... —áŠO,á”[]¶,·,é,Æ ... }  
    Color := clBlue;  
except { ... ,±,±,ÖŽÀ[]s,á^Ú,è,Ü,· }  
    on Exception do MessageBeep(0); { ,±,ê,íCEx[]%o¹,ð-Â,ç,·,±,Æ,Â—áŠO,ð[]^  
—[]μ,Ü,· }  
end;  
... { ŽÀ[]s,ífuf[]fbfN,ìŠO•”,ì,±,±,©,ç[]ĂŠJ,³,é,Ü,· }
```

ŽQÆ

—áŠO,Ö,ì%ž“š

—áŠO%ž“š.ìlfXfg

—áŠO%ž“š,ìfXfg

ŽQÆ

fufbfN“à,Å”¶,μ,½—áŠO,Ö,ì%ž“š,ìfR[h,Å'è` ,μ,Ü,·BPascal
,Å,ìfufbfN,ì't,É'¼,ìfufbfN,ðfXfg,Å,«é,½,βC,·,Å,É%ž“š,ðfXf^f}fCfY,μ,½fufbfN,ì't,Å,
,Å,Å,à%ž“š,ðfXf^f}fCfY,Å,«,Ü,·B

,½,Æ,ì,îÅ,à'P¶f,Èé¶CfŠ\XŠ,,è“-,Ä,ð•ÚEì,Å,«C,»,ìvfefNfgfufbfN,ì't,É'¼,ìfŠ\
¶fX,ðŠ,,è“-,Ä,Ä•ÚEì,·,éfufbfN,ð'è` ,Å,«,Ü,·B,±,ìŠT”O,ðŽŸ,ÉŽì,μ,Ü,·B

fXfgfufbfN,ðŽg,Ä,Ä'Á'è,ì—áŠO,ì¶¶fj^—,ð'è` ,μC,»,ìfufbfN,ìã^ÊfufbfN,Å,ì^—
¶,ðf¶fo¶f%ofCh,·,é,±,Æ,à,Å,«,Ü,·B,±,ìŠT”O,ðŽŸ,ÉŽì,μ,Ü,·B

ŠeŽì,ì—áŠO%ž“šfufbfN,ð¬,º,ÄC—áŠO^—fufbfN“à,ÅfŠf
¶fX•ÚEì,ðfXfg,μ,½,èC,»,ì<t,à,Å,«,Ü,·B

ŽQÆ

—áŠO,Ö,ì%ž“š

—áŠO,ÆŽÀ□s,ì—□,ê

—áŠOfnf“fhf%o,ìfXfR□[fv

fšf [fxš,, è“- ,Ä, ì• ÛĈè

žQ Æ

Ĉ~ĈĈĈ, ÈfAfvfšfP [fvf#f“, ð [i] - , , é 1 , Ā, ìĈ® , íĈfAfvfšfP [fvf#f“, Āfšf [fx, ðš,, è“- , Ä, ½, çĈC
—ášO, ^a<N, «, ½, Æ, «, Ā, àšmžĀ, É, » , ĭšfš [fx, ^a%ð•ú, ³, è, é, æ, x, É, , é, ±
, Æ, Ā, •ĈB, ½, Æ, ĭ, ĭfAfvfšfP [fvf#f“, Āf [f, fš, ðš,, è“- , Ä, ½ [è [f, íĈCĈĀĭ“l, É, » , ĭf [f, fš, ^ašmžĀ, É
%ð•ú, ³, è, é, æ, x, É, , é•K—v, ^a, , è, Û, •ĈBftf@fCf<, ðšJ, ç, ½, çĈCĈĈĈ, Ā, » , ĭftf@fCf<, ð•K, , •Ā, ĭ, é•K—
v, ^a, , è, Û, •ĈB

—ášO, íĈ, ç, ½fR [fh, ©, ç“ĭ, , é, ³/₄, , Ā, í, È, ç, ±, Æ, à-
Y, è, Ā, í, È, è, Û, ¹, ñĈB, ½, Æ, ĭ, ĭfAfvfšfP [fvf#f““à, Ā RTL f< [f`f“, â, » , ĭ' ¹/₄, ĭfRf“fj
[fj“fg, ðĈĈĈ, ÑĈo, , ÆĈC—ášO, ^aĭĈ - , ³, è, é [è [f, ^a, , è, Û, •ĈB, » , è, ç, ĭĈĈĈĈ, ^a-
ĭĭ, µ, ½ [è [f, Ā, àĈĈš,, è“- , Äĭ, Y, ĭšfš [fx, ^ašmžĀ, É%ð•ú, ³, è, é, æ, x, fR [fffBf“fO, , é•K—v, ^a, , è,
Û, •ĈB

fšf [fx, ðĈø%Ĉ“l, É• ÛĈè, , é, É, íĈCžŸ, ì, ±, Æ, ð— [%ð, µ, Ā, , •K—v, ^a, , è, Û, •ĈB

- ÛĈè, ^a•K—v, Èfšf [fx, ĭží—p
- fšf [fx•ÛĈè) fuf [fbfN, ĭ [i] -

ŽQÆ

fR[fhfuffbfN,ì•ÚĚì

ŽÀsŽž—áŠO,ì^—

fRf“f|f|f“fg—áŠO,ì^—

fTfCfĚf“fg—áŠO

f†fU[“ÆŽ©,ì—áŠO,ì`è`

—á

ŽŸ,lfCxf“fgfnf“fhf%o,lf[]f,fš,đš,,è“-,Ä,½CEã,ÉfGf%o[][,đ[][]-.,.é,ì,À[]Cf[]f,fš,đ
%ođ•ú,.,éfR[]fh,đCE^,μ,ÄŽÀ[]s,μ,Ü,¹,ñ[]B

procedure TForm1.Button1Click(Sender: TComponent);

var

APointer: Pointer;

AnInteger, ADividend: Integer;

begin

ADividend := 0;

GetMem(APointer, 1024); { 1KB ,lf[]f,fš,đš,,è“-,Ä,Ü,· }

AnInteger := 10 **div** ADividend; { ,±,é,lfGf%o[][,đ[][]-.,μ,Ü,· }

FreeMem(APointer, 1024); { ,±,±,É,íCE^,μ,Ä“ž’B,μ,Ü,¹,ñ }

end;

,Ü,Æ,ñ,Ç,lfGf%o[][,í,±,é,Ü,Ç,í,©,è,â,.,., ,è,Ü,¹,ñ,ª[]C,±,lfR[]fh,í[]d—v,È“_ ,đž!,μ,Ä,ç

,Ü,·[]B,Ä,Ü,è[]Cf[]f[],É,æ,é[]œžž,lfGf%o[][,ª”-

[][],.,.é,ÆžÀ[]s,lfuf[]fbfN,ìšO,Ö^Ú,é,½,ß[]CFreeMem •¶,lf[]f,fš,đCE^,μ,Ä%ođ•ú,Ä,«,Ü,¹,ñ[]B

FreeMem ,ª GetMem ,É,æ,Á,Äš,,è“-,Ä,ç,é,½f[]f,fš,đšmžžÀ,É%ođ•ú,Ä,«,é,æ,ª,É,.,.é,É,í[]C,±

,lfR[]fh,đfš[]fX•ÚCEìfuf[]fbfN,ì’t,É“ü,é,é•K—v,ª, ,è,Ü,·[]B

ŽQÆ

fŠA[]fX•ÚEifuf[]fbfN.ì[]-

fšf [fX • ŮĀifuf fbfN, i i -

žQAE —á

š,, è“- , Äi, Y, ifšf [fX, ð—ášO, a<N, <<, Ä, àšmžA, É%øđ•ú, , é, É, íCfvf fefNfgfuf fbfN“à, Éfšf [fXžg—pfR [fh, ðCfuf fbfN, i“Ážè•”•a, Éfšf [fX%øđ•úfR [fh, ð- ,, ßž, Y, Ů, ·B^è”É“i, Éfvf fefNfgfšf [fXš,, è“- , Ä, ìšT—a, ðžŸ, Éž, μ, Ů, ·B

{ fšf [fX, ðš,, è“- , Ä, Ů, · }

try

{ fšf [fX, ðžg, x•Ÿ }

finally

{ fšf [fX, ð%øđ•ú, μ, Ů, · }

end;

, ±, ì try..finally fuf fbfN, i d—v, È“ _ , íCfvf fefNfgfuf fbfN“à, Á—

ášO, a<N, <<, ½ê±, Ä, àfAvfšfP [fVf±f“ , a•K, , ±, ifuf fbfN, ì finally •” , ì•Ÿ, ðžÀs, , é, ±

, Æ, Ä, ·B, ±, ifuf fbfN, ì try •” , ìfR [fh (, Ů, ½, í try •” , É“ü, Ä, Ä, ç

, éfR [fh, É, æ, Ä, ÄĀÄ, Ño, ³, è, ½f< [f`f“) , a—

ášO, ðŸŸ—, μ, ½ê±C, , @, ÉžÀs, aNfš [f“fAfbvfR [fh, ÆĀÄ, î, è, é finally •” , Ö^Ú, è, Ů, ·B

—ášO, a<N, <<, È, -, è, íC, ±, ìNfš [f“fAfbvfR [fh, íÉí, ì±~ , ÄC, Ä, Ů, è try •” , É“ü, Ä, Ä, ç

, é, ·, x, Ä, ì•Ÿ, ìĀĀ, ÉžÀs, ³, è, Ů, ·B

Ÿ—¹fR [fh“à, ì•Ÿ, í—ášO, ì”Ÿ, É^È“Ÿ, μ, Ů, ¹, ñBtry •” , ì•Ÿ, a—ášO, ðŸŸ—, μ, È, , Ä, àCŸ—

¹fR [fh, a^ø, <<±, <<žÀs, ³, è, Ů, ·B

f f: fšf [fX • ŮĀifuf fbfN, í—ášO, ð^—, μ, Ů, ¹, ñBŸ—¹fR [fh, í—ášO, a”Ÿ, μ, ½, ©, Ç, x

, ©, ³, í’m, ç, ³, è, È, ç, ì, ÄC—ášO, ð^—, , é•K—v, a, , é, ©, Ç, x, ©, ð”»’f, Ä, <<, Ů, ¹, ñBšf

[fX • ŮĀifuf fbfN“à, Ä—ášO, a”Ÿ, , é, ÆCžÀs, í, Ů, Ÿ—¹fR [fh, É^Ú, èCžŸ, É—

ášO, aŸŸ—, ³, è, ½, Ů, Ů, ìó’Ō, Áfuf fbfN, ðo, Ů, ·B, » , ìĀĀCfvf fefNfgfuf fbfN, a“ü, Ä, Ä

, ç, éfuf fbfN, í—ášO, É%ž“š, Ä, <<, Ů, ·B

—á

ŽŸ,lfCxf“fgfnf“fhf%o,ífff,fš,đš,,è“-,Ä,ÄfGf%o[][,đff[]-,μ,Ü,·,ª[]Cš,,è“-,Ä,½f[]f,fš,đ
%ođ•ú,μ,Ü,·[]B

```
procedure TForm1.Button1Click(Sender: TComponent);
var
  APointer: Pointer;
  AnInteger, ADividend: Integer;
begin
  ADividend := 0;
  GetMem(APointer, 1024); { 1KB ,ífff,fš,đš,,è“-,Ä,Ü,· }
  try
    AnInteger := 10 div ADividend; { ,±,ê,ífGf%o[][,đff[]-,μ,Ü,· }
  finally
    FreeMem(APointer, 1024); { fGf%o[][,É,à,©,©,í,ç,,ŽÀ[]s,Í,±,±
,©,ç[]Äšj,³,ê,Ü,· }
  end;
end;
```


ŽQÆ

•ÚĚì,ª•K—v,ĚšŦ[]fX,ìŽí—p

ŽÀsžž—áŠO,ì^—

ŽQÆ

ŽZpŠÖ”,âftj@fCf<^—Žè±,«,È,ÇCf%of“f^fCf€f%ofCfuf%ofŠ (RTL)

“à,ìf<[f`f”,ðÆÄ,Ño,·fR[fh,ð’,,ÆCRTL ,ífGf%o[,ð—

áŠO,ìÆ` ,ÅfAfvfŠfP[fVf#”,Ö•Ö,μ,Û,·BffftjHf<fg,Å,Í RTL —

áŠO,íffbfZ[fW,ð¶—,μC,»,ìfbfZ[fW,ðfAfvfŠfP[fVf#”,âftjU[.É•Ž!,μ,Û,·B¼,ì•û-
@,Å RTL —áŠO,ð^—,·,é“ÆŽ©,ì—áŠOfnf“fhf%o,à`è` ,Å,«,Û,·B

ffftjHf<fg,ÅfbfZ[fW,ð•Ž!,μ,È,çTfCf€f“fg—áŠO,à, ,è,Û,·B

RTL —áŠO,ðÆø%Ê“l,É^—,·,é,É,ÍCŽÿ,ì,±,Æ,ð—%øð,μ,Ä,“,•K—v,^a, ,è,Û,·B

- ŽÀsžž—áŠO,Æ,Í
- —áŠOfnf“fhf%o,ìì—
- ffftjHf<fg,ì—áŠOfnf“fhf%o,ì`ñ<ÿ
- —áŠO,ìNf%ofX,ì^—
- —áŠO,ìÄ¶—

ŽQÆ

fR[fhfuffbfN,ì•ÚĚì

fŠf[fXŠ,,è“-,Ä,ì•ÚĚì

fRf“f[f“fg—áŠO,ì^—

fTfCfĚf“fg—áŠO

f†[fU[“ÆŽ©,ì—áŠO,ìè<`

ŽÀ sŽž—áŠO,Æ,Í

ŽQÆ

f%of“f^fCf€f%ofCfuf%ofŠ,l—áŠO,Í SysUtils ftjffbfq“à,Å'è` ,³,ê,Ä,¨,èC,±,ê,ç,l—áŠO,Í,·,x,Ä
Exception ,Æ,ç,˘^ê”Ê—áŠOfIfufWfFfNfgÆ^,ðÆp³,μ,Ä,ç,Û,·BException ,Í RTL —
áŠO,³ffftfHf<fg,Å•Žl,·,éffbfZ[fW,ì•¶Žš—ñ,ð'ñ<ÿ,μ,Û,·B

RTL ,ª¶¶—,·,é—áŠO,ÍŽÿ,ì 7 Ží—p,Å,·B

- “üo—í—áŠO
- fg¶fv—áŠO
- ¶@¶””’l%o%oŽZ—áŠO
- •,“@¶—¶””’l%o%oŽZ—áŠO
- Æ^fLfffXfg—áŠO
- •İ·—áŠO
- fn¶lfhfEfFfA—áŠO

“üo—í—áŠO

“üo—í—áŠO, í RTL ,³ftf@fCf<, Ü, ½, í“üo—ífffofCfX, ÖfAfNfZfX, μ, æ, π, Æ, μ, ½, Æ, «, É<N, «, é, ±, Æ, ³, , è, Ü, ·□B, Û, Æ, ñ, Ç, ì“üo—í—áŠO, í Windows , Ü, ½, í DOS ,³ftf@fCf<, ÖfAfNfZfX, μ, ½, Æ, «, É•Ô, μ, ½fGf%□[fR□[fh, ÉŠÖ~A, μ, Ä, ç, Ü, ·□B

SysUtils ftfjfbfg, í ElnOutError , Æ, ç, π^ê”Ê“üo—í—áŠO, ð’è<, μ, Ä, “, è□C, ±, è, É, í, Ç, ì, æ, π, ÈfGf %□[, ³□[μ, ½, ì, ©, ðŽ!, · ErrorCode , Æ, ç, πfufWfFfNfgftfB□[f<fh, ³ŠÜ, Ü, è, Ä, ç, Ü, ·□B≡
áŠOfufWfFfNfgfCf“fXf^f“fX”à, ì, ±, ìftfB□[f<fh, ÖfAfNfZfX, ; , è, ì□C—áŠO, ì□^—□•û-
@, ³, í, ©, è, Ü, ·□B

fq[]fv—áŠO

fq[]fv—áŠO, í“®“lf[]f, fš, iš,,, è“- , Ä, âfAfNfZfX, đžž, ý, ½, Æ, «, É<N, «, é, ±, Æ, ¢, è, Ü, ·[]B SysUtils
ftfjfbfg, í EOutOfMemory , Æ EInvalidPointer , Æ, ¢, ¤ 2 , Ä, lf[]fv—áŠO, đ'è'è` , μ, Ä, ¢, Ü, ·[]B ŽŸ, ì\ , í“Á'è, lf[]fv—áŠO, đžž, μ, Ä, ¢, è[]C, Ç, ç, à Exception , đ'¼[]ÚÆp[]³, μ, Ä, ¢, Ü, ·[]B

—áŠO

^Ó-i

EOutOfMemory —v<[]³, è, ½'€[]ì, đžžÀ[]s, ·, é, ì, É\·ª, ÈfXfy[]fX, ¢fq[]fv[]ã, É, È, ©, Á, ½

EInvalidPointer fAfvfšfP[]fVf#f“ , lf[]fv, išO•” , đžžw, ·f[]Cf“f^, đ”jšü, μ, æ, ¤
, Æ, μ, ½[]B'É[]í[]C, ±, è, lf[]Cf“f^, ¢, ·, Ä, É”jšü, ¢, è, Ä, ¢, é, ±, Æ, đ^Ó-i, ·, é

☐®☐"☐"'!%o%oŽZ—áŠO

☐®☐"☐"'!%o%oŽZ—áŠO, í☐®☐"ĈĚ^, ðŽ® ,ð%o%oŽZ, μ, ½, Æ, «, É<N, «, é, ±, Æ, ¢, , è, Ü, ·☐BSysUtils
ftfjfbfg, í ElntError , Æ, ç, ¤^ê"Ê☐®☐"☐"'!%o%oŽZ—áŠO, ð'è<` , μ, Ä, ç, Ü, ·☐BRTL , íĈĚ^, μ, Ä
ElntError , ð☐¶☐¬, μ, Ü, ¹, ñ, ¢☐C, ±, ê, í, ·, x, Ä, ð"Á'è☐®☐"☐"'!%o%oŽZ—
áŠO, ¢ĈĚp☐³, ·, éŠî'ê, ð'ñ<Ÿ, μ, Ü, ·☐B

ŽŸ, ð·\, ð"Á'è☐®☐"☐"'!%o%oŽZ—áŠO, ðŽ! , μ, Ä, " , è☐C, ±, ê, ç, í, Ç, ê, à ElntError
, ð'¼☐ÚĈĚp☐³, μ, Ü, ·☐B

—áŠO

^Ó-i

EDivByZero	f[f☐, Å☐œŽZ, μ, æ, ¤, Æ, μ, ½
ERangeError	Ž®, ð☐"'! , ¢"í^íŠO
ElntOverflow	☐®☐"☐"'!%o%oŽZ, ¢f☐[fo☐[ftf☐☐[, μ, ½

•,“®□→□”“_□”’l%o%oŽZ—áŠO

•,“®□→□”“_□”’l%o%oŽZ—áŠO,ÍŽÀ□”Ĉ^,ìŽ®,đ%o%oŽZ,μ,½,Æ,«,É<N,«,é,±,Æ,ª, ,è,Ü,·□BSys
Utils ftfjfbfg,Í EMathError ,Æ,ç,π^è”Ê•,“®□→□”“_□”’l%o%oŽZ—áŠO,đ’è<` ,μ,Ä,ç,Ü,·□BRTL
,ÍĈ^,μ,Ä EMathError ,đ□¶□→,μ,Ü,¹,ñ,ª□C,±,ê,í,·,×,Ä,ì“Á’è•,“®□→□”“_□”’l%o%oŽZ—
áŠO,ªĈp□³,·,éŠî’ê,đ’ñ<Ÿ,μ,Ü,·□B

ŽŸ,ì•\,ì“Á’è•,“®□→□”“_□”’l%o%oŽZ—áŠO,đŽ!,μ,Ä,“,è□C,±,ê,ç,ì—áŠO,í,ç,·,ê,à EMathError
,đ’¼□ÚĈp□³,μ,Ü,·□B

—áŠO

^Ó-i

EInvalidOp

fvf□fZfbfT,ª-ç’è<`-½—β,đĈĚŸ□o,μ,½

EZeroDivide

f[f□,É,æ,é□œŽZ,đŽŽ,Ÿ,½

EOverflow

•,“®□→□”“_%o%oŽZ,ªfI□[fo□[ftf□□[,μ,½

EUnderflow

•,“®□→□”“_%o%oŽZ,ªfAf“f_□[ftf□□[,μ,½

CE^fLfffXfg—áŠO

CE^fLfffXfg—áŠO, í as fpf%of□□[f^, đŽg, Á, ÄfufWfFfNfg, đ•Ê, ìCE^, ÖCE^fLfffXfg, μ, æ, x
, Æ, μ, ½, Æ, «, É<N, «, é, ±, Æ, a, , è, Ü, ·□BSysUtils ftjfbfg, Í—v<□, ³, ê, ½CE^fLfffXfg, a"ñ□‡-@, ì, Æ, «, É
RTL , a□¶□¬, , é EInvalidCast , Æ, ç, x—áŠO, đ'è<` , μ, Ä, ç, Ü, ·□B

• ěŠ—áŠO

• ěŠ—áŠO, í IntToStr CStrToInt CStrToFloat

, È, Ç, ěŠÖ", đŽg, Á, Äff[f^, ìE`Ž®, đ• ěŠ, μ, ½, Æ, «, É<N, «, é, ±, Æ, ¢, , è, Ü, · BSysUtils

ftfjfbfg, ěŠÖ", Ö"n, ³, ê, ½ff[f^, đ• ěŠ, Å, «, È, ç, Æ, «, É RTL , ¢, ¢, , , é EConvertError , Æ, ç, ¢—

áŠO, đ'è` , μ, Ä, ç, Ü, · B

fn[fhfEjFfA—áŠO

fn[fhfEjFfA—áŠO, í 2 ,Á, ìó<μ, Å<N, «, é, ±, Æ,ª, , è, Û, ·B1 ,Á, ìfvf[fZfbfT,ª^—
 □,Á, «, È, ç, áŠQ, ðŸo, μ, ½, Æ, «□C, à, x 1
 ,Á, ÌŽÀ□s, ð'†f, ·, éŠ,, èž, Ý, ðfAfvfŠfP□[fVf#f", Å^Ó□} "l, É□¶□-, μ, ½, Æ, «, ·Bfn□[fhfEjFfA—
 áŠO, ì^—□R□[fh, í DLL ,É'u,, ±, Æ, í, Å, «, ·□CfXf^f"fhfAf□f", ìfAfvfŠfP□[fVf#f", É, Ì, ÝŠÛ, ß, é, ±,
 ,Æ,ª, Á, «, Û, ·□B

SysUtils ftjfbfg, í EProcessorException ,Æ, ç, x^è"Êfn□[fhfEjFfA—áŠO, ð'è<` ,μ, Á, ç, Û, ·BRTL
 ,ÍŒ^ ,μ, Á EProcessorException ,ð¶□-, μ, Û, ¹, ñ,ª□C, ±, è, í"Á'èfn□[fhfEjFfA—
 áŠO,ªŒp³, ·, éŠí'è, ð'ñ<Ý, μ, Û, ·□B

ŽŸ, Ì, ·, í"Á'èfn□[fhfEjFfA—áŠO, ðŽì, μ, Á, ç, Û, ·□B

—áŠO	^Ó-i
EFault	, ·, x, Á, ì□áŠQfìfufWfFfNfg,ªŒp³, ·, éŠí'è—áŠOfìfufWfFfNfg
EGPFault	'É□í, í□%Šú%»»,ª, è, Á, ç, È, çfjfcf"f^, âfìfufWfFfNfg,ªŒ ^^ö, Å<N, «, é^è"Ê•ÛŒì—áŠO
EStackFault	fvf[fZfbfT, ìfXf^fbfNfZfOf□f"fg, Ö, Ì" ñ□#-@fAfNfZfX
EPageFault	Windows , ìf□f, fŠf}f□[fWff,ªfXf□fbfvftf@fcf<, ð□³, μ, Žg, Ì, È, ©, Á, ½
EInvalidOpCode	fvf[fZfbfT,ª-ç'è<`-½—ß, ðŸo, μ, ½□B'É□í, ± , è, ìfvf[fZfbfT,ªff□[f^f□f, fŠ, Û, ½, í□%Šú%»»,ª, è, Á, ç , È, çf□f, fŠ, ðŽÀ□s, μ, æ, x, Æ, μ, ½, ±, Æ, ð^Ó-i, ·, é
EBreakpoint	fAfvfŠfP□[fVf#f",ªfufŒ□[fNfjfcf"fgŠ,, èž, Ý, ð¶□-, μ, ½
ESingleStep	fAfvfŠfP□[fVf#f",ªfVf"fOf<fXfefbfvŠ,, èž, Ý, ð¶□-, μ, ½

^è"Ê•ÛŒì—áŠO, ðœ, ·, í□C, ±, è, ç, Ì—áŠO, ðŸo, ·, é, ±, Æ, í, Û, è, Á, ·□B, ±, è, ç, Ì—
 áŠO, í'€□ìŠÁ<<, ì□d'á, È□áŠQ, ð•\, μ, Á, ç, é, ©, ç, Á, ·□BfufŒ□[fNfjfcf"fg—áŠO, Æfvf"fOf<fXfefbfv—
 áŠO, í^è"Ê, È C++Builder , Ì"□□#fff□fbfK, É, æ, Á, Å□^—□,ª, è, Û, ·□B

ŽQÆ

—áŠOfnf“fhf%oo,ìììì

ffftfHf<fg,ì—áŠOfnf“fhf%oo,ì'ň<Ÿ

—áŠO,ìfNf%ofX,ì^—

—áŠO,ìÄ11

—áŠOfnf“fhf%o,ììì—

ŽQÆ —á

—áŠOfnf“fhf%o,ìfR[fh,ì•ÚŒìfufjfbfN“à,Á<N,«,½“Á’è,ì—áŠO (•;”,ìèè,à, ,é) ,ð^—
□,•,éR[fh,Á,•□B

—áŠOfnf“fhf%o,ð’è<` , ,é,É,í•ÚŒì,μ,½,çfR[fh,ð—áŠO^—fufjfbfN,ì’t,É-
„,βž,Ý□C,»,ìfufjfbfN,ì **except •**”,É—áŠO^—□•Œ,ðžw’è,μ,Ü,•□B^è”É“ì,É—áŠO^—
fufjfbfN,ìŠT—^a,ðŽŸ,ÉŽì,μ,Ü,•□B

try

{ •ÚŒì,μ,½,ç•Œ }

except

{ —áŠO^—□•Œ }

end;

fAfvfŠfP[fVf#f“,í **try •**”,ì•Œ,ìŽÀ□s’t,É—áŠO,^a<N,«,½èè,É,^¾,⁻ **except**

•”,ì•Œ,ðŽÀ□s,μ,Ü,•□B**try •**”,ì•Œ,ìŽÀ□s,ì’t,É,í **try**

•”,ìfR[fh,É,æ,Á,ÄŒÄ,Ŧ□o,³,è,½f<□[f`f“,àŠÜ,Ü,è,Ü,•□B,Á,Ü,è **try •**”,ìfR[fh,^a 1

,Á,ìf<□[f`f“,ðŒÄ,Ŧ□o,μ□C,»,ìf<□[f`f“,^aŽ©□g,ì—áŠOfnf“fhf%o,ð’è<` ,μ,Á,ç,È,çèèè□□CŽÀ□s,í—
áŠO^—fufjfbfN,Ö-β,è□C—áŠO^—fufjfbfN,^a—áŠO,ð^—□,μ,Ü,•□B

try •”,ì•Œ,Á—áŠO,^aŒ□Œ—³,è,é,Æ,•,®,ÉŽÀ□s,^a **except •**”,Ö^Ú,è□CŒ»Ÿ,ì—áŠO,É“K—

p,³,è,éfnf“fhf%o,^aŒ©,Á,©,é,Ü,Á□Cžw’è,³,è,½—áŠO^—□•Œ□C,Á,Ü,è—áŠOfnf“fhf%o

,^aŒŸ□,³,è,Ü,•□B

fAfvfŠfP[fVf#f“,í,»,ì—áŠO,ð^—□,•,é—áŠOfnf“fhf%o

,ðŒ©,Á,⁻,é,Æ,»,ì•Œ,ðŽÀ□s,μ□C,»,ìŒã□Cž©“®“ì,É—

áŠOfifufWfFfNfg,ð”pŠü,μ,Ü,•□BŽÀ□s,íŒ»Ÿ,ìfufjfbfN,ìì,í,è,©,ç’±□s,³,è,Ü,•□B

ŽQÆ

—áŠOfCf“fXf^f“fX,ìŽg,č•û

—áŠOfnf“fhf%oo,ìfXfR□[fv

ffftfHf<fg,ì—áŠOfnf“fhf%oo,ì'ň<Ÿ

—áŠO,ìfNf%ofX,ì□^—□

—áŠO,ì□Ä□1□□□

—áŠO□^—□•¶

ŽQ□Æ =á

try..except fuf□fbfN,ì **except** •”,É“ü,Á,Ä,ç,é•¶,í“Á’è,ìŽí—p,ì—áŠO,ð□^—
□,·,é,½,ß,ÉŽÄ□s,·,éfR□[fh,ð’è<`,μ,Û,·□B,±,ê,ç,ì—áŠO□^—□•¶,ì□’Ž®,ìŽŸ,ì,Æ,“,è,Å,·□B
on <—áŠO,ìŽí—p> do <•¶>;
—áŠO,ðŽg,κ,Æ□CfAfçfSfŠfYf€,ì□u’Ê□í,ì□vŽ®,ð□Ú,μ,□à^{-3/4},μ,Ä□C,»,ìŽ®,^a“K—p,³,ê,È,ç—
áŠO“l,È□ê□‡,ð<K’è,Å,«,Û,·□B—áŠO,ðŽg,í,È,ç□ê□‡,í□CCEvŽZ,ìCEÂ□X,ìfXfefbfv,Å□æ,Ö□i,ň,Å,ç
,ç,©,Ç,κ,©,ð-^%oňŠm”F,μ,È,Ä,Í,È,è,Û,¹,ň□B

—á

ŽŸ,lfR[fh,lf[f,É,æ,é[œŽZ,ÁffftfHf<fg,ìCE<%oÉ,đ'ň<Ÿ,·,é—áŠOfnf“fhf%o,đ'è<` ,μ,Ä,ç,Ü,·B

```
function GetAverage(Sum, NumberOfItems: Integer): Integer;
begin
  try
    Result := Sum div NumberOfItems;
  except
    on EDivByZero do Result := 0;
  end;
end;
```

—áŠO,đ—~—p,μ,È,ç“~“™,ìŠÖ,đŽŸ,ÉŽ!,μ,Ü,·B

,±,lfR[fh,ìŠÖ,đCEÄ,Ño,·,½,Ñ,É[œ,²f[f,Ä, ,é,©,Ç,²,©,lf`fFbfN,đ[s,ç,Ü,·B

```
function GetAverage(Sum, NumberOfItems: Integer): Integer;
begin
  if NumberOfItems <> 0 then
    Result := Sum div NumberOfItems
  else Result := 0;
end;
```

,±,ê,ç 2 ,Ä,ìŠÖ,ì^á,ç,í—áŠO,đŽg,Á,½fvf[fOf%of~f“fO,Æ,»,²,Ä,È,çfvf[fOf%of~f“fO,ì^á,ç,đ,æ,·\,μ,Ä,ç,Ü,·B,±,ê,í”ňí,É’P[f,È—á,Ä,·,²[C,à,Á,Æ•;ŽG,È”•Sfxfefbfv,ìCEvŽZ,Ä%o½\%oň,à,ì“ü—í,ì 1 ,Ä,²-³CEø,Ä, ,Ä,½,Æ,«,É[C,Ç,ê,©,lfXfefbfv,Ä[áŠQ,²<N,±,é,±,Æ,²’z’œ,Ä,«,Ü,·B

ŽQÆ

—áŠOfCf“fXf^f“fX.ìŽg.č•û

—áŠOfnf“fhf%o,ìfXfR□[fv

—áŠofCf“fXf^f“fX,ìŽg,č•û

ŽQ□Æ —á

,Ù,Æ,ñ,ç,ì□è□#□C—áŠofnf“fhf%,,í—áŠO,ÉŠÖ,μ,Ä,» ,ìŽí—p^ÈŠO,ì□î•ñ,ð•K—v,Æ,μ,È,ç ,ì,Ä□Con..do ,É±,•¶,í,» ,ì—áŠO,ìŽí—p,¾, ,ð‘í□Ù,Æ,μ,Û,·□B,μ,©,μ□C□é□# ,É,æ,Á,Ä,Í— áŠofCf“fXf^f“fX,ì‘t,É“ü,Ä,Ä,ç,é□î•ñ,ì^è•” ,ª•K—v,É,È,è,Û,·□B

—áŠofnf“fhf%,,ì‘t,Ä—áŠofCf“fXf^f“fX,ÉŠÖ,·,é“Á’è,ì□î•ñ,ð“ç,Ý□o,·,É,í□C— áŠofCf“fXf^f“fX,Ö,ìfAfNfZfX,ð%oÄ“\,É,·,é on..do ,ì“Á•Ê,È•ĪCE`□\•¶,ðŽg,ç,Û,·□B,±,ì“ÁŽè□\ •¶,Ä,ÍfCf“fXf^f“fX,ð“ü,è,Ä, , ^èŽž•Ī□” ,ð—p^Ó,·,é•K—v,ª, ,è,Û,·□B

,±,ì^èŽž•Ī□” (ŽŸ,ìfR□[fh,Ä,í E) ,ìCE^ ,ìfRf□f“ ,ìCEã,ÉŽw’è,³,è,Û,· (ŽŸ,ìfR□[fh,Ä,í EInvalidOperation)□B•K—v,È,ç,Ī as %o%oŽŽŽq,ðŽg,Á,Ä—áŠO,ð,æ,è“Á’è,³,è,½Ží— p,ÉCE^fLfffXfg,Ä,« ,Û,·□B

f□f,: ^èŽž—áŠOfIfufWfFfNfg,ð” pŠü,μ,Ä,í,È,è,Û,¹,ñ□B—áŠO,ð□^—□,·,é,Æ□C,» ,ì— áŠOfIfufWfFfNfg,íŽ©“@“I,É” pŠü,³,è,Û,·□BfIfufWfFfNfg,ð□ŸŽè,É” pŠü,·,é,Æ□CfAfvfŠf P□[fVf#f“ ,í,» ,ìfIfufWfFfNfg,ð□Ä“x” pŠü,μ,æ,α,Æ,μ,Ä’v-½“I,ÈfAfvfŠfP□[fVf#f“fGf %o□[,ª□¶□- ,³,è,Û,·□B

—á

```
ftjH[f€ ,ª 1 ,Á,¾, -“ü,Á,½V,µ,¢fvfWfFfNfg,ðì¬,µCftjH[f€  
,ÖfXfNf[f<fo[ ,ÆfRf}f“fhf{f^f“,ð’Ç%Á,µ,Á  
%º,¾,¢Bf{f^f“,ðf_fuf<fNfŠfbfN,µCŽŸ,ìs,ðfNfŠfbfNfCxf“fgfnf“fhf%º,Ö’Ç%Á,µ,Á,,¾,¾,¾,¢B
```

```
    ScrollBar1.Max := ScrollBar1.Min - 1;
```

```
fXfNf[f<fo[ ,ìÁ‘á‘l,íCE^,µ,ÄÁ¬‘l,ð’’,ì,È,¢,ì,ÁC,±,ìs,í—  
áŠO,ð¶¬,µ,Ü,·BfAfvfŠfP[fVf+f“,ìfftfHf<fg,ì—áŠOfnf“fhf%º,í—  
áŠOfifufWfFfNfg,ì‘,ìfbfZ[fW,ª“ü,Á,½f_CfAfOf{fbfNfX,ðŠ},«,Ü,·B,±,ìfnf“fhf%º,ì‘,ì—  
áŠO^—,ðfì[fof[f%ofCfh,µ,ÄC—áŠO,ìfbfZ[fW•¶Žš—  
ň,ª“ü,Á,½“ÆŽ©,ìfbfZ[fWf{fbfNfX,ðì¬,Á,«,Ü,·B
```

try

```
    ScrollBar1.Max := ScrollBar1.Min - 1;
```

except

on E: EInvalidOperation **do**

```
        MessageDlg('Ignoring exception: ' + E.Message, mtInformation, [mbOK],  
0);
```

end;

ŽQÆ

—áŠO^—•¶

—áŠOfnf“fhf%o,ìXfR[fv

—áŠOfnf“fhf%o,ìfXfR[]fv

ŽQ[]Æ

, ; , x , Ä , ìfuf[]fbfN , ì , ; , x , Ä , ìŽí—p , ì—áŠO , É , Ä , ç , Äfnf“fhf%o , ð’ñ<ÿ , ; , é•K—v , í , ; , è , Ü , ¹ , ñ[]B“Á’è , ìfuf[]fbfN“à , Ä“Á , É[]^—[] , μ , ¹/₂ , ç—áŠO , É , Ä , ç , Ä , ³/₄ , ~fnf“fhf%o , ð’ñ<ÿ , ; , é•K—v , ^a , ; , è , Ü , ·[]B

fuf[]fbfN , ^a“Á’è , ì—áŠO , ð[]^—[] , μ , È , ~ , ê , í[]C—

áŠO , í[][]— , ³ , ê , ¹/₂ , Ü , Ü , ì[]ó’Ô , ÅŽÀ[]s , ^a , » , ìfuf[]fbfN , ð[]o , Ä[]C , » , ìfuf[]fbfN , ì[]ã^Êfuf[]fbfN[]i , Ü , ¹/₂ , í , » ,

ìfuf[]fbfN , ð[]ÆÄ , Ñ[]o , μ , ¹/₂ fR[][fh[]j , Ö—ß , è , Ü , ·[]B , ±

, ìfv[]fZfX , í[][] , è•Ô , ³ , ê[]C , » , ì , ¹/₂ , Ñ , ÉfXfR[][fv , ì’P^Ê , ^a[]L , ^a , è , Ü , ·[]B

ŽQÆ

—áŠO^—•¶

—áŠOfCf“fXf^f“fX,lžg.č•û

ffftfHf<fg,ì—áŠOfnf“fhf%oo,ì'ñ<ÿ

ŽQ□Æ

“Á'è,ìfnf“fhf%oo,á'ñ<ÿ,³,è,Ä,ç,È,ç,·,×,Ä,ì—áŠO,ð□^—□,·,é,½,β□CffftfHf<fg,ì—áŠOfnf“fhf%oo,ð 1,Ä'ñ<ÿ,Ä,¼,·□B,»,,ì,½,β,É,ÍŽÿ,ì,æ,α,É—áŠO□^—□fuf□fbfN,ì **except •**”,É **else •**”,ð'Ç %ooÁ,μ,Û,·□B

```
try
{ •¶ }
except
on ESomething do { “Á'è,ì—áŠO□^—□fR□[fh ]};
else { ffftHf<fg,ì—áŠO□^—□fR□[fh ]};
end;
```

fuf□fbfN,ÉffftfHf<fg,ì—áŠO□^—□,ð'Ç%ooÁ,·,é,Æ□Cfuf□fbfN,ª,·,×,Ä,ì—áŠO,ð%oo½,ç,©,ì•ù-@,Ä□^—□,μ□C,»,,è,É,æ,Á,Ä□ã^Êfuf□fbfN,©,ç,ì,·,×,Ä,ì□^—□,ªŠmŽÄ,ÉfI□[fo□[f%ofCfh,³,è,Û,·□B

Ex□□: ,±,ì,æ,α,È,·,×,Ä,ð□^—□,Ä,«,éffftfHf<fg—áŠOfnf“fhf%oo,ð'è<` ,·,é,Æ,«,,É,í□^Ó,μ,Ä,-,¾,¾,ç□Belse □β,í,Û,Ä,½,□³'ì,ì'm,è,È,ç—áŠO,àŠÛ,β□C,·,×,Ä,ì—áŠO,ð□^—□,μ,Û,·□B^è”É”I,É□Cfvf□fOj%of},ÍŽÀ□Û,É□^—□•ù-@,ª,í,©,Á,Ä,ç,é—áŠO,¾,¯,ð□^—□,·,éfR□[fh,ð□',,,×,«,,Ä,·□B,»,,è^ÈŠO,ì□ê□‡,Ä,à□CfNfŠ□[f“fAfbfvfR□[fh,ðŽÀ□s,μ,Ä,»,,ì—áŠO,Æ,»,,ì□^—□•ù-@,É,Ä,ç,Ä□Û,μ,ç□í•ñ,ðŽ□,Á,Ä,ç,éfR□[fh,É□^—□,ð”C,¹,é,ì,ª“¾□ô,Á,·□B

ŽQÆ

—áŠOfnf“fhf%o,iìì

—áŠO,ìfNf%ofX,i^—

—áŠO,iÄ1

—áŠO,lfNf%ofX,ì^—

ŽQÆ —á

—áŠOfIfufWfFfNfg,ÍŠK'w,ì^è•",È,ì,ÅCŠK'w,ì,»,ì•"•^a,^aÆp³,μ,Ä,ç,é—áŠOfNf%ofX,É,Ä,ç,
,Äfnf"fhf%o,ð'ñ<ÿ,·,é,ÎCŠK'w,ì•"•^aS'ì,É,Ä,ç,Äfnf"fhf%o,ðŽw'è,Ä,«,Ü,·B

—áŠO,ð,³,ç,É"Á'è,μ,ÄÚ×,Èfnf"fhf%o,ðŽw'è,·,é,±,Æ,à,Ä,«,Ü,·^aC,»,é,ç,lfnf"fhf%o,
,í^è"Èfnf"fhf%o,ìä,É"z'u,·,é•K—v,^a,·,è,Ü,·BfAfvfŠfP[fVf†",Ífnf"fhf%o,
,ðoCE»†,ÉCEÿð,μCÄ%o,ÉCE©,Ä,©,Ä,½"K—p%oÄ"\,Èfnf"fhf%o,ðŽÄs,·,é,©,ç,Ä,·B

—á

ŽŸ,lfuffbfN,í,·,x,Ä,ì®"'"I%%ŽZ—áŠO,đ"Á•Ê,É^—,·,éfR[fh,ÌŠT—^a,đŽ!,μ,Ä,ç,Ü,·B

```
try
  { ®"'"I%%ŽZ,đŽÀ[s,·,é•¶ }
except
  on EIntError do { ®"'"I%%ŽZfGf%[]—p,ì"ÁŽê^— } ;
end;
```

,½,Æ,!,îŽŸ,lfuffbfN,í"í^fGf%[],É,Â,ç,Ä,í"ÁŽê,È^—,đC,»,ì¼,ì,·,x,Ä,ì®"'"I%%ŽZfGf%[],É,Â,ç,Ä,í,»,ì¼,ì^—,đ'ň<Ÿ,μ,Ü,·B

```
try
  { ®"'"I%%ŽZ,đŽÀ[s,·,é•¶ }
except
  on ERangeError do { "í^íŠO,ì^— } ;
  on EIntError do { ,»,ì¼,ì®"'"I%%ŽZfGf%[],ì^— } ;
end;
```

EIntError —p,lfnf"fhf%^a, ERangeError —p,lfnf"fhf%^a,ì'O,É,·,é,ÆCŽÀ[s,^aCE^,μ,Ä
ERangeError —p,ì"ÁŽêfnf"fhf%^a,Ü,Á"ž'B,μ,È,ç,±,Æ,É'^Ó,μ,Ä,,¾,¾,çB

ŽQÆ

—áŠOfnf“fhf%oo,ìììì

ffftHf<fg,ì—áŠOfnf“fhf%oo,ì'ň<Ÿ

—áŠO,ìÄ11

—áŠO,ìÄ¶¶¶—

ŽQÆ —á

—áŠO,đf¶¶[fj]f<,É□^—□,·,é,Æ,«□C□ã^Êfuf¶bfN,ì□^—□,đ'u,«Š·,ì,é,ì,Å,È,□CŠg'â,μ,½,¶□ê¶,ª, ,è,Ü,·□Bf¶¶[fj]f<fnf“fhf%o,í□^—□,đ¶l,ì,é,Æ—

áŠOfCf“fXf^f“fX,đ”pŠü,·,é,ì,Å□C□ã^Êfuf¶bfN,ìfnf“fhf%o,í<@”\,μ,Ü,¹,ñ□B,μ,©,μ□Cfnf“fhf%o,ª
—áŠO,đ”pŠü,μ,È,¶,æ,¶,É,μ,Ä□ã^Êfnf“fhf%o,É%ož“š,ì<@%oï,đ—^,ì,é,±,Æ,ª,Å,«,Ü,·□B

—áŠO,ª<N,«,½□ê¶¶C%o½,©,ìŽí—b,ìf¶bfZ¶[fW,đft¶[fU¶[É·\Žì,μ,Ä,©,ç·W¶€□^—
□,É□i,b,ì,ª·É,Å,·□B,»,¶,·,é,É,ìf¶bfZ¶[fW,đ·\Žì,·,é¶¶[fj]f<—áŠOfnf“fhf%o
,đ¶éC¾,μ□C,»,ìCã,É—\—ñCê,ì **raise** ,đCÄ,Ñ□o,μ,Ü,·□B

{ ·¶ } ·”,ìfR¶[fh,ª—áŠO,đ¶¶—,·,é,ÆŠO'¶,ì **except** ·”,ìfnf“fhf%o,¾,ª,ªŽÀ□s,³,è,Ü,·□B,μ,©,μ
{ “ÁŽè,È·¶ } ·”,ìfR¶[fh,ª—áŠO,đ¶¶—,·,é,Æ“à'¶,ì **except** ·”,ì□^—
□,ªŽÀ□s,³,è□C,»,ìCã,ÉŠO'¶,ì **except** ·”,ì^è”È“l,È□^—□,ª±,«,Ü,·□B

—áŠO,đÄ¶¶—,·,é,ì□CŠù'¶,ìfnf“fhf%o,đŽ,·,ì,·,Ü,½,í□d·i,³,¹,·,¶j,É“ÁŽè,È□ê¶,ì“ÁŽè,È—
áŠO□^—□,đŠÈ'P,É'ñ<Ÿ,Å,«,Ü,·□B

—á

ŽŸ,lfR[fh,í—áŠO,ðÄ¶¶¬,μ,Û,·B

```
try
  { •¶ }
  try
    { “ÁŽê,È•¶ }
  except
    on ESomething do
      begin
        { “ÁŽê,È•¶,ì,½,ß,¾,¬,ì^— }
        raise; { —áŠO,ðÄ¶¶¬,μ,Û,· }
      end;
    end;
  except
    on ESomething do ...; { ,:×,Ä,ìê¶,ì^— }
  end;
```

ŽQÆ

—áŠOfnf“fhf%oo,ìììì—

ffftHf<fg,ì—áŠOfnf“fhf%oo,ì'ň<Ÿ

—áŠO,ìfNf%ofX,ìì^—

fRf“f|[]|flf“fg—áŠO,ì□^—□

ŽQ□Æ —á

C++Builder fRf“f|[]|flf“fg,ÍfGf%□[]□đ□□,đŽ!,·,½,β,É—áŠO,đ□□□—,μ,Ü,·□B,Ù,Æ,ñ,Ç,|fRf“f|
□|flf“fg—áŠO,í‘¼,ì□ê□‡,È,çŽÄ□sŽžfGf%□[]□,ª□□□—,³,ê,éfvf□fOf%□f~f“fOfGf%□[]□,đŽ!,μ,Ä,ç
,Ü,·□BfRf“f|[]|flf“fg—áŠO,đ□^—□,·,éŽd’g,Ý,ÍŽÄ□sŽž—áŠO,ì□^—□,Æ“˘,¶,Å,·□B

fRf“f|[]|flf“fg,ÅfGf%□[]□,ª·N,«,é^ê”É“l,ÈĚĚ˘ö,ÍfCf“fffbfNfX•t,«fvf□fpfefB,ì”í^ÍfGf
%□[]□,Å,·□B,½,Æ,ı,ÍšfXfjf{fbfNfX,É 3 ,Â,ì□€-Ú (0..2) ,ª“ü,Á,Ä,ç,ÄfAfvfšfP□|fvf‡f“,©,ç□€-
Ú”Ô□+ 3 ,ÉfAfNfZfX,μ,æ,α,Æ,·,é,Æ□CfšfXfjf{fbfNfX,í□u”í^ÍšOfCf“fffbfNfX□v—
áŠO,đ□□□—,μ,Ü,·□B

—á

ŽŸ,lfCxf“fgfnf“fhf%o,É,Íft□[fU□[,ÉfŠfXfgf{fbfNfX,Á,ì-³EøfCf“ffbfNfXfAfNfZfX,ð’É’m,;é—
áŠOfnf“fhf%o,³“ü,Á,Ä,ç,Û,·□B

```
procedure TForm1.Button1Click(Sender: TObject);  
begin  
  ListBox1.Items.Add('a string');      { fŠfXfgf{fbfNfX,É•Ÿš—ñ,ð’Ç  
%oÁ,μ,Û,· }  
  ListBox1.Items.Add('another string'); { •É,ì•Ÿš—ñ,ð’Ç%oÁ,μ,Û,· }  
  ListBox1.Items.Add('still another string'); { 3 "Ô-Ú,ì•Ÿš—ñ,ð’Ç  
%oÁ,μ,Û,· }  
  try  
    Caption := ListBox1.Items[3];      { ftfH□[f€,ìfLfffvJvf#f“,ÉfŠfXfgf{fbfNfX“à,ì  
4 "Ô-Ú,ì•Ÿš—ñ,ðŸ’è,μ,Û,· }  
  except  
    on EStringListError do  
      MessageDlg('List box contains fewer than four strings', mtWarning,  
[mbOK], 0);  
    end;  
  end;  
end;
```

f{f^f“,ð 1 %oñfNfŠfbfN,·,é,Æ□CfŠfXfgf{fbfNfX,É,í 3 ,Á,ì•Ÿš—ñ,μ,©“ü,Á,Ä,ç,È,ç,ì,Å□C4 "Ô-
Ú,ì•Ÿš—ñ (Items[3]) ,í—áŠO,ð□Ÿ□¬,μ,Û,·□B,à,π 1 %oñfNfŠfbfN,·,é,ÆfŠfXfg,É•Ÿš—ñ,³Ç
%oÁ,³,é,é,ì,Å□C—áŠO,í,»è^È□ă<N,«È,,È,è,Û,·□B

ŽQÆ

fR[fhfuffbfN,ì•ÚĚì

fŠf[fXŠ,,è“-,Ä,ì•ÚĚì

ŽÄ[sŽž—áŠO,ì^—

f†[fU[“ÆŽ©,ì—áŠO,ìè<`

—á

ŽŸ,lfR[fh,í'€ì,ð<[S]—¹,·,é'P[f,È—á,ðŽ!,μ,Ä,ç,Ü,·[B<ó,lfŠfXfgf{fbfNfX,Æf{f^f",ª"ü,Á,Ä,ç
,éftfH[f€[ä,Å[CŽŸ,lfR[fh,ðf{f^f",ì OnClick fCxf"fg,ÉfAf^fbf` ,μ,Ü,·[B

```
procedure TForm1.Button1Click(Sender: TObject);  
var  
    I: Integer;  
begin  
    for I := 1 to 10 do      { 10 %oñf<[fv,μ,Ü,· }  
        begin  
            ListBox1.Items.Add(IntToStr(I));  { fŠfXfg,É["l,ì•¶Žš•\Œ»„ð'Ç%oÁ,μ,Ü,· }  
            if I = 7 then Abort;  { 7 %oñ-Ú,ìŒã,É<[S]—¹,μ,Ü,· }  
        end;  
    end;  
end;
```

ŽQÆ

fR[fhfuffbfN,ì•ÚĚì

fŠf[fXŠ,,è“-,Ä,ì•ÚĚì

ŽÀ[sŽž—áŠO,ì^—

fRf“f[f“fg—áŠO,ì^—

ft[fU[“ÆŽ©,ì—áŠO,ìè`

ŽQÆ

fR[fhfuffbfN,ì•ÚĚì

fŠf[fXŠ,,è“-Ä,ì•ÚĚì

ŽÀ[sŽž—áŠO,ì^—

fRf“fì[fìf“fg—áŠO,ì^—

fTfCfĚf“fg—áŠO

—áŠOfjfufWfFfNfgCE^,ìéCE¾

ŽQAE —á

—áŠO,lfjfufWfFfNfg,È,ì,Á□□V,μ,ϕŽí—p,ì—áŠO,ð'è<` ,:é,±
,Æ,í□V,μ,ϕfjfufWfFfNfgCE^,ðéCE¾, :é,ì,Æ“~,¶,,ç,ϕŠÉ'P,Á,·□B,Ç,ì,æ,κ
,ÈfjfufWfFfNfgfCf“fXf^f“fX,Á,à—áŠO,Æ,μ,Ä¶¶□—,Á,«,Û,·,ªC•W□€—áŠOfnf“fhf%o,í
Exception ,ðEp³,μ,½—áŠO,¾,¯,ð^—□,μ,Û,·□B

,μ,½,ª,Á,Ä□□V,μ,ϕ—áŠOCE^,í Exception ,Û,½,í,»,ì'¼,ì•W□€—
áŠO,©,ç“h¶¶,³,¹,é,ì,ª“¾□ô,Á,·□B,»,κ,·,ê,î□V,μ,ϕ—áŠO,ð,»,ì—áŠO—p,ì“Á'è,ì—áŠOfnf“fhf%o
,É,æ,Á,Ä•ÛCEì,³,ê,Ä,ϕ,È,ϕfR□[fhfuf□fbfN,ì't,Á¶¶□—,μ,½□ê□‡,Á,à□C•W□€fnf“fhf%o,ì 1
,Á,ª,©,í,è,É,»,ì—áŠO,ð^—□,μ,Û,·□B

—á

,½,Æ,ı,îŽŸ,ìéĈ¾,ðı,ı,Ä,Ý,Û,·B

type

EMyException = **class**(Exception);

EMyException ,ð¶¶¶¬,μ¶CEMyException —p,ì“Á’è,ìfnf“fhf%o

,đ’ň<Ÿ,μ,È,©,Á,½¶ê¶¶CEException (,Û,½,íffftfHf<fg,ì—áŠOfnf“fhf%o) ,ª,»,ê,ð^—

¶,μ,Û,·BException —p,ì•W¶€,ì^—¶,í¶¶¶¬,ª,ê,½—áŠO,ì-¼’O,đ•\Žı,·,é,±,Æ,È,ì,Å¶C¶,È,-

,Æ,àŽ©•ª,ª¶¶¬,μ,½¶V,μ,¢—áŠO,ª¶¶¶¬,ª,ê,½,±,Æ,ª,í,©,è,Û,·B

ŽQÆ

—áŠO,ì¶¶—

—áŠO,ì□¶□—

—á ŽQ□Æ

fAfvfŠfP□[fVf†f“,ì’t,ÅfGf%□□[□ðCE□,ðŽ|,·,½,β□C—áŠO,ð□¶□—,μ□C,» ,é,É“~ ,¶—
áŠOCE^ ,ìfCf“fXf^f“fX,ð□\’z,³,¹,Ä—\—ñCEè **raise** ,ðCEÄ,Ñ□o,³,¹,é,±,Æ,ª,Å,« ,Ü,·□B

—áŠO,ð□¶□—,·,é,É,í□C—\—ñCEè **raise** ,ð,» ,ìCEä,É—
áŠOfifufWfFfNfg,ìfCf“fXf^f“fX,ð•t,~ ,ÄCEÄ,Ñ□o,μ,Ü,·□B

—áŠO,ðŽÀ□Ú,É□^—□,μ,½—áŠOfnf“fhf%□,í□ÅCEä,É—
áŠOfCf“fXf^f“fX,ð”pŠü,·,é,ì,Å□C”pŠü,ì,½,β,ìfR□[fh,ð□’,•K—v,í, ,è,Ü,¹,ñ□B

—áŠOfAfhfCEfX,ì□Ý’è

—áŠO,ª□¶□—,³,é,é,Æ□CfAfvfŠfP□[fVf†f“,ª—áŠO,ð□¶□—,μ,½fAfhfCEfX,ª System ftfjfbfg“à,ì
ErrorAddr •ì□”,ÉŠ’l,³,è,Ü,·□B—áŠOfnf“fhf%□,ì’t,Å ErrorAddr ,ðŽQ□Æ,·,é,ì□Cft□[fU□[,ÉfGf
%□□[,ì”□¶□è□Š,ð’É’m,μ,½,è,Å,« ,Ü,·□B—áŠO,ð□¶□—,·,é,Æ,« ,É ErrorAddr ,ì’l,ðŽw’è,·,é,±
,Æ,à,Å,« ,Ü,·□B

—áŠO,ìfGf%□□[fAfhfCEfX,ðŽw’è,·,é,É,í□C—áŠOfCf“fXf^f“fX,ìCEä,É—\—ñCEè **at** ,Æ,» ,é,É±
,~ ,ÄŽ~ •ÉŽq,È,Ç,ìfAfhfCEfXŽ®,ð’Ç%□Å,μ,Ü,·□B

—á

,½,Æ,ı,îŽŸ,ìéĈ¾,â, ,é,Æ,μ,Û,·B

type

EPasswordInvalid = **class**(Exception);

ŽŸ,ì,æ,α,É **raise** ,É EPasswordInvalid ,îĈf“fXf^f“fX,đ•t, ,ĂĈĂ,Ńo,¹,îufpfXf[][]fh-³Ĉøv

—áŠO,đ[][]¬,Ă,«,Û,·B

if Password <> CorrectPassword **then**

raise EPasswordInvalid.Create('Incorrect password entered');

ŽQÆ

—áŠOfufWfFfNfgCE^,ìéCE^{3/4}

—áŠO,ìÄ¶¶¶

fxfr[fv

žQAE —á CE¾CEè'è`

fvfOf%of€ ,Ü,½,íftfjfbfg“à,ìž`•Éžq,ìfxfr[fv,íC,» ,ìž`•Éžq,³fvfOf%of€
 ,Ü,½,íftfjfbfg“à,ì¼,ìžè±,« ,Ü,½,íSÖ” ,Ážg,ì,é,©,Ç,α,©,đ'è` ,μ,Û,·B

fxfr[fv,íf[fjfk,©fOf[fof< ,ì,Ç,ž,ç,©,Á,·Bf[fjfkž`•Éžq,ì,» ,ìž`•Éžq,đéCE¾,μ,½fufbfN,
ÉŠÛ,Û,è,éf[f`f“ ,ÆéCE¾,É'í,μ,Á¾,`%Áž<,É,È,è,Û,·B

fOf[fof<ž`•Éžq,íftfjfbfg,ìCf“f^ [ftfF[fxfzfNfvfj““à,ÁéCE¾,³,èC,» ,ìftfjfbfg“à,ì,·,x,Á,ìf<
 [f`f“ ,ÆéCE¾,É'í,μ,Á%Áž<,É,È,è,Û,·B

fvfOf%of€,ì\`çÝEv,Á,íCfxfr[fv,ÉŠÖ,·,éžÿ,ì 3 ,Á,ì<K'¥,É],Á,Á,¾,¾,çB

▪ Šež`•Éžq,ì,» ,ìž`•Éžq,³éCE¾,³,è,½fufbfN“à,ÁCéCE¾,³,è,½^É'u^È~ ,Á¾,`^Ó-
 j,đž,Á

fufbfN“à,ÁfOf[fof<ž`•Éžq,đÄ'è` ,·,éèè#CéCE¾^É'u,©,çfufbfN,ì,í,è,Û,Á,ìSÖCÁ,à“
 à'α,ì (Á,àfXfg,³[ç) 'è` ,ª—Dæ,³,è,é

▪ Žè±,« ,đÁ<A'ì,ÉCEÄ,Ño,·è#CfOf[fof<·ï” ,Ö,ìžQAE,Á,ì,» ,ì·ï” ,ª'è` ,³,è,½žè±
 ,« ,đ^è” ÖÁCEã,ÉCEÄ,Ño,μ,½,Æ,« ,ì·ï” fCf“ fxf^f“ fX,ªí,ÉžQAE,³,è,é

fxfr[fv,É,ì,ç,·,Á,©,ìží—p,ª, ,è,Û,·B

fufbfN,ìfxfr[fv

fRf“f[f“fg,ìfxfr[fv

fRf“f[f“fg,ì%Áž<«

ftfjfbfg,ìfxfr[fv

fCf“f^ [ftfF[fXž`•Éžq,Æ·W€ž`•Éžq,ìfxfr[fv

ŽQÆ

fOf□□[fof<•i□”,Æf□□[ff<•i□”

fXfR□[fv,ì<K’¥

fRf“f|□[flf“fg,lfXfR□[fv

ŽQ□Æ fxfr□[fv

fNf%ofXCE^,Å□éCE¾,³,è,½fRf“f|□[flf“fgŽ~•ÊŽq,lfXfR□[fv,í□C□éCE¾,ì^É'u,©,çfNf
%ofXCE^'è<`,ì□l,í,è,Ü,Å,É,í,½,è□C,³,ç,ÉfNf%ofXCE^,ì,·,×,Ä,ì%oo^ÊfNf%ofX,ÆfNf
%ofXCE^,ì,·,×,Ä,lf□f□bfh□éCE¾,lfuf□bfN,É<y,Ñ,Ü,·□B,Ü,½□CfRf“f|
□[flf“fgŽ~•ÊŽq,lfXfR□[fv,É,íftfB□[f<fh□Cf□f□bfh□Cfvf□fpfefB,ìŽw'èŽq,É%oÁ,!,Ä□C,»,lfNf
%ofXCE^,ì•l□”,ð'€□ì,·,é **with** •¶,ªŠÜ,Ü,ê,Ü,·□B

fNf%ofXCE^,Å□éCE¾,³,è,½fRf“f|□[flf“fgŽ~•ÊŽq,lfNf%ofXCE^,lf□f
bfh□éCE¾,lfuf□bfN,Å□Ä□éCE¾,Å,«,Ü,·□B,»,ì□ê□+□CSelf fpf
%of□□[f^,ðŽg,Á,ÄŽ~•ÊŽq,ª□Ä□éCE¾,³,è,½fRf“f|□[flf“fg,ÉfAfNfZfX,Å,«,Ü,·□B

□ã^Ê,lfNf%ofXCE^,Å□éCE¾,³,è,½fRf“f|□[flf“fgŽ~•ÊŽq,í,»,lfNf%ofXCE^,ì%oo^ÊfNf
%ofX,Å□Ä□éCE¾,Å,«,Ü,·□B,±,ì,æ,ª,É□Ä□éCE¾,Å,íCep□³fRf“f|□[flf“fg,ðCEø%oÉ“l,É
%oB,μ,Ü,·,ª□CfL□[f□□[fh **inherited** ,ðŽg,Á,ÄCep□³fRf“f|□[flf“fg,ðfXfR□[fv“à,É-ß,·,±
,Æ,à,Å,«,Ü,·□B

ŽQÆ

fufbfN,ifXfR[fv

fXfR[fv,ìK'¥

fCf" f^ [ftfF[fXŽ•ÊŽq,Æ•W[€Ž•ÊŽq,ifXfR[fv

ftfjfbfg,ifXfR[fv

fuf□fbfN,lfXfR□[fv

ŽQ□Æ —á fXfR□[fv

fuf□fbfN“à,Å,í□CŽ⁻•ÊŽq,Ü,½,lf

%ofxf<,lfXfR□[fv,í□éCE¾,í[^]É'u,©,çCE»□Ý,lfuf□fbfN,ì□l,í,è,Ü,Å,É,È,à□C,·,x,Ä,lfXfgfuf□fbfN,ªŠÜ,Ü,ê,Ü,·□B

flfXfg,μ,½fuf□fbfN“à,ÅŽ⁻•ÊŽq,đf□[fo□[f

%ofCfh,μ,½□ê□#□C□V,μ,çŽ⁻•ÊŽq,lfXfR□[fv,lfXfgfuf□fbfN“à,¾,¯,ÉCEÀ,ç,êŠO,Ö,í□L,ª,è,Ü,¹ñ□B

CE[^]Ž⁻•ÊŽq,lfXfR□[fv,íCE[^]éCE¾,ª,³ê,½fuf□fbfN“à,Å,lf□□[fff<,È,à,ì,É,È,è,Ü,·□Bf|

fCf“f[^]CE[^],đ□œ,ç,Ä□C□éCE¾,É,í,»[^]êŽ□□g,ÍŠÜ,Ü,ê,Ü,¹ñ□B

—á

```
program Outer; { ŠO•"fXfR[]fv,ìŽn,Ü,è }
type
  I = Integer; { I ,đ[]@[]"Ĉ^,Æ,μ,Ä'è<` ,μ,Ü,· }
var
  T: I; { T ,đ[]@[]"•ĭ[]",Æ,μ,Ä'è<` ,μ,Ü,· }
procedure Inner; { "à•"fXfR[]fv,ìŽn,Ü,è }
type
  T = I; { T ,đ[]@[]"Ĉ^,Æ,μ,ÄÄ'è<` ,μ,Ü,· }
var
  I: T; { I ,đ[]@[]"•ĭ[]",Æ,μ,ÄÄ'è<` ,μ,Ü,· }
begin
  I := 1;
end; { "à•"fXfR[]fv,ì[]I,í,è }
begin
  T := 1;
end. { ŠO•"fXfR[]fv,ì[]I,í,è }
```

ŽQÆ

ftfjfbfg.lfXfR[fv

fXfR[fv,l<K'¥

fCEfR[fh,lfXfR[fv

ŽQÆ fXfR[fv

fCEfR[fhCE^è<,ÅéCE¾,³,ê,éftfB[f<fhŽ•ÊŽq,lfXfR[fv,íCéCE¾,ì^É'u,©,cfCEfR[fhCE^è< ,ì,í,è,É,Û,Å<y,Ñ,Û,·B

ftfB[f<fhŽ•ÊŽq,lfXfR[fv,É,íftfB[f<fhŽw'èŽq,Æ,» ,lfCEfR[fh,ì•ï"ŽQÆ,ð'€),·,é with
•¶,ªŠÛ,Û,ê,Û,·B

ŽQÆ

fĈfR[fhĈ^

fXfR[fv,łK'¥

ŽQÆ

Ā'èŽq

fXfR[fv,łK'¥

—á

program scope2;

var

A: integer; {fOf□□[fof<•i□]}

procedure SetA;

var

A : integer; {f□□[ffj<•i□" A ,ð□i□¬,μ,Ü,·}

begin

A := 4

end; {f□□[ffj<•i□" A ,ð"pŠü,μ,Ü,·}

begin

A := 3; {fOf□□[fof<•i□" A ,É'l,ð'ã"ü,μ,Ü,·}

SetA; {Žè'±,« SetA ,ðCEÄ,Ñ□o,μ,Ü,·}

Writeln(A) { A ,l'l,í 4 ,Ä,í,È, 3 ,É,È,è,Ü,·}

end.

ŽQÆ

fufbfN,ifXfR[fv

fCf“f^[[ftfF[fXŽ·ÊŽq,Æ·W[€Ž·ÊŽq,ifXfR[fv

fRf“f[[f[f“fg,ifXfR[fv

fCefR[fh,ifXfR[fv

ftfjfbfg,ifXfR[fv

fCf“f^[]ftfF[]fX,Æ•W[]€Ž•ÊŽq,ìXfR[]fv

ŽQ[]Æ fxfr[]fv

uses []ß, ðŽ[], Áfvf[]fOf%of€ , Ü, ½, ìftfjfbfg, í, » , ì **uses**
[]ß, ĀŽw’è, ³, ê, ½ftfjfbfg, ìfCf“f^[]ftfF[]fX•” , É’@ , , éŽ•ÊŽq, ÉfAfNfZfX, Ā, «, Ü, ·[]B

uses []ß, ìŠeftfjfbfg, ìŽg, í, ê, éŽc, è, ìftfjfbfg, Æ **uses** []ß, ðŠÜ, pfvf[]fOf%of€
, Ü, ½, ìftfjfbfg, ð•iŠÜ, ·, é[]V, μ, çfxfr[]fv, ð—LÆø, É, μ, Ü, ·[]B

uses []ß, ì[]Å[]%o, ìftfjfbfg, í[]Å, àŠO’x, ìXfR[]fv, ð•\, μ[]C[]ÅÆã, ìftfjfbfg, í[]Å, à“à’x, ìXfR[]fv, ð•\
, μ, Ü, ·[]B

•i[]” , ìftfjfbfg, a“ , ¶Ž•ÊŽq, ð[]éÆ¾, ·, é[]ê[]#[]CŽ•ÊŽq, Ö, ìÆÀ’è, ì, È, çŽQ[]Æ, Ā, í **uses**
[]ß, ì[]ÅÆã, ìftfjfbfg, É, æ, Á, Ä[]éÆ¾, ³, ê, ½fCf“fxf^f“fX, a’I’ð, ³, ê, Ü, ·[]B

ŽQÆ

fufbfN,ifXfR[fv

fRf“f[fif“fg,ifXfR[fv

fXfR[fv,ik'¥

ftfjfbfg,ifXfR[fv

Uses □ß

fRf“fpcf%Žw—B: ’è` ,Æ—p“r

ŽQAE fRf“fpcf%Žw—B

fRf“fpcf%Žw—B, Žg, x, ÆfRf“fpcf%, lffftfHf<fg, l“®i, ðjfxf^f}fCfY, Å, «, Ü, ·BfRf“fpcf% Žw—B, í“Á•É, È\•¶, ðŽ, ÅfRf“fg, ÅCfRf“fg, ð<Lq, Å, «, ééŠ, É, ç, Ç, ±, Å, àŽg, i, Ü, ·BfRf“fpcf%Žw—B, lxfR[fv, íf[fjfk, É, àOf[fof<, É, à, Å, «, Ü, ·, aC, ·, x, Å, iŽw—B, a—¼•ù, lRf“fefLxfg, ÅŽg, i, é, í, , Å, í, , è, Ü, 1, ñB

- f[fjfk, ÈŽw—B, ívf[fOf%œftfjfbfg“à, i, ç, ±, É, Å, àŽw’è, Å, «, éB, ±, è, ç, iŽw—B, lRf“fpcf<^—i, è•”, É, ¾, —p, ·, é
 - fOf[fof<, ÈŽw—B, lRf“fpcf<, ·, évf[fOf%œ, Ü, ½, lftfjfbfg, iéœ¾•”, i’O, ÅŽw’è, µ, È, - , Å, í, É, ç, È, çB, ±, è, ç, iŽw—B, lRf“fpcf<^—i’S’i, Éi—p, ·, é
- fRf“fpcf%Žw—B, í 3 , Å, ljjfefSfS, É•a—p, ¾, è, Ü, ·B

fxfcfbf` Žw—B

fxfcfbf` Žw—B, lRf“fpcf%, i<@”\, ðfif“ , Ü, ½, lft, É, µ, Ü, ·B

1 •¶žš, iŽw—B, iCŽw—B, i•¶žš, i’¼œä, É + , Ü, ½, í - , ðŽw’è, µ, Ü, ·B

’, ç-¼’O, iŽw—B, ié±, iCŽw—B-¼, iœä, É on , Ü, ½, í off , ðŽw’è, µ, Ü, ·B

•i” , lxfcfbf` Žw—B, ðOf<[fv%» , µCjff“f} , Å<æ∅, Å, Å (xfyf[fX, ðŠÜ, B, , É) Žw’è, Å, «, Ü, ·BŽŸ, É—á, ðŽ, i, µ, Ü, ·B

{ \$F+, R+, D- }

fpcf%ff[f^ Žw—B

fpcf%ff[f^ Žw—B, lftf@fcf<-¼CfefLxfgCff, fŠzd—l, È, Ç, iî•ñ, ðfRf“fpcf%, É“n, µ, Ü, ·BŽw—B-¼, Æfpcf%ff[f^ , Æ, iŠÔ, É, í 1 , Å^Èä, i<ó” fxfy[fX, a•K—v, Å, ·BŽŸ, É—á, ðŽ, i, µ, Ü, ·B

{ \$I TYPES . INC }

{ \$L YOUR . DOC }

ðœŽw—B, Æðœfvf“f{f<

ðœŽw—B, íf[fxfefLxfg, iŠe•”•a, lRf“fpcf<, ðCŽw—B, É±, ç, ÅŽw’è, ¾, è, évf“f{f<, i•}% ž, ÉŠ, Å, ç, Å\$œä, µ, Ü, ·BŽ©•a, Å“ÆŽ©, lRf“f{f<, ð’è` , µ, ½, è Object Pascal , i’è` i, ývf“f{f<, ðŽg, i, Ü, ·BðœŽw—B, lR[fh“à, ÅŽw’è, µ, È, , Å, í, È, è, Ü, 1, ñB

ŽQÆ

ðŒŽw—ß,ÆðŒfVf“f{f<

ðŒŽw—ß,lŽg,ç•û

'è<`ï,ÝVf“f{f<'è<`ï,Ý,ìðŒfVf“f{f<,í CONSOLECWIN32CCPU386CVER90 ,Å,·B

<u>\$OVERFLOWCHECKS</u>	fXfCbf`	□"l%o%oŽZf□[fo□[ftf□□[f`fFbfN
<u>\$P</u>	fXfCbf`	f□[fvf"•¶Žš—ñfpf%o□□[f^
<u>\$Q</u>	fXfCbf`	□"l%o%oŽZf□[fo□[ftf□□[f`fFbfN
<u>\$R</u>	fXfCbf`	"í^íj`fFbfN
<u>\$R FileName</u>	fpf%o□□[f^	fŠf□[fXftf@fCf<
<u>\$RANGECHECKS</u>	fXfCbf`	"í^íj`fFbfN
<u>\$REFERENCEINFO</u>	fXfCbf`	fVf"f{f<ŽQ□Æ□î•ñ
<u>\$RESOURCE FileName</u>	fpf%o□□[f^	fŠf□[fXftf@fCf<
<u>\$SAVEDIVIDE</u>	fXfCbf`	Pentium ,ì^À'S,È FDIV %o%oŽZ
<u>\$STACKFRAMES</u>	fXfCbf`	Windows fXf^fbfNftf□[f€
<u>\$T</u>	fXfCbf`	CE^•t,< @ %o%oŽZŽq
<u>\$TYPEDADDRESS</u>	fXfCbf`	CE^•t,< @ %o%oŽZŽq
<u>\$TYPEINFO</u>	fXfCbf`	ŽÀ□sŽžCE^□î•ñ
<u>\$U</u>	fXfCbf`	Pentium ,ì^À'S,È FDIV %o%oŽZ
<u>\$V</u>	fXfCbf`	•ï□"•¶Žš—ñf`fFbfN
<u>\$VARSTRINGCHECKS</u>	fXfCbf`	•ï□"•¶Žš—ñf`fFbfN
<u>\$W</u>	fXfCbf`	Windows fXf^fbfNftf□[f€
<u>\$WARNINGS</u>	fXfCbf`	fRf"fpfCf%oCEx□□
<u>\$WRITABLECONST</u>	fXfCbf`	□',<□ž,Ý%oÂ"\,ÈCE^•t,<'è□"
<u>\$X</u>	fXfCbf`	Šg'£□\•¶
<u>\$Y</u>	fXfCbf`	fVf"f{f<ŽQ□Æ□î•ñ
<u>\$Z</u>	fXfCbf`	f□□[fhfTfCfY—ñ<"CE^

ŽQÆ

ðŒŽw—ß,ÆðŒfVf“f{f<

fRf“fpfCf%oŽw—ß,l'è<`,Æ—p“r

ðŒŽw—ß,lŽg,ç•û

ŽQÆ

fRf"fpfCf%oŽw-β,lfAf<ftf@fxfbfg[]#^ê---

fRf"fpfCf%oŽw-β,l'è<`,Æ-p"r

[]ðCE[]Žw-β,lŽg,ç•û

ŽQÆ

\$DEFINE ,Æ \$UNDEF ,iðCEfvf“ff<Žw—ß

\$DEFINE ,Æ \$UNDEF ,ì ðĈĖġfVf“f{f<Žw—ß

ŽQġÆ fRf“fpfCf%Žw—ß

\$DEFINE ,Æ \$UNDEF ,ìfRf“fpfCf%Žw—ß, ðŽĀġs, ,é’O,É•]‰
ž, ,é ðĈĖġfVf“f{f<ð’è<` , ,é, ½, ß, ÉŽg, ç, Ū, ,ġB ðĈĖġfVf“f{f<, í True , © False , Ā, ,é, Æ, ç, x“ , Ā ~
—ġ•ġ” , ÆŽ—, Ā, ç, Ū, ,ġB ðĈĖġfVf“f{f<, í Object Pascal , ðŽ~ •ÉŽq—½—¼<K’¥, Éġ], ç, Ū, , , ġC Object
Pascal , ðŽ~ •ÉŽq, ġ ðĈĖġŽw—ß, ĀŽg, !, È, ç, æ, x, ÉġCŽĀġŪ, ðfVfġfOƒ%ƒ€, Ā, ðŽg, !, Ū, , ġB

\$DEFINE

Žw’è, ,é, ½ Name , ðŽg, Ā, Ā ðĈĖġfVf“f{f<ð’è<` , μ, Ū, , (fVf“f{f<ð True
, Æ, μ, ĀġÝ’è, μ, Ū, ,)ġBfXfRġ[fv, íĈ»ġÝ, ðfġ[fXftf@fCf<“à, ÉĈĀ, ç, ěġC, , , x, Ā, ðf
ġ[fXftf@fCf<, ÉfOġġġ[fof<, É, í“K—p, ,é, Ū, , ġB, , , x, Ā, ðf, fWf...
ġ[f<, É, í, ½, Ā, Ā’è<` , ,é, É, íġCfRf}f“fhf%ofCf“flfvfVfġf” , ð /D , ðŽg, x
, ©ġġmfvfġfWfFfNfg(P)ġbfIfvfVfġf“(O)ġn, Ā•\
Ž!, ,é, éġmfvfġfWfFfNfgfIfvfVfġf”ġnf_fCfAfġfOƒ{fbfNfX, ðmfffBfĈfNfgfŠ/
ðĈĖġġnfyġ[fW, Āġm ðĈĖġ’è<` (C)ġnfefLfXfgf{fbfNfX, É“ü—í, μ, Ā, , ¾, , çġB

ġ•ġ

{ \$DEFINE Name }

fVfġfOƒ%ƒ€“à, ĀġCfRf“fpfCf%Žw—ß, ðfVf“f{f<, ġ \$UNDEF Name Žw—
ß, ĀŽw’è, ,é, é, Ū, ĀġC’è<` , ,é, ½fVf“f{f<ð”FŽ~ , μ, Ū, ,ġB Name , ò, , Ā, É’è<` , ,é, Ā, ç, éġěġ
\$DEFINE Name , í—³Ĉø, Ā, ,ġB

\$UNDEF

’è<` ġġ, Ý, ð Name , ðĈĖġfVf“f{f<ðŽæ, èġĀ, μ, Ū, , (False , Æ, μ, ĀġÝ’è, μ, Ū, ,)ġB

ġ•ġ

{ \$UNDEF Name }

Žæ, èġĀ, ,é, ½fVf“f{f<, í \$DEFINE Žw—ß, ĀġĀ, ðŽw’è, ,é, é, Ū, Ā, íġC^Èġ~ , ðfRf“fpfCf<ġ^—
ġ, É, íġġġÝ, μ, Ū, , ġB Name , ð’è<` , ò, , Ā, ÉŽæ, èġĀ, ,é, Ā, ç, éġěġġġC\$UNDEF Name Žw—ß, í—
³Ĉø, Ā, ,ġB

ŽQÆ

Ž•ÊŽq

ðCEŽw—ß,lžg,q•û

ŽQÆ

ðCEŽw—β,ìŽg,ç•û

ftfB [f<fhfAf%ofCf“f“fgŽw—ß { \$A } C { \$ALIGN }

fRf“fpfCf%Žw—ß

fCEfR [fhCE^, lftfB [f<fh, lAf%ofCf“f“fg, ð \$CEä, µ, Ü, · B

□\•¶: { \$A+ } ,Ü,½,í { \$A- }
{ \$ALIGN ON } ,Ü,½,í { \$ALIGN OFF }

ffftfHf<fg: { \$A+ }
{ \$ALIGN ON }

fXfR [fv: f [fj<

'□^ó

\$A Žw—ß, ìó'Ô, Æ, ÍŠÖCEW, È, □C•ï“ , ÆCE ^•t, «'è□” , íí, É□Å“K, ÈfAfNfZfX, a%oÅ“\, É, È, é, æ, x
, ÈfAf%ofCf“f“fg, ³, ê, Ü, · B

fif“ { \$A+ } C { \$ALIGN ON }

ftfB [f<fhfAf%ofCf“f“fg, aif“ , ìê#□Cpacked CEÀ'èŽq, aŽw'è, ³, ê, Ä, ç
, È, çfCEfR [fhCE^, lftfB [f<fh, í@ŠBCEêf [fh<<ŠE (<ô“fAfhfCEfX) , É“z'u, ³, ê, Ü, · B•K—v, É
%ož, ¶, Ä□Cf [fhfAf%ofCf“f“fg, ì, ½, ß, É-çŽg—p, lfofCf, a•ï“ , ìŠÖ, É' } “ü, ³, ê, Ü, · B
, ±, ìŽw—ß, lfofCf, gTfCfY, ì•ï“□CfCEfR [fh□'ç, Ü, ½, lflfufWfFfNfg, lftfB [f<fh□C”z—ñ, ì—v'f, É, í
—
p, µ, Ü, ¹, ñBfCEfR [fh, Ü, ½, lflfufWfFfNfg, lftfB [f<fh, í□C, » , lftfB [f<fh, ì'O, ì, · , x, Ä, lftfB [f<fh, ì□#CE
vfTfCfY, a<ô□” , ìê# , É, ¾, □Cf [fh<<ŠE, É“z'u, ³, ê, Ü, · B”z—ñ, ì, · , x, Ä, ì—
v'f, a□ [fh<<ŠE, É“z'u, ³, ê, é, ì, í□CSe—v'f, lftfCfY, a<ô□” , ìê# , Å, · B

fift { \$A- } C { \$ALIGN OFF }

ftfB [f<fhfAf%ofCf“f“fg, aift, ìê#□CfAf%ofCf“f“fg^ —□, ÌŽÀ□s, ³, ê, Ü, ¹, ñ□B

fAfvfŠfP[fVf#f“,iží—b

fRf“fpfCf%Žw—β

\$APPTYPE Žw—β,ífRf“f\[]f<,ÆfOf

%oftfBfj]f<f+[]fU[]fCf“f^[]ftfF[]fX,ì,ç,ì,ç,ìfAfvfŠfP[]fVf#f“,ð[]q[]¬,·,é,©,ð[]\$CEä,μ,Ü,·[]B

[\•q]: { \$APPTYPE GUI }
{ \$APPTYPE CONSOLE }

ffftfHf<fg: { \$APPTYPE GUI }

fXfR[]fv: fOf[][]fof<

fOf%oftfBfj]f<f+[]fU[]fCf“f^[]ftfF[]fX { \$APPTYPE GUI }

{ \$APPTYPE GUI } []ó’Ô,Å,í[]CfRf“fpfCf%o,ífOf
%oftfBfj]f<f+[]fU[]fCf“f^[]ftfF[]fXfAfvfŠfP[]fVf#f“,ð[]q[]¬,μ,Ü,·[]BC++Builder
fAfvfŠfP[]fVf#f“,ìè[]#,í[]C,±,è,ª’É[]í,ì[]ó’Ô,Å,·[]B

fRf“f\[]f< { \$APPTYPE CONSOLE }

{ \$APPTYPE CONSOLE } []ó’Ô,Å,í[]CfRf“fpfCf%o,ífRf“f\
[]f<fAfvfŠfP[]fVf#f“,ð[]q[]¬,μ,Ü,·[]BfRf“f\[]f<fAfvfŠfP[]fVf#f“,ð<N“®,·,é,Æ[]CWindows
,ªfEfLfXfgf,[]fh,ífRf“f\
[]f<fEfBf“fhfE,ð[]¬,μ[]Cf+[]fU[][,í,»,ìfEfBf“fhfE,ð’É,μ,ÄfAfvfŠfP[]fVf#f“,Æ’î~b,Å,«,Ü,·[]B
fRf“f\[]f<fAfvfŠfP[]fVf#f“,Å,í[]C•W[]€fEfLfXfgftf@fCf<,ì Input ,Æ Output ,ªŽ©“®“l,ÉfRf“f\
[]f<fEfBf“fhfE,ÖŠÖ~A•t,¯,ç,è,Ü,·[]B

[]à-¾

System ftfjfbfg“à,Å[]éCE¾,μ,½ lsConsole ~_—[]•î[]”,ðŽg,α,Æ[]Cvf[]fOf%of€,ªfRf“f\
[]f<fAfvfŠfP[]fVf#f“,ÆfOf
%oftfBfj]f<f+[]fU[]fCf“f^[]ftfF[]fXfAfvfŠfP[]fVf#f“,ì,ç,ì,ç,Æ,μ,ÄŽÀ[]s’t,È,ì,©,ðCEÿ[]o,Å,«,Ü,·[]B

f[]f, **\$APPTYPE** Žw—β,ífvf[]fOf%of€,ì’t,Å,¾,^-^Ó-ì,ª,è,Ü,·[]Bf%ofCfuf
%ofŠ,âftfjfbfg,ì’t,Å,íŽg,í,È,ç,Å,,¾,¾,ç[]B

Š®‘S~_—□•]‰‰žw—ß {\$B}□C{\$BOOLEVAL}

žQ□Æ fRf“fpfCf‰‰žw—ß

AND ,Æ **OR** ,ì_—□‰‰žžžq,É,Â,č,Ä 2 ,Â,ì^Ù,È,éfR□[fh□¶□¬f,ffk<,ìšÔ,Å□Ø,è‘Ö,ì,đ,μ,Û,·□B

□\•¶: { \$B+ } ,Û,½,í { \$B- }
{ \$BOOLEVAL ON } ,Û,½,í { \$BOOLEVAL OFF }

ffftfHf<fg: { \$B- }
{ \$BOOLEVAL OFF }

fXfR□[fv: f□□[ffj<

fif“ {\$B+}□C{\$BOOLEVAL ON}

,±,ìžw—ß,áfif“,ìê□#□CfRf“fpfCf‰‰,í **AND** ‰‰žžžq,Æ **OR** ‰‰žžžq,©,ç□\‘z,³,ê,½~_—
□ž®,ì,·,×,Ä,ìfìfyf‰‰f“fh,đ•]‰‰ž,·,éfR□[fh,đ□¶□¬,μ,Û,·□B,±,ìfR□[fh,Å,íž®‘S‘ì,ìĀ<‰‰É,ª,·,Ä,É-
¾Šm,Èêê±,Å,à,·,×,Ä,ìfìfyf‰‰f“fh,ª•]‰‰ž,³,ê,Û,·□B

fift {\$B-}□C{\$BOOLEVAL OFF}

,±,ìžw—ß,áfift,ìêê#□CfRf“fpfCf‰‰,ìfVf#□[fgfT□[fLfbfg~_—□ž®•]‰‰
ž,đ,·,éfR□[fh,đ□¶□¬,μ,Û,·□B

ž®‘S‘ì,ìĀ<‰‰É,ª=¾,ç,©,É,È,é,Æ,·,®,É•]‰‰ž,í‘âž~,μ,Û,·□B

ŽQÆ

~ — % % Ž Ž q

fffofbfOî•ňŽw—ß {\$D}C{\$DEBUGINFO}

ŽQAE fRf“fpfCf%Žw—ß

fffofbfOî•ň,ì¶¶—,ðfif“,Ü,½,íft,É,µ,Ü,·B

|\•¶: {\$D+} ,Ü,½,í {\$D-}
{ \$DEBUGINFO ON } ,Ü,½,í { \$DEBUGINFO OFF }

ffftfHf<fg: {\$D+}
{ \$DEBUGINFO ON }

fXfR[fv: fOf[fof<

’^ó

fffofbfOî•ň,íŠeŽè±,«,²,Æ,ÉfufWfFfNfgfR[fhfAfhfÆfX,ðf
[fXfefLXfg”Ô¶t,Éf}fbfv,·,é”s”Ô¶tfe[fuf<,Á¶—,³,è,Ü,·B

fffofbfOî•ň,ð¶¶—,·,é,Æftfjfbfgftf@fCf<,ìftfCfY,ª¶%Á,µ¶Cftfjfbfg,ðŽg,xfvf[fOf%of€
,ðRf“fpfCf<,·,é,Æ,«,É—ì^æ,ª—]•ª,É•K—v,É,È,è,Ü,·,ªCŽÀ¶sfvf[fOf%of€,ìftfCfY,â’—“x,É,í
%œe<¿,µ,Ü,¹,ñBfffofbfOî•ň,ìftfjfbfg,ìfufWfFfNfgfR[fh,Æ,Æ,à,É .DCU (ftfjfbfg)
ftf@fCf<,É<L~^,³,è,Ü,·B

fif“ {\$D+}C{\$DEBUGINFO ON}

,±,ìŽw—ß,ªfif“,ìèè¶¶CfRf“fpfCf%o,ìfffofbfOî•ň,ðftfjfbfg (.DCU) ftf@fCf<,É<L~^,µ,Ü,·B

fffofbfOî•ňŽw—ß,ðfif“,É,µ,ÄfRf“fpfCf<,µ,½f,fWf...

[f<,íCfXf^f“fhfAfhf”,ìfffofbfK,â“¶¶fffofbfK,ðŽg,Á,Äfvf“fOf<fXfefbfvŽÀ¶s,µ,½,è¶CfufC¶[fN
f[Cf“fg,ð¶Y’è,µ,½,è,Á,«,Ü,·BŽÀ¶sŽžGf%o[,ª”¶¶,µ,½èè¶¶CfRf“fpfCf%o,ìfGf%o[,ìC
’ö,É,È,Á,½•¶,ÉŽ©“®“ì,É^Ú“®,Á,«,Ü,·B

¶mfvf[fWfFfNfg(P)¶bflfvfVf¶“(O)¶n,Á•\

Ž,³,è,é¶mfvf[fWfFfNfgfìfvfVf¶“¶nf_fCfAfhfOf{fbfNfX,ì¶mfŠf“fj¶nfy[fw,É,·é¶mf}fbfvftf@f
Cf<¶n,ìf%ofWfìf{f^f“,ìCfffofbfNî•ňŽw—ß,ðfif“,É,µ,Äf,fWf...

[f<,ðfRf“fpfCf<,µ,½èè¶,É,¾,¶C,»,ìf,fWf...[f<,É,Á,ç,Ä,ìŠ®‘S,È¶sî•ň,ð¶¶—,µ,Ü,·B

fffofbfOî•ňŽw—ß,íÉí¶¶[fj<fvf“f{f<Žw—ß,Æ,Æ,à,ÉŽg,ç,Ü,·B

Turbo Debugger for Windows ,ðŽg,Á,Äfvf[fOf%of€

,ðfffofbfO,·,éèè¶,ìC¶mfvf[fWfFfNfgfìfvfVf¶“¶nf_fCfAfhfOf{fbfNfX,ì¶mfŠf“fj¶nfy[fw,Á¶mT
DW ffffofbfOî•ň,ðŠÜ,ß,é(T)¶nf`fFfbfNf{fbfNfX,Éf`fFfbfNf}¶[fN,ð•t,¯,Ä,©,çvf[fOf%of€
,ðÄfRf“fpfCf<,µ,Ä,,¾,³,ç¶B

ŽQÆ

ffofbfOî•ñ,ÆfVf“ff<î•ñ

fVf“f{f<ŋfXfCfbf`Žw—B,đŽg,Á,½ffofbfO

ŽQAE fRf“fpfCf%Žw—B

\$D□C\$L□C\$Y fRf“fpfCf%Žw—B,í^ê□□,É'g,Y□#,í,¹ĂŽg,ç,Ü,·□B\$L ,Æ \$Y ,í \$D
,lfTfufZfbfg,Æ□|,!,é,±,Æ,^aĂ,«□C\$D ,lfXfR□[fv,^aĂ,àŠO'x,Ă□C\$L ,lfXfR□[fv,^a»,ìŽŸ□C\$Y
,lfXfR□[fv,^aĂ,à“à'x,Æ,É,è,Ü,·□BŽŸ,ì•\,í,±,ê,ç,ìŽw—
B,đ'g,Y□#,í,¹ĂŽg,Á,½□ê□#,É'ŠCEY,É,Ç,ì,æ,x,É□C□ü,μ, ,x,©,đŽ!,μ,Ü,·□B

fVf“f{f< CE<%ŎÊ

{ \$D+, L-, Y+ }

fCf“f^□[ftfF□[fXfZfNfVf+f“,ì,·,x,Ă,lfR□[fh,lfffofbfO□ŋ,đ□ŋ□-,·,é□BŽÀ
CE»•”,lfVf“f{f<,É,Ă,ç,Ă,ì□ŋ,í□ŋ□-,μ,È,ç (\$Y ,í-³Ž<,³,é,é)

{ \$D+, L-, Y- }

fCf“f^□[ftfF□[fXfZfNfVf+f“,ì,·,x,Ă,lfR□[fh,lfffofbfO□ŋ,đ□ŋ□-,·,é□BŽÀ
CE»•”,lfVf“f{f<,É,Ă,ç,Ă,ì□ŋ,í□ŋ□-,μ,È,ç (\$Y ,í-³Ž<,³,é,é)

{ \$D-, L+, Y+ }

fffofbfO□ŋ,đ,Ü,Á,½,□ŋ□-,μ,È,ç (\$L□C\$Y ,í-³Ž<,³,é,é)

{ \$D+, L+, Y- }

fVf“f{f<ŽQAE,â'¹/₄,lfIfufWfFfNfgfuf%ofEfU□ŋ,í□ŋ□-,μ,È,ç□B,±
,ì□Ÿ'è,đŽg,x,ÆfŠf“fNŽžŠŎ,^aZ,,É,é

{ \$D+, L+, Y+ }

f,fWf...
□[f<“à,ì,·,x,Ă,lfVf“f{f<,lfffofbfO□ŋ,đ□ŋ□-,·,é□Bf□□[fj<•ï□”,ÆCE^,ì□s”
Ŏ□+,ÆfVf“f{f<□ŋ,đ□ŋ□-,·,é□BfVf“f{f<,lfNf□fXfŠftf@fCEf“fX,Æ'¹/₄,lfuf
%ofEfU□ŋ,đ□ŋ□-,·,é

ŽQÆ

\$D fffofbfOî•ñ

\$L f[]ff<fVf“f{f<î•ñ

\$Y fvf“f{f<ŽQÆî•ñ

“üo—í`fFbfNžw—ß {\$I} C{\$IOCHECKS}

žQÆ fR“fpfCf%žw—ß

ftf@fCf<“üo—ížè’±

,«,Ö,ìĀ,Ńo,μ,ìĀ<%Ē,đ`fFbfN,·,éfR[fh,ìž©“®¶—,đfif“,Ü,½,íft,É,μ,Ü,·Bftf@fCf<“üo—ížè’±,«,É,í ReadCWriteCErase ,Ē,Ç,^a, ,è,Ü,·B

¶: {\$I+} ,Ü,½,í {\$I-}

{\$IOCHECKS ON} ,Ü,½,í {\$IOCHECKS OFF}

fftfHf<fg: {\$I+}

{\$IOCHECKS ON}

fXfR[fv: f[fj<

fif“ {\$I+} C{\$IOCHECKS ON}

,±,ìžw—ß,^afif“,ìê¶CfRf“fpfCf%o,íše“üo—íĀ,Ńo,μ,ìĀã,É“üo—íGf

%[,đ`fFbfN,·,éfR[fh,đ¶—,μ,Ü,·Bf`fFbfN,^až,“s,μ,½ê¶CfAvfšfP[fvf#f“,ížÀsžžGf %[,É,æ,Á,Ā’âž~,μ,Ü,·B

fift {\$I-} C{\$IOCHECKS OFF}

,±,ìžw—ß,^afift,ìê¶CIOResult ŠÖ“,đžg,Á,Ā“üo—íGf%[,đ`fFbfN,μ,È,,Ā,í,È,è,Ü,¹,ñB

ŽQÆ

\$l.ftf@fCf<fCf“fNf<[]fh

—áŠO^—

□',«□ž,Ý%oÂ"\\,ÈCE^•t,«'è□"Žw—ß {\$J} ,Æ {\$WRITEABLECONST}

fRf"fpfCf%oŽw—ß

\$J Žw—ß,ÍCE^•t,«'è□",đ•ï□X,Å,«,é,©,Ç,æ,©,đ□\$CEä,μ,Û,·□B

□\•¶: {\$J+} ,Û,½,Í {\$J-}
 {\$WRITEABLECONST ON} ,Û,½,Í {\$WRITEABLECONST OFF}

ffftfHf<fg: {\$J-}
 {\$WRITEABLECONST OFF}

fXfR□[fv: f□□[ffj<

fif" {\$J+}□C{\$WRITEABLECONST ON}

{ \$J+ } □ó'Ô,Å,ÍCE^•t,«'è□",Í•ï□X,Å,«□CŽÄŽž"l,É,í□%oSú%o»□İ,Ý•ï□",É,È,è,Û,·□B

fift {\$J-}□C{\$WRITEABLECONST OFF}

{ \$J- } □ó'Ô,Å,ÍCE^•t,«'è□",í□³<K,ì'è□",Å, ,è□CE^•t,«'è□",đ•ï□X,μ,æ,æ,Æ,·,é,ÆfRf"fpfCf<fGf
%o□[,É,È,è,Û,·□B

f[] [fj] < fVf " f { f < i • ñ Žw — β { \$L } [] C { \$LOCALSYMBOLS }

Ž Q □ A E f R f " f p f C f % o Ž w — β

f[] [fj] < fVf " f { f < i • ñ, i □ 1 □ —, ð f l f " , Ü, ½, í f l f t, É, μ, Ü, · □ B

□ \ • 1 : { \$L + } , Ü, ½, í { \$L - }
 { \$LOCALSYMBOLS ON } , Ü, ½, í { \$LOCALSYMBOLS OFF }

ffftjHf < fg : { \$L + }
 { \$LOCALSYMBOLS ON }

fXfR [] fV : f O f [] [] [f o f <

' □ ^ ó

f[] [fj] < fVf " f { f < i • ñ, É, í □ C f, f W f ... [] [f <, ð Ž è ' ±, «, A Š Ö □ " , ð " à • " , É, , é Ž ~ • É Ž q, a Š Ü, Ü, è, Ü, · □ B f [] [] [f j] < f V f " f { f < i • ñ, É, í f t f j f b f g, ð f C f " f ^ [] [f t f F □ [f X f z f N f V f f # " , Å □ é C E ¾, ¾, ¾, ½ f O f [] [] [f o f <, È • í □ " , â - ¼ ' O, í Š Ü, Ü, è, Ü, ¹, ñ □ B

f[] [fj] < fVf " f { f < i • ñ Žw — β, í f f f o f b f O □ i • ñ Ž w — β, a f l f t, ð é □ #, í - ³ Ž <, ¾, è, Ü, · □ B

fj f " { \$L + } [] C { \$LOCALSYMBOLS ON }

f v f [] f O f % o f € , Ü, ½, í f t f j f b f g, É ' í, μ, Ä, ±, ð Ž w — β, a f l f " , ð é □ # □ C f X f ^ f " f h f A f □ " , ð f f o f b f K, Ü, ½, í " □ □ # f f o f b f K, ð Ž g, Á, Ä, » , ð f, f W f ... □ [f <, ð f □ □ [f j] < • í □ " , ð ' ² □ , μ, Ä • í □ X, Ä, «, Ü, · □ B

□ m f v f □ f W f F f N f g (P) □ b f l f v f V f # f " (O) □ n, Ä • \ Ž !, ¾, è, é □ m f v f □ f W f F f N f g f l f v f V f # f " □ n f _ f C f A f □ f O f { f b f N f X, ð m f Š f " f j □ n f y □ [f W, Å □ m f } f b f v f t f @ f C f < □ n f l f v f V f # f " , ð ' l ' ð, μ, ½, A, « □ C f, f W f ... [] [f <, ð \$ L + , ð ó ' Ó, Å f R f " f p f C f <, μ, ½ □ é □ #, É, ¾, ~ , » , ð f, f W f ... □ [f <, ð f □ □ [f j] < f V f " f { f < i • ñ, a □ 1 □ —, ¾, è, Ü, · □ B

f[] [fj] < fVf " f { f < i • ñ, í f t f j f b f g, ð f l f u f W f F f N f g f R □ [f h, A, A, à, É f t f j f b f g f t f @ f C f <, É < L ~ ^ , ¾, è, Ü, · □ B f [] [] [f j] < f V f " f { f < i • ñ, ð □ 1 □ —, , é, A f t f j f b f g f t f @ f C f <, ð f T f C f Y, a ' á, «, , É, è, Ü, · □ B Ž Ä □ s f v f □ f O f % o f € , ð f T f C f Y, â ' — " x, É, í % o e < z, μ, Ü, ¹, ñ □ B

fj f t { \$L - } [] C { \$LOCALSYMBOLS OFF }

, ±, ð Ž w — β, a f l f t, ð é □ # □ C f v f □ f O f % o f € , ð f R f " f p f C f <, É • K — v, È f □ f, f Š, a C E , □ - μ □ C f t f j f b f g f t f @ f C f <, a □ —, ¾, È, è □ C f f o f b f K f V f " f { f < i • ñ, ð f { f Š f ... [] [f € , a □ —, ¾, È, è, Ü, · □ B

ŽQÆ

ffofbfOî•ñ,ÆfVf“ff<î•ñ

fI[fvf"fpf%of[f^Žw—β {\$P}C{\$OPENSTRINGS}

ŽQAE —á fRf"fpfCf%Žw—β

string fL[f[f[fh,đŽg,Á,ÄéCE^{3/4,3,ê,1/2}•İ"fpf%of[f^,ìÓ-i,đ\$CEä,μ,Û,·BfI[fvf"fpf%of[f^,íŠeŽí,İTfCfY,İ•ŕŽš—ñ•İ",đ"~,ŕŽè'±,«,âŠÖ",É"n,¹é,æ,ı,É,μ,Û,·B

|\ŕ: { \$P+ } ,Û,1/2,í { \$P- }
{ \$OPENSTRINGS ON } ,Û,1/2,í { \$OPENSTRINGS OFF }

ffftfHf<fg: { \$P- }
{ \$OPENSTRINGS OFF }

fXfR[fv: fOf[fof<

fIf" {\$P+}C{\$OPENSTRINGS ON}

,±,İŽw—β,ŕfIf",İê#C**string** fL[f[f[fh,đŽg,Á,ÄéCE^{3/4,μ,1/2}•İ"fpf%of[f^,İfI[fvf"•ŕŽš—ñfpf%of[f^,É,È,è,Û,·B,±,İŽw—β,İŕ'è,ÉŠÖCEW,È,COpenString Ž'•ÉŽq,đŽg,Á,Ä,ç,Á,Ä,àfI[fvf"•ŕŽš—ñfpf%of[f^,đéCE^{3/4,Á,«,Û,·B}

fI[fvf"•ŕŽš—ñfpf%of[f^,İŽÀfpf%of[f^,É,Í" C^Ó,İ•ŕŽš—ñCE^,İ•İ",đŽw'è,Á,«,Û,·BŽè'±,«,Û,1/2,İŠÖ""à,ÁC%^{1/4}fpf%of[f^,İTfCfY'®« (İÁ'â'),İŽÀfpf%of[f^,Æ"~,ŕ,É,È,è,Û,·B

fI[fvf"•ŕŽš—ñfpf%of[f^,İ•ŕŽš—ñCE^,İ•İ"fpf%of[f^,Æ,Û,Á,1/2,"~,ŕ,æ,ı,É"®İ,μ,Û,·B,1/2,3/4,μC'Éİ,İ•İ"fpf%of[f^,İ,æ,ı,É'^{1/4},İŽè'±,«,âŠÖ",É"n,·,±,Æ,í,Á,«,Û,¹,ñB

fIfT {\$P-}C{\$OPENSTRINGS OFF}

,±,İŽw—β,ŕfIfT,İê#CfI[fvf"fpf%of[f^,İŽg—p•s%oÁ,É,È,è,Û,·B,±,İó'Ô,Á,İC**string** fL[f[f[fh,đŽg,Á,ÄéCE^{3/4,3,ê,1/2}•İ"fpf%of[f^,İ'Éİ,İ•İ"fpf%of[f^,É,È,è,Û,·B,±,ê,É,æ,è Turbo Pascal ,İ'È'O,İfo[fWfþ",Æ,İCEŕŠ·«,³•Û,1/2,ê,Û,·B

```

-á
procedure MyProc(var S:string);
begin
  S:= 'abcdefghijkl';
end;

var
  shortstring: string[5];
begin
  MyProc(ShortString);
end.

```

fRf“fpcf%ofXfCfbf`

CE<%oÊ

\$P-, V+	MyProc (ShortString) ,íCE ^•s^ê'v,lfRf“fpcf<fGf%o[][,ð[]¶[]¬,·,é
\$P+, V-	MyProc (ShortString) ,í<-%oÂ,³,ê[]C[]¶[]¬,³,ê,éfR[][fh,í S ,Ö,ìŠ,,è“- ,Ä,ªŽÀfpf%of[]^,Å[]éCE¾,³,ê,½fTfCfY,ð´,¡,È,ç,± ,Æ,ð•Ù[]Ø,·,é[]BMyProc ,Ö,ìCEÄ,Ñ[]o,μ,ìCEã[]CShortString ,í 'abcde' ,É,È,é
\$P-, V-	MyProc ,lfRf“fpcf<fGf%o[][,ð[]¶[]¬,μ,È,ç,ª[]Cfvf[]fOf %of€“à,Áf[]f,fŠ[]ä[]',«fGf%o[][,É,È,è[]CfVfXfef€,ªfNf%ofbfVf...,·,é%oÂ“\ []«,ª, ,é

ŽQÆ

\$V •i□” •¶Žš—ñf`fFbfN

fif { \$Q+ } C { \$OVERFLOWCHECKS }

ŽZp%ŽZfif ffbfNfRfh, ð\$Eä, µ, Ü, ·B

ŽZp%ŽZfif ffbfNfRfh, ð\$Eä, µ, Ü, ·B

fif { \$Q+ } , Ü, ½, í { \$Q- }

{ \$OVERFLOWCHECKS ON } , Ü, ½, í { \$OVERFLOWCHECKS OFF }

fftfHf<fg: { \$Q- }

{ \$OVERFLOWCHECKS OFF }

fXfR[fv: fffj<

'^ó

ŽZp%ŽZfif ffbfNfRfh, ð\$Eä, µ, Ü, ·B

fif { \$Q+ } C { \$OVERFLOWCHECKS ON }

, ±, žw—ß, fif, ð\$Eä, µ, Ü, ·B

\ + - * Abs Sqr Succ Pred Inc Dec

, ±, é, ç, žZp%ŽZfif ffbfNfRfh, ð\$Eä, µ, Ü, ·B

fif ffbfN, ž, "s, µ, ½ ð\$Eä, µ, Ü, ·B

fif ffbfN, ð, ·, é, ÆCfvfOf%€, ð\$Eä, µ, Ü, ·B

\$Q žw—ß, íÉí \$R žw—ß directive, Æ^è, ÉŽg, ç, Ü, ·B

fift { \$Q- } C { \$OVERFLOWCHECKS OFF }

, ±, žw—ß, fif, ð\$Eä, µ, Ü, ·B

ŽQÆ

—áŠO^—

"í^Íf`fFfbfNřw—ß {\$R}□C{\$RANGECHECKS}

ŽQ□Æ fRf"fpfCf%Žw—ß

"í^Íf`fFfbfNfR□[fh,ì□¶□→,đf|f",Ü,½,Í,Íf|ft,É,μ,Ü,·□B

□\•¶: {\$R+} ,Ü,½,Í {\$R-}
{ \$RANGECHECKS ON } ,Ü,½,Í { \$RANGECHECKS OFF }

ffftfHf<fg: {\$R-}
{ \$RANGECHECKS OFF }

fXfR□[fv: f□□[ffj<

f|f" {\$R+}□C{\$RANGECHECKS ON}

,±,ìŽw—ß,af|f",ì□ê□#□CfRf"fpfCf%,"z—ñ,â•¶Žš—ñ,ì"Y,;Žš,"í^Í"à,Á, ,é,©,Ç,κ,©,Æ□CfXfjf
%□[CE^•Ĭ" ,Ö,İŠ,,è"—,Ä,â'è<"í^Í,đ' ',,Ä,ç,È,ç

,©,đf`fFfbfN,·,éfR□[fh,đ□¶□→,μ,Ü,·□B"í^Íf`fFfbfN,Í Inc ,Æ Dec ,É,Í"K—p,³,ê,Ü,¹,ñ□B

f`fFfbfN,âŽ, "s,μ,½□ê□#□Cfvf□fOf%of€,ÍŽÀ□sŽžfGf%□[,É,æ,Á,Ä'âŽ~,μ,Ü,·□B

"í^Íf`fFfbfN,đ,·,é,Æ□Cfvf□fOf%of€,ì'—"x,â'á%□,μfTfCfY,à'â,«, ,È,è,Ü,·□B,±,ìŽw—ß,Ífvf□fOf
%of€ŠJ" ,ÆfffofbfO,İŠÔ,ÉŽg,ç□C□Á□"I,È□»•i,đ□\z,·,é,Æ,«,É,Íf|ft,É,μ,Ä,,³/₄,³,ç□B

f|ft {\$R-}□C{\$RANGECHECKS OFF}

,±,ìŽw—ß,af|ft,ì□ê□#□C"í^Íf`fFfbfNfR□[fh,Í□¶□→,³,ê,Ü,¹,ñ□B

ŽQÆ

\$Q ŽZp%%ŽZf!foftf`fFbfN

—áŠO^—

fXf^fbfNfi [fo [ftf [f` fFfbfNžw—ß {\$S} C{\$STACKCHECKS}

fRf“fpfCf%Žw—ß

fXf^fbfNfi [fo [ftf [f` fFfbfNfR [fh, ðfif“, Ü, ½, ífift, É, µ, Ü, · B

∅•¶: { \$S+ } , Ü, ½, í { \$S- }
{ \$STACKCHECKS ON } , Ü, ½, í { \$STACKCHECKS OFF }

ffftfHf<fg: { \$S+ }
{ \$STACKCHECKS ON }

fXfR [fv: f [[ffj<

fif“ {\$S+} C{\$STACKCHECKS ON}

, ±, ðŽw—ß, ¶fif“, ðê¶ C fRf“fpfCf% , íŠežè‘ ±
, «, Ü, ½, íŠÖ“, ðæ“ª, É C f [ffj<•ï“, Æ, » , ð¼, ðêžž“ l<L% , ð, ½, ß, ð•ª, ÈfXf^fbfNfXfy [fX,ª, ,é,
©, Ç, x, ©, ðf` fFfbfN, , éfR [fh, ð¶¶ , µ, Ü, · B

f [f: fv [fOf% f€,ª ðâ‘í, ÈfXf^fbfN, ð [fo [ftf [, ð¶¶, ¶, È, ç
, ÆŠm [M, Å, «, éê¶ ^ ÈŠÖ, í C fvf [fOf% f€,ª Š @ , µ, Ä, àfXf^fbfNf` fFfbfN, ðžc, µ, Ä, -
,¾,¾, ç B

fift {\$S-} C{\$STACKCHECKS OFF}

, ±, ðŽw—ß, ¶fift, Åžg—p% Å“\, ÈfXf^fbfNfXfy [fX,ª ∅•ª, É, È, çê¶ Cžè‘ ±
, «, Ü, ½, íŠÖ“, Ò, ðCEÄ, Ño, µ, É, æ, Å, ÄfvfXfef€,ª fNf% fbfVf... , µ, ½, è CžÄ sžžfGf% [, Äfvf [fOf
% f€,ª ‘+‘f, ,é% Å“\ ¶ª, ,è, Ü, · B

CE^•t,« @ %%%ŽZZqŽw—β { \$T } C { \$TYPEDADDRESS }

ŽQAE fR“fpfCf%Žw—β

@ %%%ŽZZq,•i“ŽQAE,ÉŽg,í,è,½,Æ,«C,±,ì%%ŽZZq,•Ô,·f|
fCf“f^‘l,ìCE^,ð\$CEä,μ,Û,·B

|\•¶: { \$T+ } ,Û,½,í { \$T- }
{ \$TYPEDADDRESS ON } ,Û,½,í { \$TYPEDADDRESS OFF }

ffftjHf<fg: { \$T- }
{ \$TYPEDADDRESS OFF }

fXfR[fv: f[fj<

fift { \$T- } C { \$TYPEDADDRESS OFF }

,±,ìŽw—β,•fift,ìê#C@ %%%ŽZZq,ìCE<%Ô,ÍCE^,È,μ|fCf“f^ (Pointer) ,É,È,èC¼,ì,·, x,Ä,ìf|
fCf“f^CE^,ÆCEÝŠ,É,È,è,Û,·B

fif“ { \$T+ } C { \$TYPEDADDRESS ON }

,±,ìŽw—β,•fif“,ìê#C@ %%%ŽZZq,ìCE<%Ô,Í ^T ,É,È,è,Û,·B ^T
,í•i“ŽQAE,ìCE^,ðŽ!,μ,Û,·B,½,Æ,!,íC@“ ,ì•i“ ,É“K—p,³,è,é @ ,íí,É@“f|
fCf“f^CE^,ð•Ô,μ,Û,·B

Žè‘±,«CŠÖ“Cf\fbfh,É @ ,ð“K—p,·,éê#C,±,ìŽw—β,ìó‘Ô,ÉŠÖCEW,È,CCE<%Ô,ìf|
fCf“f^,ìCE^,íí,É Pointer ,É,È,è,Û,·B

ŽQÆ

@ %%%ŽŽŽq

Pentium 'Í%ž,ì FDIV %%%žžžw—ß {\$U} ,Æ {\$SAFEDIVIDE}

fRf“fpfCf%žw—ß

\$U žw—ß,íC^È'O,ì Pentium fvf[]ZfbfT,Á,ì FDIV -½—
ß,ìCE±Š×,É”ö,í,½•,“@[]-[]”“_fR[]fh,ì[][]-[],ð[]\$CEä,µ,Û,·[]B

[]\•[]: {\$U+} ,Û,½,í {\$U-}
 {\$SAFEDIVIDE ON} ,Û,½,í {\$SAFEDIVIDE OFF}

ffftfHf<fg: {\$U-}
 {\$SAFEDIVIDE OFF}

fXfR[]fv: f[][]fj<

fif“ {\$U+}[]C{\$SAFEDIVIDE ON}

{\$U+} []ó'Ô,Á,íC,.,x,Ä,ì•,“@[]-[]”“_[]œžž,íf%of“f^fCf€f%ofCfuf
%ofŠf<[]f`f“,ðžg,Á,ÄžÀ[]s,³,è,Û,·[]B•,“@[]-[]”“_[]œžžf<[]f`f“,ð[]%
,ß,ÄCEÄ,Ñ[]o,µ,½,Æ,«,É[]C,±,íf<[]f`f“,ífv[]fZfbfT,ì FDIV -½—ß,²[]³,µ,“@[]ì,·,é,©,Ç,ª
,©,ðf`fFfbfN,µ[]Cf`fFfbfNCE<%oÉ,É%ž,¶,Ä TestFDIV •ì[]” (System ftjfbfg,Ä[]éCE¾)
,ð[]X[]V,µ,Û,·[]B^È~-,ì•,“@[]-[]”“_[]œžž%%žž,Á,íCTestFDIV
,ÉŠì”[.,³,è,½'ì,É,æ,Á,Ä[]C,Ç,ì,æ,ª,È^~[],ð,·,é,©,²CE^,Û,è,Û,·[]B

žŸ,ì\,É TestFDIV ,ì'ì,ðžì,µ,Û,·[]B

'ì ^Ó-i

-1 FDIV -½—ß,ì•s—Ç,²fefXfg,É,æ,è,í,©,Á,½

0 FDIV -½—ß,ífefXfg,³,è,Ä,ç,È,ç

1 FDIV -½—ß,ì³[]í“@[]ì,²fefXfg,É,æ,è,í,©,Á,½

FDIV ,ÉCE±Š×,ì,È,çfvf[]fZfbfT,ì[]ê[]+[]C**{\$U+}** []ó'Ô,Á,íC^~[]-[]“x,²,í,·,©,É'á
%o²,µ,Û,·[]BCE±Š×,ì, ,é Pentium fvf[]fZfbfT,ì[]ê[]+[]C**{\$U+}** []ó'Ô,Á,í•,“@[]-[]”“_[]œžž%
%žž,É[]Å[],,Ä 3 ”{,ìžžŠÖ,²šì,©,É,±,Æ,², ,è,Û,·,²[]C•K, ,³,µ,çCE<%oÉ,²¾,ç,è,Û,·[]B

fift {\$U-}[]C{\$SAFEDIVIDE OFF}

{\$U-} []ó'Ô,Á,íC•,“@[]-[]”“_[]œžž%%žž,ífCf“f%ofCf“,ì FDIV -½—
ß,ðžg,Á,ÄžÀ[]s,³,è,Û,·[]B^~[]-[]“x,ÆfR[]fhfTfCfY,²[]Ä“K,É,È,è,Û,·,²[]CPentium
fvf[]fZfbfT,ÉCE±Š×,², ,è,ÍŠÔ^á,Á,½CE<%oÉ,É,È,é%oÄ“\[]«,², ,è,Û,·[]BCE±Š×,ì, ,é Pentium
fvf[]fZfbfT,Á,ífR[]fh,²žÀ[]s,³,è,È,ç,ÆŠm[]M,Ä,«,é[]ê[]±,É,¾, ^[]C**{\$U-}** []ó'Ô,ðžg,ª,æ,ª,É,µ,Ä,-
,¾,¾,ç[]B

•i"•qžš—ñf`fFbfNžw—ß {\$V}C{\$VARSTRINGCHECKS}

fRf"fpfCf%Žw—ß

•i"fpf%of[f^,Æ,μ,Ä"n,³,ê,é'Z,ç•qžš—ñ,ìCE^f`fFbfN,ð\$CEä,μ,Ü,·B

∖•q: {\$V+} ,Ü,½,í {\$V-}

{\$VARSTRINGCHECKS ON} ,Ü,½,í {\$VARSTRINGCHECKS OFF}

ffftHf<fg: {\$V+}C {\$VARSTRINGCHECKS ON}

fXfR[fv: f[fj<

fif" {\$V+}C{\$VARSTRINGCHECKS ON}

,±,ìžw—ß,afif",ìê±,íCEμ-\$,ÈCE^f`fFbfN,ªs,í,êC%¼fpf%of[f^,ÆŽÀfpf%of[f^,ª"~^ê,ì•qžš—ñCE^,Á, ,é,±,Æ,ª—v<³,ê,Ü,·B

fift {\$V-}C{\$VARSTRINGCHECKS OFF}

,±,ìžw—ß,afift,ìê±,É,íC'Z,ç•qžš—ñCE^•i",í,·,×,ÄŽÀfpf%of[f^,Æ,μ,Ä<-%oÁ,³,ê,Ü,·BéCE¾,³,ê,½Á'â',ª%¼fpf%of[f^,ìÁ'â',Æ^ê'v,μ,È,çê±,Á,à"~—l,Á,·B

fEjBf“fhfEjXf^fbfNftfCE□[f€Žw—ß {\$W}□C{\$STACKFRAMES}

fRf“fpcfCf%oŽw—ß

Windows 3.0 fŠfAf<f,□[fh,Å“@□i,·,éfvf□fOf%of€,É‘í,μ□Cfar Žè‘±,«,Æ far ŠÖ□”,ì,½,ß,ì“ĂŽé,Éfvf□f□□[fOfR□[fh,ÆfGsf□□[fOfR□[fh,ð□¶□¬,μ,Û,·□B

□\•¶: {\$W+} ,Û,½,í {\$W-}
 {\$STACKFRAMES ON} ,Û,½,í {\$STACKFRAMES OFF}

ffftjHf<fg: {\$W+}
 {\$STACKFRAMES ON}

fXfR□[fv: f□□[fj<

fif“ {\$W+}□C{\$STACKFRAMES ON}
,±,ìŽw—ß,¶fif“,ì□ê□#□CfRf“fpcfCf%o,í•K—v,ì,È,ç,Æ,«,Å, ,Á,Ä,àŽè‘±,«,ÆŠÖ□”,ì,½,ß,ìfXf^fbfNftfCE□[f€,ð□¶□¬,μ,Û,·□B

fift {\$W-}□C{\$STACKFRAMES OFF}
,±,ìŽw—ß,¶fift,ì□ê□#□CfRf“fpcfCf%o,í•K—v,È,Æ,«,³/₄,~fXf^fbfNftfCE□[f€,ð□¶□¬,μ,Û,·□B

‘□^Ó
fffofbfMf“fOfc□[f<,ì†,É,í,·,×,Ä,ìŽè‘±,«,ÆŠÖ□”,É,Â,ç,ÄfXf^fbfNftfCE□[f€,ð□¶□¬,·,é•K—v,ì, ,é, à,ì,à, ,è,Û,·,²□C,»è,ð□œ,¬,î {\$W+} ,ðŽg—p,·,é•K—v,í,Û,, ,è,Û,¹/_ñ□B

Šg'£\•ŕŽw—ß {\$X}C{\$EXTENDSYNTAX}

fRf“fpfCf%Žw—ß

C++Builder ,İŠg'£\•ŕ,đfİf“,Ü,½,İfİft,É,µ,Ü,·B

İ\•ŕ: {\$X+} ,Ü,½,İ {\$X-}
{ \$EXTENDSYNTAX ON } ,Ü,½,İ { \$EXTENDSYNTAX OFF }

ffftfHf<fg: {\$X+}
{ \$EXTENDSYNTAX ON }

fXfR[fv: fOf[fof<

fİf“ {\$X+}C{\$EXTENDSYNTAX ON}

,±,İŽw—ß,đfİf“,İê#Cf+U[‘è< ,İŠÖ“Ā,Ňo,µ,đ (Žè‘±,«,Ā, ,é,©,İ,æ,ı,É)
•ŕ,Æ,µ,Ā^µ,İ,é,æ,ı,É Object Pascal ,İ\•ŕ,đŠg'£,³,é,Ü,·BŠg'£\•ŕ,Ā,İfKf<,Āİ,İ,é•ŕŽš—
ñ,àŽg,İ,Ü,·B

ŠÖ“Ā,Ňo,µ,İ•ŕ,Æ,µ,Ā^µ,İ,Ü,·BŠÖ“Ā,Ňo,µ,İĀ<%Ē,İ”jŠü,Ā,«,Ü,·B,½,¾,µCŠg'£\
•ŕŽw—ß,İ'g,Ýž,ÝŠÖ“ (System ftfjfbfg,Ā'è< ,³,é,½ŠÖ“) ,É,İ“K—p,³,é,Ü,¹,ñB

Šg'£\•ŕŽw—ß,İ'g,Ýž,Ý PChar Ā^,ÆfCf“fffbfNfX,đfİf,©,çŽn,Ü,é•ŕŽš”z—ñ,É“K—
p,³,é“ĀŽè,È<K'¥,đ—LĀø,É,·,é,±,Æ,É,æ,Ā,ĀCfKf<,Āİ,İ,é•ŕŽš—ñ,đfTfİ[fG,µ,Ā,ċ,Ü,·B

fİft {\$X-}C{\$EXTENDSYNTAX OFF}

,±,İŽw—ß,đfİft,İê#C,±,é,ç,İŠg'£\•ŕ,đŽg,ı,ÆfRf“fpfCf<fGf%[,É,È,è,Ü,·B

ŽQÆ

ffofbfOî•ñ,ÆfVf“ff<î•ñ

ftf@fCf<fCf“fNf<[]fhŽw—ß {\$I filename}[]C{\$INCLUDE filename}

fRf“fpfCf%oŽw—ß

Žw’è,μ,½ftf@fCf<,ðfRf“fpfCf<,ÉfCf“fNf<[]fh,·,é,æ,xfRf“fpfCf%o,ÉŽwŽ|,μ,Ü,·[]B

[]\•¶: {\$I filename}
 {\$INCLUDE filename}

fXfR[]fv: f[][]fj<

’[]^Ó

filename ,lffftfHf<fg,ìŠg’£Žq,í .PAS ,Å,·[]B

filename ,ÉfffBfCEfNfgfŠ,ðŽw’è,μ,È,ç,Æ[]CC++Builder ,íŽŸ,ì,æ,æ,Éftf@fCf<,ðCEŸ[]ð,μ,Ü,·[]B

- ,Ü, ,CE»[]Ý,ìf[][]fX,ìfffBfCEfNfgfŠ,ðCEŸ[]ð,·,é
- ŽŸ,ÉCEŸ[]ðfpfX,ðCEŸ[]ð,·,é

fCf“fNf<[]fh,·,éftf@fCf<,lfRf“fpfCf<,·,éfefLfXfg,ì {\$I filename} Žw—ß,ì¼CEã,É’}“ü,³ê,Ü,·[]B

f[]f,: ftf@fCf<fCf“fNf<[]fhŽw—ß,í•¶” ,ì“r’t,Å,íŽw’è,Å,«,Ü,¹,ñ[]B

•¶” ,ì **begin** ,Æ **end** ,ìŠÓ,ì•¶,í,·,×,Ä“ ,¶f[][]fXftf@fCf<,É’u,©,ê,È,,Ä,í,È,è,Ü,¹,ñ[]B

fŠf“fNfifufWfFfNfgftf@fCf<Žw—ß {\$L filename}C{\$LINK filename}

fRf“fpfCf%Žw—ß

Žw’è,μ,½ftf@fCf<,ðCfRf“fpfCf<,.éfvf[]Of%œ,Ü,½,Ítfjfbfg,ÆfŠf“fN,.é,æ,xfRf“fpfCf%
,ÉŽwŽ!,μ,Ü,·B

□\•¶: {\$L filename}
 {\$LINK filename}

fXfR[]fv: f[]fj<

’□^Ó

\$L Žw—ß,Í□Cexternal ,Æ,μ,Ä□éCE¾,¾,ê,½Žè’±
,«,ÆŠÖ□”,ì,½,ß,ì’¼,ìCE¾CEê,Å<L□q,¾,ê,½ŠO•”f<[]f`f“,ðfŠf“fN,.é,½,ß,ÉŽg,ç,Ü,·B

Žw’è,.éftf@fCf<,Í Intel ,ìÄ”z’u%Å”\,ÈfifufWfFfNfgftf@fCf< (.OBJ ftf@fCf<) ,Å,È,-
,Ä,Í,È,è,Ü,¹,ñB

filename ,lffftfHf<fg,ìŠg’£Žq,Í .OBJ ,Å,·B

filename ,ÉfffBfCEfNfgfŠ,ðŽw’è,μ,È,ç,Æ□CC++Builder ,ÍŽÿ,ì,æ,æ,ÉCEÿ□ö,μ,Ü,·B

- ,Ü, ,CE»□Ý,ìf[]fX,lfffBfCEfNfgfŠ,ðCEÿ□ö,·é
- Žÿ,ÉCEÿ□öfpfX,ðCEÿ□ö,·é

ŽÀ□sŽžCE^□î•ñŽw—ß {\$M} ,Æ {\$TYPEINFO}

fRf“fpfCf%Žw—ß

ŽÀ□sŽžCE^□î•ñ,ì□¶□→,ð□§CEä,μ,Û,·□B

□\•¶: {\$M+} ,Û,½,Í {\$M-}
 {\$TYPEINFO ON} ,Û,½,Í {\$TYPEINFO OFF}

ffftfHf<fg: {\$M-}
 {\$TYPEINFO OFF}

fXfR□[fv: f□□[fjf<

□à-¾

\$M fXfCfbf`Žw—ß,íŽÀ□sŽžCE^□î•ñ,ì□¶□→,ð□§CEä,μ,Û,·□BfNf%ofX,^a **{\$M+}**

□ó’Ô,Á□éCE¾,¾,é,é,©□C **{\$M+}** □ó’Ô,Á□éCE¾,¾,é,½•É,lfNf%ofX,©,ç”h□¶,μ,Ä,ç

,é□ê□#□CfRf“fpfCf%Í published •”,Á□éCE¾,¾,é,Ä,ç,éftfB□[f<fh□Cf□f\

fbfh□Cfvf□fpfefB,íŽÀ□sŽžCE^□î•ñ,ð□¶□→,μ,Û,·□BfNf%ofX,^a **{\$M-}**

□ó’Ô,Á□éCE¾,¾,é,Ä,“,è□C **{\$M+}** □ó’Ô,Á□éCE¾,¾,é,½•É,lfNf%ofX,©,ç”h□¶,μ,Ä,ç

,É,ç□ê□#,í□CfNf%ofX,Ä published •”,íŽg,!,Û,¹,ñ□B

f□f, C++Builder ,ì VCL ,É, ,é Classes ftjfjfbfg,Á’è<` ,¾,é,½ TPersistent fNf%ofX,Í **{\$M+}**

□ó’Ô,Á□éCE¾,¾,é,Ä,ç,Û,·□B,μ,½,^a,Á,Ä□CTPersistent ,©,ç”h□¶,μ,½fNf%ofX,É,Í

published •”,ð“ü,ê,é,±,Æ,^a,Ä,«,Û,·□BVCL ,Í published •”,É,Ä,ç

,Ä□¶□→,¾,é,½ŽÀ□sŽžCE^□î•ñ,ðŽg,Á,Ä□CftfH□[f€ftf@fCf<,ì•Û’¶,âf□□[fh,ì,Æ,«,ÉfRf“f]

□[f]f“fg,lfvf□fpfefB,ì! ,ÉfAfNfZfX,μ,Û,·□B,Û,½□CIDE ,lfRf“f]

□[f]f“fg,íŽÀ□sŽžCE^□î•ñ,ðŽg,Á,Ä□CflfufWfFfNfgfCf“fXfyfNf^ ,É•\

Ž!,·,éfvf□fpfefB,lfŠfXfg,ðCE^ ,ß,Û,·□B

fAvfšP□[fvf#f“ ,Á,í□C’¼□Ú **\$M** fRf“fpfCf%ofXfCfbf` ,ðŽg,π•K—v,Í,Û,Æ,ñ,ç, ,è,Û,¹,ñ□B

f f, fŠŠ,, è“- , ÄTfCfYŽw—ß { \$M } C { \$MAXSTACKSIZE } C { \$MINSTACKSIZE }

fRf“fpfCf%Žw—ß

fVf fOf%of€ , ìfXf^fbfNŠ,, è“- , Äfpf%of f f^ , ðŽw'è , μ , Ü , · B

□ \ • ¶ : { \$M minstacksize , maxstaxksize }
{ \$MAXSTACKSIZE maxstacksize }
{ \$MINSTACKSIZE minstacksize }

ffftfHf<fg: { \$M 16384 , 1048576 }

fXfR□[fv: fOf□□[fof<

' □ ^ Ó

\$M Žw—ß , ìfAfvfŠfP□[fVf#f“ , ìfXf^fbfNŠ,, è“- , Äfpf%of f f^ , ðŽw'è , μ , Ü , · B minstacksize , í 1024 □ ` 2147483647

, ì" í ^ í , ì □ @ □ " , Ä □ C fAfvfŠfP□[fVf#f“ , ìfXf^fbfN , ì □ Ä □ - fTfCfY , ðŽw'è , · , é ' l , Ä , È , -

, Ä , Í , È , è , Ü , ^ , ñ □ B maxstacksize , í minstacksize □ ` 2147483647

, ì" í ^ í , ì □ @ □ " , Ä □ C fAfvfŠfP□[fVf#f“ , ìfXf^fbfN , ì □ Ä ' â fTfCfY , ðŽw'è , · , é ' l , Ä , È , , Ä , Í , È , è , Ü , ^ , ñ □ B

□ Ä □ - fXf^fbfNfTfCfY , ì - v < □ , ð - ž , ½ , · , ¾ , ^ , ì f f , f Š , â , È , ç □ ê □ # □ C fAfvfŠfP□[fVf#f“ , ð < N " @ , μ , æ , x , Æ , μ , ½ , Æ , « , É Windows , â fGf%□ [, ð • ñ □ □ , μ , Ü , · B

fAfvfŠfP□[fVf#f“ , ìfXf^fbfN , â □ Ä ' â fXf^fbfNfTfCfY , ð ' ' , ! , é , ± , Æ , í < -

, ^ , é , Ü , ^ , ñ □ B fXf^fbfN , ð □ Ä ' â fXf^fbfNfTfCfY , æ , è ' â , « , , μ , æ , x , Æ , · , é , Æ EStackOverflow —

á Š O , â □ ¶ □ - , ^ , é , Ü , · B

\$MINSTACKSIZE Žw—ß , Æ \$MAXSTACKSIZE Žw—ß , ð Ž g , x

, Æ □ C □ Ä □ - fXf^fbfNfTfCfY , Æ □ Ä ' â fXf^fbfNfTfCfY , ð • Ê □ X , É Ž w ' è , Ä , « , Ü , · B

f f : f f , f Š Š , , è “ - , Ä Ž w — ß , ì f f C f “ f v f f O f % o f € , Ä , ì , Ý ^ Ó - i , ð Ž □ , ç , Ü , · B f % o f C f u f % o f Š , â f t f j f b f g , Ä , Í Ž g , i , Ü , ^ , ñ □ B

<L□q□à-¾Žw—ß {\$D text}□C{\$DESCRIPTION text}

fRf“fpfCf%oŽw—ß

Žw'è,³,ê,½fefLfXfg,ð EXE ftj@fCf<,Ü,½,Í DLL ,lfwfbf_□[,lf,fWf...
□[f<L□qfGf“fgfŠ,É'}“ü,μ,Ú,·□B

□\•¶: {\$D text}
 {\$DESCRIPTION text}

fXfR□[fv: fOf□□[fof<

'□^ó

fvf□fof%of€,Ü,½,Í DLL f□[fXftj@fCf<,É,Í<L□q□à-¾Žw—ß,ð^ê“x,¾,~Žw'è,Å,«,Ü,·□Bftfjfbfgf\
□[fXftj@fCf<,É,Í \$D ,ðŽw'è,μ,È,ç,Å,,¾,¾,ç□B

ŠŤŦ [fXftf@fCf<Žw—ß { \$R filename } C { \$RESOURCE filename }

fRf“fpfCf%Žw—ß

fAfvfŠfP [fVf†f“ ,Ü,½,Íf%ofCfuf%ofŠ,ÉfCf“fNf< [fh,·,éfŠŦ [fXftf@fCf<,l-¼‘O,ðŽw’è,μ,Ü,·B

|\•¶: { \$R filename }
{ \$RESOURCE filename }

fXfR [fv: f [fj<

’^Ó

filename ,lffftfHf<fg,ÌŠg’ÉŽq,Í .RES ,Á,·B,±,Íftf@fCf<,Í Windows ,ÍŠŦ [fXftf@fCf<,Á,È,-
,Ä,Í,È,è,Ü,¹,ñB

filename ,ÉfffBfCfNfgfŠ,ðŽw’è,μ,È,ç,Æ [CfRf“fpfCf% ,Íftf@fCf<,ðŽŸ,Ì,æ,κ,ÉCEŸ [ð,μ,Ü,·B

- ,Ü, ,CE» [Ÿ,ÍŦ [fX,ÍfffBfCfNfgfŠ,ðCEŸ [ð,·,é
- ŽŸ,ÉCEŸ [ðfpfX,ðCEŸ [ð,·,é

ftfjfbfg,ÅŽg,κ [é [CfŠŦ [fXftf@fCf<-

¼,Í‘P,ÉCE<%É,Íftfjfbfgftf@fCf<,É<L~^,³,è,Ü,·BfRf“fpfCf<Žž,Éftf@fCf<,l‘¶ [Ÿ,ðŠm”F,·,é,½,ß,Íf`
fFfbfN,Í,³,è,Ü,¹,ñB

fAfvfŠfP [fVf†f“ ,Ü,½,Íf%ofCfuf%ofŠ,ðfŠf“fN,·,é [é [C,·,×,Ä,Íftfjfbfg,ÅŽw’è,³,è,½fŠŦ
 [fXftf@fCf<,Æ [Cfvf [fOf%of€,Ü,½,Íf%ofCfuf%ofŠŽ © ‘ì,ÅŽw’è,³,è,½fŠŦ [fXftf@fCf<,³ [^—
 [³,è [C,» ,é,¼,è,ÍŠŦ [fXftf@fCf<“à,ÌŠefŠŦ [fX,Í [¶ [¬,³,è,é .EXE ftf@fCf<,Ü,½,Í .DLL
ftf@fCf<,ÉfRfs [³,è,Ü,·B

f [f: ,±,ÌŽw—ß,Á,Í 1 ftfjfbfg,É•i [,l .RES ftf@fCf<,ðŽw’è,Á,« ,Ü,·BfRf“fpfCf<Žž,É .RES
ftf@fCf<,l“à—e,É,Á,ç,Ä,ÌŠm”F,â [C—LCEØ,È .RES ftf@fCf<,Á, ,é, ©
(,» ,Íftf@fCf<,³ [Ÿ,·,é, ©) ,ÌŠm”F,Í,³,è,Ü,¹,ñB \$R Žw—
ß,ÅŽw’è,·,éftf@fCf<,ÍfŠf“fNŽž,É,Í‘¶ [Ÿ,μ,È,-
,Ä,Í,È,ç,· [C‘¶ [Ÿ,μ,È,ç [é [C,É,Í [uftf@fCf<,³CE ©,Á, ©,è,Ü,¹,ñ (<ftf@fCf<-
¼> .RES) [v,Æ,ç,κfGf% [f [fbfZ [fW,³ [Ž!,³,è,Ü,·B

CEX Žw—B {\$WARNINGS}

ŽQÆ fRf“fpfCf%Žw—B

\$WARNINGS fRf“fpfCf%Žw—B,ífRf“fpfCf%,É,æ,éCEX,ì¶¬,ð\$CEä,μ,Û,·B

¶\•¶: {\$WARNINGS ON} ,Û,½,Í {\$WARNINGS OFF}

ffftjHf<fg: {\$WARNINGS OFF}

fXfR[fv: f[fj<

fif“ {\$WARNINGS ON}

CEX,“fif“,ìó’Ô,Å,íCfRf“fpfCf%,í%Šú%»,³,ê,Ä,ç,È,ç•í“,âŠÖ“CE<%É,ìCE†—

ŽC’ŠÛfifufWfFfNfg,ì¬,È,Ç,ðCEÿo,μ,½,Æ,«,ÉCEXffbfZ[fW,ðfbfZ[fWfEfBf“fhfE,É¶¬,μ,Û,·B

fift {\$WARNINGS OFF}

fift,ìó’Ô,Å,íCfRf“fpfCf%,íCEXffbfZ[fW,ð¶¬,μ,Û,¹,ñB

ŽQÆ
fqf“fgŽw—ß

fqf“fgŽw—ß {\$HINTS}

ŽQ□Æ —á fRf“fpfCf%Žw—ß

\$HINTS Žw—ß,ífRf“fpfCf%É,æ,éfqf“fgf□fbfZ□[fW,ì□¶□¬,ð□\$CEä,μ,Ü,·□B

□\•¶: {\$HINTS ON} ,Ü,½,Í {\$HINTS OFF}

ffftfHf<fg: {\$HINTS OFF}

fXfR□[fv: f□□[ffj<

fif“ {\$HINTS ON}

fqf“fg,³fif“,ì□ó‘Ô,Å,í□CfRf“fpfCf%Í-çŽg—p,ì•í□”□C-çŽg—p,ì‘ä“ü□CCE^,μ,ÄŽÀ□s,³,ê,È,ç **for**
,Ü,½,Í **while**

,ìf<□[fv,È,Ç,ðCEŸ□o,μ,½,Æ,«,Éfqf“fgf□fbfZ□[fW,ðf□fbfZ□[fWfEfBf“fhfE,É□¶□¬,μ,Ü,·□B

fift {\$HINTS OFF}

fift,ì□ó‘Ô,Å,í□CfRf“fpfCf%Ífqf“fgf□fbfZ□[fW,ð□¶□¬,μ,Ü,¹,ñ□B

□à-¾

{\$HINTS OFF} Žw—ß,Æ {\$HINTS ON} Žw—ß,ìŠÔ,ÉfR□[fh,ð“ü,ê,é,Æ□C□d—v,Å,È,ç
,ÆŽv,í,ê,éfqf“fg,ð‘l’ð,μ,Äfift,É,Å,«,Ü,·□B

-á

```
{ ŽŸ,lfR[fh—á,íC-čŽg—p,ì•ĭ”,ÉŠÖ,·,éfqf“fg,đfRf“fpfCf%o,ª□¶□¬,μ,È,č,æ,κ,É,·,é•û-  
@,đŽ!,· }  
{SHINTS OFF}  
procedure Test;  
var  
  I: Integer;  
begin  
end;  
{SHINTS ON}
```

ŽQÆ

ExŽw—ß

FR [fhfCf [fWfx [fXŽw—B { \$IMAGEBASE address }

fRf"fpfCf%Žw—B

\$IMAGEBASE Žw—B, ĩfAfvfŠfP [fVf#f" ,Ü,½, í DLL , ĩffftfHf<fg, ĩf [fhfAfhfCefX, đŽw'è, µ, Ü, ·B

[\•¶: { \$IMAGEBASE number }

ffftfHf<fg: { \$IMAGEBASE \$00400000 }

fXfR [fv: fOf [fof<

à-¾

^ø" number , ĩfCf [fWfx [fXfAfhfCefX, đŽw'è, ·, é 32 frfbfg @ " l, Å, È, -, ê, î, È, è, Ü, ¹, ñB ^ø" number , í \$00010000 ^Èä, Å, È, -, ê, î, È, ç, ·, C, ±, ĩ^ø" , ĩ%º^È 16 frfbfg, ĩ-³Ž<,³, êCf [f, Å, È, -, ê, î, È, è, Ü, ¹, ñB

f, fWf... [f< (fAfvfŠfP [fVf#f" ,Ü,½, í DLL) , đfvf [fZfX, ĩfAfhfCefX— ĩ^æ, ĩ't, Öf [fh, µ, ½ê#CWindows , ĩ, » , ĩf, fWf...

[f<, đffftfHf<fg, ĩfCf [fWfx [fXfAfhfCefX, È"z'u, µ, æ, x ,Æ, µ, Ü, ·B, » , è, º-CE÷, µ, È, ©, Á, ½ê#C, Å, Ü, è—^ , ĩ, ç, ê, ½fAfhfCefX" ĩ^í, º, ·, Å, È—\ - ñĩ, Ý, ĩê# , È, ĩCf, fWf... [f<, ĩ Windows , ºŠ,, è"-, Ä, éfAfhfCefX, ÖÄ"z'u,³, ê, Ü, ·B

fAfvfŠfP [fVf#f" , ĩfCf [fWfx [fXfAfhfCefX, đ•ĩX, ·, é—R, ĩC, Ü, Æ, ñ, Ç, , è, Ü, ¹, ñB, µ, ©, µ DLL , ĩê# , ĩC \$IMAGEBASE Žw—

ß, đŽg, Å, ÄffftfHf<fg ^ÈŠO, ĩfCf [fWfx [fXfAfhfCefX, đŽw'è, ·, é, æ, x , Š©, ß, µ, Ü, ·B, È,º, È, çCffftfHf<fg, ĩfCf [fWfx [fXfAfhfCefX, Å, , é \$00400000 , ĩC, Ü, Æ, ñ, ÇŽg —p%Å"\, Èê# , º, È, ç, ©, ç, Å, ·B, ,, ºš,³, ê, é DLL fCf [fW, ĩfAfhfCefX" ĩ^í, ĩ \$40000000 ` \$7FFFFFFF , Å, ·B, ±, ĩ" ĩ^í, ĩfAfhfCefX, ĩ Windows NT , Æ Windows 95 , ĩ—¼•ù, ĩfvf [fZfX, ©, çĩ, ÉŽg—p%Å"\, Å, ·B

Windows , º DLL , đ, » , ĩ DLL

, ĩfCf [fWfx [fXfAfhfCefX, Ö³ĩ, Éf [fh, Å, «, éê#CÄ"z'u, È, æ, éC³, º•K—v, È, ç, ĩ, ÅCDLL , ĩf [fhŽžŠO, ĩ'Z, , È, è, Ü, ·B,³, ç, ÉC—^ , ĩ, ç, ê, ½fAfhfCefX" ĩ^í, º, » , ĩ DLL , đŽg, x• ĩ" , ĩfvf [fZfX, ©, çŽg—p%Å"\, Èê# , È, ĩCDLL , ĩfCf [fW, ĩfR [fh•" •º, đfvf [fZfXŠO, Å<x —L, Å, «C, » , è, È, æ, Å, Äf [fhŽžŠO, Æf [f, fŠÄ"i, ºCE , µ, Ü, ·B

ŽQÆ

'.,ç•¶Žš—ňĚ^

'Z,ç•¶Žš—ňĚ^

□Å“K%»Žw—ß {\$O} ,Æ {\$OPTIMIZATION}

fRf“fpfCf%»Žw—ß

□\•¶: {\$O+} ,Ü,½,Í {\$O-}
 {\$OPTIMIZATION ON} ,Ü,½,Í {\$OPTIMIZATION OFF}

ffftfHf<fg: {\$O+}
 {\$OPTIMIZATION ON}

fXfR□[fv: f□□[ffj<

\$O Žw—ß,íR□[fh,ì□Å“K%»»,ð□\$CEä,μ,Ü,·□B{**\$O+**} □ó'Ô,Å,Í□CfRf“fpfCf%»,í CPU
fCEfWfXf^,Ö,ì•ï□”,ì”z'u□C<π'É,μ,½•”•ªŽ®,ì□í□œ□C—U“±•ï□”,ì□¶□—,É,Ç□C'½□”,íR□[fh□Å“K
%»»,ðŽÀ□s,μ,Ü,·□B{**\$O-**} □ó'Ô,Å,Í□C,»,ì,æ,π,É,·,×,Ä,ì□Å“K%»»,ÍŽg—p•s%»»Å,É,È,è,Ü,·□B
“ÁŽê,ÈfffofbfO□ì<Æ,ì□ê□±,ð□œ,̄,ì□C□Å“K%»»,ðffft,É,·,é•K—v,Í,Ü,Á,½,, ,è,Ü,¹,ñ□BC++Builder
,ì Object Pascal fRf“fpfCf%»,ªŽÀ□s,·,é,·,×,Ä,ì□Å“K%»»,ì□CCE^,μ,Äfvf□fOf%of€,ì^Ó-
j,ð•ï□X,μ,Ü,¹,ñ□B,Å,Ü,è□CC++Builder ,ífvf□fOf%of},ª“Á,É'□^Ó,μ,È,̄,ê,Î,È,ç,È,ç,æ,π
,È□u^À'S,Å,É,ç□v□Å“K%»»,í,μ,Ü,¹,ñ□B

Ā¼Āĕŝftj@fĀf“fX

Ā¼Āĕĕ'è<

Ā¼Āĕŝftj@fĀf“fX,Ífwf<fvfĀffj...Ā[,âfwf<fv-ÚŽŸ%œ-Ê,Ā•\Ž!,Ā,«,Ü,·ĀBĀkCtrlĀ|+ĀkF1Ā|,đ
%oŸ,μ,ĀfRĀ[fhfGffBf^,Ā'¼ĀŰ•\Ž!,·,é,±,ĀE,à,Ā,«,Ü,·ĀB

fRf“fpfCf%oŽw-ß

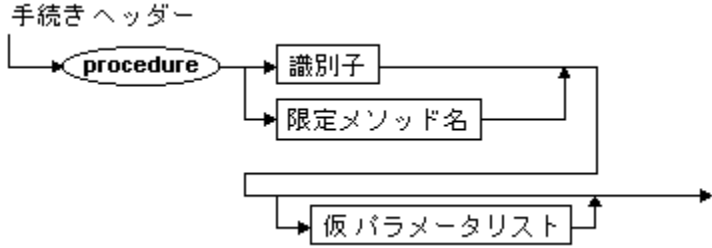
ĀđĀĀŽw-ß,ĀEĀđĀĀfvf“f{f<

-\-ñĀĕ

•WĀĕŽw-ß

Object Pascal 手続きヘッダー

Object Pascal 手続きヘッダーの構文は、識別子、限定メソッド名、仮パラメータリストで構成される。



識別子: 識別子、限定メソッド名、仮パラメータリスト

限定メソッド名: 識別子、限定メソッド名、仮パラメータリスト

仮パラメータリスト: 識別子、限定メソッド名、仮パラメータリスト

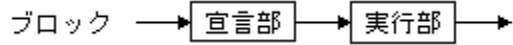
構文	説明
<code>識別子</code>	識別子
<code>限定メソッド名</code>	識別子
<code>仮パラメータリスト</code>	識別子、限定メソッド名、仮パラメータリスト

fufjbfN

ŽQÆ

fufjbfN, í•¶, Å□□→,³,ê,Ü,·□B

ŠefufjbfN, íŽè'±,«é¼CŠÖ"é¼Cfjfbfhé¼CfvfOf
%œ€Cftjfbfg,É,Ç,ÉŠÜ,Ü,ê,Ü,·□B



é¼•"

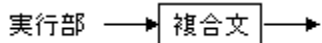
fufjbfN, íé¼•",É,íŽÿ,ì—v'f,ªŠÜ,Ü,ê,Ü,·□B

- f%œfxf<
- 'è"
- É^
- •í"
- Žè'±,«
- SÖ"
- exports □ß

fufjbfN, Åé¼,·,é,·,×,Ä,íŽ-•ÊŽq,Æf%œfxf<,É,Å,¢
,ÄCfXfR□[fv,ª,» ,ìfufjbfN,Éf□[fjf<,É,È,è,Ü,·□B

ŽÄs•"

fufjbfN, íŽÄs•", í□±•¶, Å,·□B, Å,Ü,è□C—\-ñCé,è, **begin** ,Æ **end** ,Å'è,ß,ç,ê,½"í^í"à,É•¶,ª 1
,Å^È□ä, ,è,Ü,·□B



ŽQÆ

begin..end

fufbfN,ifXfRfv

•¶

'è"é¾

ŽQÆ

'è",í·iX,Á,«,È,ç'l,ð·\,·Ž·ÉŽq,Á,·B'è",lfXfR[fv,í,»,l'è",l'é¾,ª, ,éfuffbfN"à,ÉÆÀ,ç,è,Ü,·B'è"Ž·ÉŽq,ð,»,èŽ©g,l'é¾,ÉŠÜ,ß,é,±,Æ,í,Á,«,Ü,¹,ñB



'è",í—\-ñÆè,l const ,ðŽg,Á,Á'é¾,µ,Ü,·B

Object Pascal ,Á,l'è"Ž®,ðŽg,l,Ü,·B'è"Ž®,Æ,íCŽÀÜ,ÉfvfOf%of€ ,ðŽÀs,¹, ,ÉfRf"fpfCf% ,ª·]ºž,Á,«,éŽ®,Á,·B



fRf"fpfCf<Žž,É'è"Ž®,ðŠ®'S,É·]ºž,µ,È,,Ä,í,È,ç,È,ç,½,ßC'è"Ž®,É,íŽŸ,l\·¶,ªŽg,l,Ü,¹,ñB

- 'i",âÆ^·t,«'è",Ö,lŽQÆ ('è" fAfhfÆfXŽ®,É, ,é,à,l,ðœ,)
- @ %%%ŽŽŽq ('è" fAfhfÆfXŽ®,É, ,é,à,l,ðœ,)
- ŠÖ"ÆÄ,Nºž,µ (ŽŸ,lŠÖ",ðœ,)

Abs	Odd
Addr	Ord
Chr	Pred
Hi	Round
High	SizeOf
Length	Succ
Lo	Swap
Low	Trunc

'è"Ž®,É,íŽŸ,l"ñ€ŽŽp%%ŽŽŽq,â~ —%%ŽŽŽq,àŽg,l,Ü,·B

- + **shr**
- **shl**
- / **and**
- div** **or**
- mod** **xor**
- =

ŽQÆ

fXfRfv

Ĉ^•t,«'è”

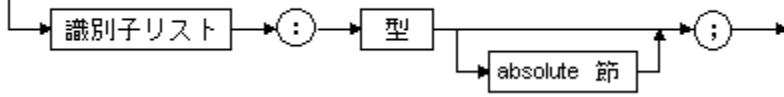
• ĩ

ŽQÆ —á

• ĩ, íX, Å, «, é'l, ð•\, Ž•ÊŽq, Å, ·BftfjfbfgCŽè'±, «CŠÖ" CfvfOf%of€
 , ĩ"é¼•", Å•ĭ", ðé¼, Å, «, Ü, ·B

• ĩ"é¼, Å, íCŽ•ÊŽq, Å, » , ìCE^, ðé¼, µ, È, , Å, í, È, è, Ü, ^, ñB

変数宣言



• ĩ, ìCE^, Å, µ, ÅCŽŸ, ì, ç, , , è, ©, Å, ·, Å, Éé¼, ^, è, Å, ç, éCE^Ž•ÊŽq, ðŽg, x, ±, Å, Å, Å, «, Ü, ·B

- " , fufbfN" à, ĩ **type** é¼•"
- ŠO'x, lfufbfN
- ftfjfbfg

• ĩ, É, íV, µ, çCE^, àé¼, Å, «, Ü, ·B

• ĩŽ•ÊŽq, lfXfR[fv, í, » , ĩ" , ìé¼, ^, , éfufbfN"à, ÉCEÀ, ç, è, Ü, ·B"à'x, É••"ü, ^, è, Å, ç
 , éfufbfN, ÅŽ•ÊŽq, ðÅé¼, µ, È, çCEÀ, èCfufbfN"à, ì, Ç, ±, Å, Å, à, » , ĩ" , ðŽQÆ, Å, «, Ü, ·B
 Åé¼, ð, , , é, ÅCCÉ, ĩ" , ì'l, É%œ<ž, ð<y, Ú, ^, , ÉC" , ĩŽ•ÊŽq, ÅV, µ, ç•ĭ" , ðì¬, ^, è, Ü, ·B

ŽQÆ

fOf□□[fof<•i□”,Æf□□[ff<•i□”

fXfR□[fv

ftfjfbfg

var (—\-ñÆê)

•i□”ŽQÆ

•i□”Æ^flfffXfg

□%oŠú%o»•i□”

—á

var

X, Y, Z: Real;

I, J, K: Integer;

Digit: 0..9;

C: TColor;

Done,Error: Boolean;

Operator: (Plus, Minus, Times);

Hue1, Hue2: **set of** TPenStyle;

Today: TDateTime;

Matrix: **array**[1..10, 1..10] **of** Real;

fOf [fof<•i] ,Æf [ff<•i]

ŽQÆ •i

fOf [fof<•i] ,íŽè±,«,âšÖ,ìšO•,Åéœ¼,è,Ü,·BfOf [fof<•i] ,í^È
%o²,ì,·,×,Ä,ÅŽg,!,Ü,·B

- Žè±,«
- ŠÖ
- ffbfh

f [ff<•i] ,íŽè±,«CŠÖ Cfbfh,ì“à•,Åéœ¼,è,Ü,·Bf [ff<•i] ,íŠO’
,ì“à,¼, ,ÅŽg, CŽè±,«,âšÖ,ªCEÄ,Ño,µ’x,É-ß,é,Æ”jŠü,è,Ü,·B

f [ff<•i] ,ÆfXf^fbfN

Žè±

,«,âšÖ,ì“à•,Åéœ¼,è,½•i,íf [ff<•i] ,ÆCEÄ,î,êCfAfvfŠfP [fvf] ,ìfXf^fbfN,É•ÜŽ,
è,Ü,·BŽè±,«,âšÖ,ìCEÄ,Ño,µ,½,Ñ,ÉCf [ff<•i] ,æfXf^fbfNä,ÉŠ,,è“- ,Ä,ç,è,Ü,·B—
¹Žž,ÉŠef [ff<•i] ,ì”jŠü,è,Ü,·B

fAfvfŠfP [fvf] ,ìfXf^fbfN,í minimum stack size ,Æ maximum stack size ,ì 2
,Ä,ì’,É,æ,Ä,Ä’è< ,è,Ü,·B,±,ì 2 ,Ä,ì’,í \$MINSTACKSIZE ,Æ \$MAXSTACKSIZE ,ìRf”fpfCf
%oŽw—ß,Å\$CEä,µ,Ü,·B\$MINSTACKSIZE ,Æ \$MAXSTACKSIZE ,ìffftfHf<fg,í,»,è,¼,è 16,384
(16K) ,Æ 1,048,576 (1M) ,Ä,·BfAfvfŠfP [fvf] ,ìÄ—fXf^fbfNfTfCfY,ðí,É—
p,Ä,«,é,æ,x•ÜØ,è,Ä, ,èC,»,µ,ÄfAfvfŠfP [fvf] ,ìfXf^fbfN,ªÄ’âfXf^fbfNfTfCfY,æ,è’â,«,-
,É,é,±,Æ,íCE^,µ,Ä, ,è,Ü,¹,ñB

fAfvfŠfP [fvf] ,ìÄ—fXf^fbfNfTfCfYðCE,ð-ž,½,·f,f,š,ª—
p,Ä,«,É,çê±,íC,»,ìfAfvfŠfP [fvf] ,ðxN”®,µ,æ,x,Æ,·,é,Æ Windows ,©,çGf
%o [,ªo,è,Ü,·B

Ä—fXf^fbfNfTfCfY,ÅŽw’è,è,é,æ,è,à’½,çfXf^fbfN—ì^æ,æfAfvfŠfP [fvf] ,É•K—v,Ä, ,è,îC
'Ç%oÁ,ìf,f,š,ª 4K 'P^Ê,ÅŽ©”®“ì,ÉŠ,,è“- ,Ä,ç,è,Ü,·B'Ç%oÁf,f,š,ª—p,Ä,«,É,ç
,©CfXf^fbfN,ì±CEvfTfCfY,ªÄ’âfXf^fbfNfTfCfY,ð’ ,ì,é,½,ß'Ç%oÁfXf^fbfN—ì^æ,ìŠ,,è“-
,Ä,ÉŽ, ,s,·,é,ÆCEStackOverflow —áŠO,ªí—,è,Ü,·B

ŽQÆ
fXfRfv

«Š»«İ,Ÿ•İ»

ŽQÆ •İ»

•İ»É¼,Å'P^è,İfOf[fof<•İ» ,đÉ¼, ,éê#C, » ,İ•İ» ,É,ÍÉ¼,Å
%Š'İ,đŽw'è,Å,«,Ü,·BfOf[fof<•İ»É¼,Š'İ,đ-
¼Ž'İ,É,ÍŽw'è,μ,È,çê#C, » ,İ•İ» ,è—L, ,éff,fŠ,İ%Š'İ,Íf[f,ÉŸ'è,³ê,Ü,·B
f[f<•İ» ,É,Í%Š'İ,đŽw'è,Å,«, ,CŽè'±,«,Ü,½,ÍŠÖ» ,)“üÉù,Å,Í,·,x,Ä,İf[f<•İ» ,)İ,ä-
ç'è` ,İó'Ö,Å,·B

ŽQÆ

Œ^•t,«'è”

fOf□□[fof<•i□”,Æf□□[ff<•i□”

ŽQÆ

f|fCf“f^CE^•i”

CEÀ'èžq

•ŕŽš—ñCE^•i”

□\‘č%o»CE^•i”

•i”

•i”CE^fLfffXfg

ŽQÆ

"z—ñĈ^

ftfB[f<fh,ÆflfufWfFfNfgĈ^—v'f,ìŽw'èŽq

"YŽš

f|fCf"f^,Æ"®"l•i"

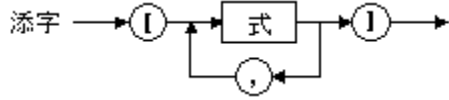
f|fCf"f^Ĉ^

•i"ŽQÆ

“YŽš

ŽQ□Æ •i□”ŽQ□Æ

“YŽš,í”z—ñ□C•ŋŽš—ñ□C•ŋŤšfXfg,ì“Á’è,ì—v’f,Ö,lfAfNfZfX,ÉŽg,ç,Ü,·□B



”z—ñ,ì“YŽš

”z—ñ,ì“YŽš,đŽg,æ,Æ□C”z—ñ,ì“Á’è,ì—v’f,ÉfAfNfZfX,Á,«,Ü,·□B

“YŽšŽŽ®,ì”z—ñ,ìí%ž,·,éŠeŽŸCE³,ì—v’f,đ’í’đ,μ,Ü,·□B

”z—ñ,ì“YŽš,É,í’È%ž,ì□§CEÄŽ—□€,ª, ,è,Ü,·□B

- “YŽšŽŽ®,ì□” ,ì□C”z—ñ□éCE¾,ì“YŽšCE^,ì□” ,đ’í’ ,é,±,Æ,í,Á,«,È,ç
- Še“YŽšŽŽ®,ìCE^,ì□Cí%ž,·,é“YŽšCE^,Æ’ä“ü,ìCEŸŠ□«,ª,È, ,è,í,È,ç,È,ç

•ŋŽš—ñ,ì“YŽš

’Z,ç•ŋŽš—ñCE^•i□” ,É,ì“YŽšŽŽ®,đ 1 ,Á,¾, ,t, ,ç,è,Ü,·□B“YŽšŽŽ®,ì’i,ì□C0□`N (N ,í’Z,ç•ŋŽš—ñ,ì□éCE¾,ª,è,½□Á’á’) ,ì”í’í,É,È, ,è,í,È,è,Ü,¹,ñ□B’Z,ç•ŋŽš—

ñ,É“YŽš,đ•t, ,ÄfAfNfZfX,³,è,é•ŋŽš,ìCE^,í Char ,Á,·□B•ŋŽš—ñ,ì□Á□%o,ì•ŋŽš,ì“YŽš,í 1 ,Á,·□B“YŽš 0 ,ì—v’f,í,» ,ì•ŋŽš—ñ,ì“í,È’,³,đ•ÜŽ□,μ,Ü,·□B

<ó,Á,È,ç’,ç•ŋŽš—ñCE^•i□” ,É,ì“YŽšŽŽ®,đ 1 ,Á,¾, ,t, ,ç,è,Ü,·□B“YŽšŽŽ®,ì’i,ì□C1□`N (N ,í’,ç•ŋŽš—ñ,ì“í,È’,³) ,ì”í’í,É,È, ,è,í,È,è,Ü,¹,ñ□B’,ç•ŋŽš—

ñ,É“YŽš,đ•t, ,ÄfAfNfZfX,³,è,é•ŋŽš,ìCE^,í Char ,Á,·□B’,ç•ŋŽš—ñ,ì□Á□%o,ì•ŋŽš,ì“YŽš,í 1 ,Á,·□B

PChar□CPAnsiChar□CPWideChar ,ìŠeCE^,ì’i,É,í Integer CE^,ì“YŽšŽŽ®,đ 1

,Á,¾, ,t, ,ç,è,Ü,·□B“YŽšŽŽ®,ì□C•ŋŽšfjCf”f^,ì<tŽQ□Æ,É,æ,Á,Ä Char CE^□CAnsiChar CE^□CWideChar CE^,ì,ç, ,è,©,ì•i□”ŽQ□Æ,đ□ŋ□-, ,é’O,É□C,» ,ì•ŋŽšfjCf”f^,É %oÄŽŽ,³,è,élfjtfZfbfg (•ŋŽš,Ü,½,í□f□Cfh•ŋŽš,ì□”) ,đŽw’è,μ,Ü,·□B

•ŋŽš—ñ,ì’,³,đŠm”F,·,é,É,í

- Length ŠO□” ,đŽg,ç,Ü,·□B

•ŋŽš—ñŤšfXfg,ì“YŽš

•ŋŽš—ñŤšfXfg,ì“YŽš,đŽg,æ,Æ•ŋŽš—ñŤšfXfg,ì“Á’è,ì•ŋŽš—ñ,ÉfAfNfZfX,Á,«,Ü,·□B

•ŋŽš—ñŤšfXfg,É,í Strings ,Æ,ç,æ“YŽš•t,«fvf□pfefB,ª, ,è□C•ŋŽš—ñ”z—ñ,ì,æ,æ,É•ŋŽš—ñŤšfXfg,đ□^—□,Á,«,Ü,·□B

Strings fvf□pfefB,ì•ŋŽš—ñŤšfXfg,Á,à,Á,Æ,à^è”É”i,ÉfAfNfZfX,·,é•”ª,È,ì,Á□C•ŋŽš—ñŤšfXfg,ìffftfHf<fgvf□pfefB,É,È,è,Ü,·□B,Á,Ü,è□CŽ`•ÉŽq Strings ,đ□È—ª,μ,Á□C•ŋŽš—ñŤšfXfg,» ,ì,à,ì,đ“YŽš•t,«•ŋŽš—ñ”z—ñ,Æ,μ,Á□^—□,Á,«,Ü,·□B

•ŋŽš—ñŤšfXfg,ì“Á’è,ì•ŋŽš—ñ,ÉfAfNfZfX,·,é,É,ì□C,» ,ì•ŋŽš—ñ,đ“YŽš,ÁŽQ□Æ,μ,Ü,·□B•ŋŽš—ñ,ì“YŽš’i,ìf□,©,çŽn,Ü,é,ì,Á□C•ŋŽš—ñŤšfXfg,É•ŋŽš—ñ,ª 3 ,Á, ,è,ì□C“YŽš,ì”í’í,í 0□`2 ,É,È,è,Ü,·□B

“YŽš,ì□Á’á’i,đŠm”F,·,é,É,ì□CCount fvf□pfefB,đ’²,x,Ü,·□B—LCEø,È“YŽš,ì”í’í,É,È,ç•ŋŽš—ñ,ÉfAfNfZfX,μ,æ,æ,Æ,·,é,Æ□C•ŋŽš—ñŤšfXfg,©,ç—ášO,ª□ŋ□-,³,è,Ü,·□B

ŽQÆ

"z—ňĀ^

Ā'èžq

•ŕžš—ňĀ^

—á

ŽŸ,ì—á,í"z—ñ,ìfzf<,ÉfAfNfzfX,μ,Ü,·□B

Matrix[I, J];

ŽŸ,ì 2 ,Â,ì—á,í,Ü,Á,½,"~,¶,Å□Cf□f,œ^ftfB□[f<fh,ì 1 □s-Ú,ÉfefLfXfg,ð□Ý'è,μ,Ü,·□B

Memol.Lines.Strings[0] := 'This is the first line.';

Memol.Lines[0] := 'This is the first line.';

ftfB[f<fh,ÆfIfufWfFfNfg,ìŽw'èŽq

ŽQÆ —á •i"ŽQÆ

ftfB[f<fhŽw'èŽq

ftfB[f<fhŽw'èŽq,ÍfCFR[fh,ì"Á"èftfB[f<fh,ÉfAfNfZfX,·,é,Æ,«,ÉŽg,ç,Ü,·B

フィールド指定子 → (●) → [フィールド名] →

with •¶†,ì•¶,Á,ÍCftfB[f<fhŽw'èŽq,ì'O,ÉC,»,ìftfB[f<fh,^a, ,éfCFR[fh,Ö,ì•i"ŽQÆ,ð•t,¯,é•K
—v,Í, ,è,Ü,¹,ñB

fIfufWfFfNfgÆ^—v'fŽw'èŽq

fIfufWfFfNfgÆ^—v'fŽw'èŽq,ÍfIfufWfFfNfg,ì"Á"è—v'f,ÉfAfNfZfX,·,é,Æ,«,ÉŽg,ç,Ü,·Bf\fbfh,ðŽw'è,·,é—v'fŽw'èŽq,Íf\fbfhŽw'èŽq,Æ,ç,ç,Ü,·B

ŽŸ,ìè¶,ÍfCf"fxf^f"fx,ÆfsfŠfIfh,ðÈ—^a,Á,«,Ü,·B

- **with** •¶,ðŽg,Á,Ä—v'f,ðŽQÆ,·,éè¶
- f\fbfhfuf\fbfN"à (—v'fŽQÆ,ì'O,É Self ,ÆfsfŠfIfh,^a•t,ç,½è¶,Æ"¯,¶,É,È,é,½,ß)

ŽQÆ

fNf%ofXCE^

fCEfR□[fhCE^

with •¶

—á

ŽŸ,ì—á,ífCEfR[fh“à,ìftfB[f·fh,ÉfAfNfZfX,μ,Ü,·B

Today.Year

Results[1].Count

Results[1].When.Month

f|fCf“f^,Æ”®“l•i□”

ŽQ□Æ —á

f|fCf“f^•i□”,í nil ‘l,Ü,½,í“®“l•i□”,l|fAfhfCfX,đ•ÚŽ□,μ,Ü,·□B

f|fCf“f^•i□”,ªŽw,“®“l•i□”,l|f|fCf“f^•i□”,l|CEã,Éf|fCf“f^fVf“f{f< (^) ,đ•t,¯,ÄŽQ□Æ,μ,Ü,·□B

New Žè‘±,«,Æ GetMem Žè‘±,«,đŽg,κ,Æ□C“®“l•i□”,Æ,»,l|f|fCf“f^‘l,đ□¶□→,Å,«,Ü,·□B

@ (fAfhfCfX) %%%ŽŽŽq,Æ Addr ŠÖ□”,đŽg,κ,Æ□C“®“l•i□”,Ö,l|f|fCf“f^,Æ,μ,Ä□^—□,³,ê,é|fCf“f^‘l,đ□¶□→,Å,«,Ü,·□B

nil ,í,Ç,ì•i□”,àŽw,μ,Ü,¹,ñ□Bf|fCf“f^,ì‘l,ª nil ,Ü,½,í-

ç‘è<` ,l,Æ,«,É“®“l•i□”,ÉfAfNfZfX,μ,½□ê□#□CCE<%É,í-ç‘è<` ,Å,·□B

ŽQÆ

f|fCf“f^CE^

•i”

—á

ŽŸ,ì—á,í“®“!•i□”,Ö,ìŽQ□Æ,Å,·□B

P1^

P1^.Siblings^

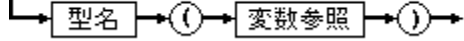
Results[1].Data^

• ĩ"CE^fLfffXfg

ŽQAE —á •ĩ"ŽQAE

• ĩ"CE^fLfffXfg,É,æ,èC, ,éCE^, ĩ"ŽQAE,ª•Ê, ĩCE^, ĩ"ŽQAE,É•ĭ,í,è,Ü, ·B

変数型キャスト



• ĩ"ŽQAE,Éĭ,µ,Ä• ĩ"CE^fLfffXfg,đ,·,é,ÆC,», ĩ"ŽQAE, ĩCE^Ž•ÊŽq,ÅŽw'è,µ,½CE^, ĩfCf"fxf^f
 "fX,Æ,µ,Ä^—,³,é,Ü, ·B• ĩ" ĩfTfCfY, ĩCE^Ž•ÊŽq,ÅŽw'è,µ,½CE^, ĩfTfCfY,Æ" ,ĭ,Ä,É, -
 ,Ä,ĭ,É,è,Ü,¹,ñB **as** %%%ŽŽŽq,đŽg,Ä,ÄCE^fLfffXfg,đ,·,é,ÆCCE^fLfffXfg, ĩ—
 LCEø«,ªf`fFbfN,³,éCCE^fLfffXfgCEă, ĩCE^,Æ,ĭ'ă"ü, ĩCEÝŠ·«,ª• ĩ",É,É,çêê‡,ĭ—
 áŠO,ªĭĭ→,³,é,Ü, ·BCE^Ž•ÊŽq, ĩCEă,É• ĩ"—

¼,đfjfbfR,É"ü,é,ÄCE^fLfffXfg,đ,·,é,ÆCCE^fLfffXfg, ĩf`fFbfN,³,é,Ü,¹,ñB

• ĩ"CE^fLfffXfg, ĩCEă,ÉCŽw'è,µ,½CE^,Ä<-%Ä,³,é,Ä,ç,é,¾, ^CEÀ'èŽq,đ•t, ^,é,±,Æ,ª,Ä,«,Ü, ·B

Object Pascal ,Ä, ĩCŽè'±,«CE^,đŠÜ,ª,³,Ü, ',Ü,È• ĩ"CE^fLfffXfg,ªfTfĭĭfg,³,é,Ä,ç,Ü, ·B

ŽQÆ

ÆÀ'èŽq

'lÆ^fLffXfg

•i”

—á

ŽŸ,ì,æ,α,Èé¼,â, ,é,Æ,μ,Û,·B

type

Func = **function**(X: Integer): Integer;

var

F: Func;

P: Pointer;

N: Integer;

ŽŸ,ì,æ,α,È'ã"ü,â,Ä,«,Û,·B

F := Func(P);	{ P ,ìžè'±,«'l,ð F ,É'ã"ü,μ,Û,· }
Func(P) := F;	{ F ,ìžè'±,«'l,ð P ,É'ã"ü,μ,Û,· }
@F := P;	{ P ,ìf fCf"f^'l,ð F ,É'ã"ü,μ,Û,· }
P := @F;	{ F ,ìf fCf"f^'l,ð P ,É'ã"ü,μ,Û,· }
N := F(N);	{ F ,ðžg,Ä,ÄšÖ" ,ðÆÄ,Ño,μ,Û,· }
N := Func(P)(N);	{ P ,ðžg,Ä,ÄšÖ" ,ðÆÄ,Ño,μ,Û,· }

—á

ŽŸ,ì—á,í•W□€,ìŽ⁻•ÊŽq,Å,•□B

TextFile

Exit

Real2String

ŽŸ,ì—á,íĀÀ'èŽ⁻•ÊŽq,Å,•□B

System.MemAvail (* ftjfbfg = System, Ž⁻•ÊŽq = MemAvail *)

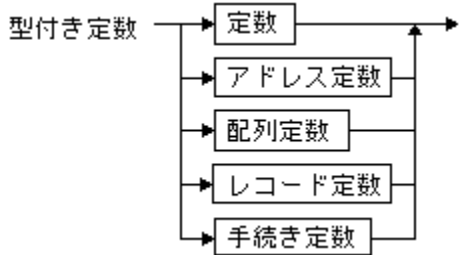
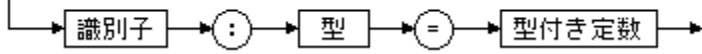
System.CloseFile

CE^•t,«'è□”

ŽQ□AE —á

CE^•t,«'è□”,ì□éCE¾,í“Ç,Ý□o,μ□ê—p•ï□”,ì□éCE¾,É‘Š“-μ,Ü,·□BCE^•t,«'è□”,í•ï□X,Å,«,È,ç,±,Æ,ð□œ,ç,Ä□C“”,íCE^,í•ï□”,ì,æ,α,ÉŽg,ì,Ü,·□B

型付き定数宣言



'Ê□í,í'è□”Ž®,ì,Ü,©,É□CE^•t,«'è□”,ì'í,í'è□”fAfhfCEfXŽ®,Å,àŽw'è,Å,«,Ü,·□B

CE^•t,«'è□”,É,í^È%o,ì 5 Ží—p,a, ,è,Ü,·□B

f|fCf“f^CE^'è□”

Žè'±,«CE^'è□”

'P□fCE^'è□”

•íŽš—ñCE^'è□”

□\`ç%o»CE^'è□”

f□f, \$J fRf“fpfCf%oŽw—β,í•ï□X,Å,«,éCE^•t,«'è□”,ì□éCE¾,ð%oÅ“\,É,μ,Ü,·□BffftfHf<fg,ì { \$J- } □ó'Ô,Å□éCE¾,μ,½CE^•t,«'è□”,í“Ç,Ý□o,μ□ê—p,Å•ï□X,í,Å,«,Ü,¹,ñ□B

ŽQÆ

'è"é¾

Šú»•i"

-á

(* \mathbb{C}^t , «è"é $\mathbb{C}^{3/4}$ *)

type

Point = **record** X, Y: real **end**;

const

Minimum: Integer = 0;

Maximum: Integer = 9999;

Factorial: **array**[1..7] **of** Integer = (1, 2, 6, 24, 120, 720, 5040);

HexDigits: **set of** Char = ['0'..'9', 'A'..'Z', 'a'..'z'];

Origin: Point = (X: 0.0; Y: 0.0);

□\‘č%o»CE^‘è□”

ŽQ□Æ CE^•t,«‘è□”

□\‘č%o»CE^‘è□”,)éCE¾,í□\‘č,ìŠe—v‘f,ì‘l,ďŽw‘è,μ,Ü,·□B

Object Pascal ,Å,í□CŽŸ,ìCE^,ì‘è□”,)éCE¾,šTf|□[fg,³,ê,Ä,č,Ü,·□B

”z—ñ

fCEfR□[fh

□W□‡

f|fCf“f^

ftf@fCf<CE^‘è□”,Æ□Cfile CE^—v‘f,ďŠÜ,p array CE^‘è□”,â record CE^‘è□”,íŽg,l,Ü,¹,ñ□B

ŽQÆ

f|fCf“f^Ā^è”

Žè'±,«Ā^è”

'P|fĀ^è”

•¶Žš—ňĀ^è”

—á

ŽŸ,ì—á,í"z—ñĀ^'è" StatStr ,đ□i□—,μ,Û,·□B

type

```
Status = (Active, Passive, Waiting);  
StatusMap = array[Status] of string[7];
```

const

```
StatStr: StatusMap = ('Active', 'Passive', 'Waiting');
```

StatStr ,ì—v'f,đŽŸ,ÉŽ!,μ,Û,·□B

```
StatStr[Active] = 'Active'  
StatStr[Passive] = 'Passive'  
StatStr[Waiting] = 'Waiting' }
```

ŽŸ,ì—á,í□%Šú%»□! ,Ÿ,ì'½ŽŸĀ³"z—ñ Maze ,đ□éĀ¾,μ,Û,·□B

type

```
Cube = array[0..1, 0..1, 0..1] of Integer;
```

const

```
Maze: Cube = (((0, 1), (2, 3)), ((4, 5), (6, 7)));
```

"z—ñ Maze ,ì!,đŽŸ,ÉŽ!,μ,Û,·□B

```
Maze[0, 0, 0] = 0  
Maze[0, 0, 1] = 1  
Maze[0, 1, 0] = 2  
Maze[0, 1, 1] = 3  
Maze[1, 0, 0] = 4  
Maze[1, 0, 1] = 5  
Maze[1, 1, 0] = 6  
Maze[1, 1, 1] = 7
```


f|fCf“f^Ě^'è”

ŽQÆ —á Ě^•t,«'è”

f|fCf“f^Ě^'è”,í|fCf“f^'l,ďŽ-'O,É%Šú%»,·,é,Æ,«,ÉŽg,ϕ,Ü,·B

^è”Ê,ÉCf|fCf“f^Ě^'è”,ìéĚ¾,Å,í'è”fAfhfĚfXŽ®,ďŽg,Á,Āf|fCf“f^'l,ďŽw'è,μ,Ü,·B

PChar Ě^,ìĚ^•t,«'è”,í•ŕŽš—ň'è”,ďŽg,Á,Ā%Šú%»,Å,«,Ü,·B

ŽQÆ

PChar

f|fCf“f^E^

—á

ŽŸ,ì—á,í|fCf“f^Ĉ^'è”,đéĈ¼,μ,Ü,·B

type

TDirection = (Left, Right, Up, Down);

TStringPtr = ^String;

TNodePtr = ^TNode;

TNode = **record**

Next: TNodePtr;

Symbol: TStringPtr;

Value: TDirection;

end;

const

S1: **string**[4] = 'DOWN';

S2: **string**[2] = 'UP';

S3: **string**[5] = 'RIGHT';

S4: **string**[4] = 'LEFT';

N1: TNode = (Next: **nil**; Symbol: @S1; Value: Down);

N2: TNode = (Next: @N1; Symbol: @S2; Value: Up);

N3: TNode = (Next: @N2; Symbol: @S3; Value: Right);

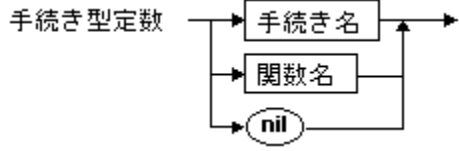
N4: TNode = (Next: @N3; Symbol: @S4; Value: Left);

DirectionTable: TNodePtr = @N4;

Žè'±,«Ē^'è□"

ŽQ□Æ —á Ē^•t,«'è□"

Žè'±,«Ē^'è□",íŽè'±,«Ē^,đŽ-'O,É□%Šú%»:,é,Æ,«,ÉŽg,č,Ü,·□B



Žè'±,«Ē^'è□",Å,í□C,»,ì'è□",ìĒ^,Æ,ì'ă"ü,ìĒÝŠ·□«,ì, ,éŽè'±,«,Ü,½,íŠÖ□",ìŽ'•ÉŽq,©□C'ì nil
,đŽw'è,μ,È,,Ä,í,È,è,Ü,¹,ň□B

ŽQÆ

žè'±,«Ĉ^

Ĉ^•t,«'è"

—á

ŽŸ,ì—á,íŽè'±,«,ðŒ^,ì'è",É'ã"ü,μ,Û,·□B

type

ErrorProc = **procedure**(ErrorCode: Integer);

procedure DefaultError(ErrorCode: Integer); **far**;

begin

WriteLn('Error ', ErrorCode, '.');

end;

const

ErrorHandler: ErrorProc = DefaultError;

ŽQÆ

fÆfR[]fh

Æ^•t,«'è[]”

—á

ŽŸ,ì—á,íƒĈfR[]fhĈ^'è" TPoint ,đĈéĈ¾,μ,Û,·ĈB

type

TPoint = **record**

X, Y: Real;

end;

TVector = **array**[0..1] **of** TPoint;

TMonth = (Jan, Feb, Mar, Apr, May, Jun, Jly, Aug, Sep, Oct, Nov, Dec);

TDate = **record**

D: 1..31;

M: TMonth;

Y: 1900..1999;

end;

const

Origin: TPoint = (X: 0.0; Y: 0.0);

Line: TVector = ((X: -3.1; Y: 1.5), (X: 5.8; Y: 3.0));

SomeDay: TDate = (D: 2; M: Dec; Y: 1960);

WŁŒ^'è"

ŹQŒ —á WŁŒ^'è"

WŁŒ^'è", íWŁŒ, ì—v'f, đŹ-'O, ÉŒŠúŒ», ·, é, Œ, «, ÉŹg, †, Ü, ·B

WŁŒ^'è", ìéŒ¾, Ā, íC'è"Ź®, đŹg, Á, ĀWŁŒ, ì'l, đŹw'è, μ, Ü, ·B

ŽQÆ

W‡

W‡Ĉ

Ĉ•t,«'è”

—á

ŽŸ,ì—á,í Digits ,Æ Letters ,ìW□#CE^`è□",ð□éCE¾,μ,Ü,·□B

type

Digits = **set of** 0..9;

Letters = **set of** 'A'..'Z';

const

EvenDigits: Digits = [0, 2, 4, 6, 8];

Vowels: Letters = ['A', 'E', 'I', 'O', 'U', 'Y'];

HexDigits: **set of** '0'..'z' = ['0'..'9', 'A'..'F', 'a'..'f'];

'P□fCE^'è□"

ŽQ□Æ —á CE^•t,«'è□"

'P□fCE^'è□",ì□éCE¾,Á,í□C'è□",ì'l,ǒŽw'è,μ,Û,·□B

'è□"fAfhfCEfXŽ®,ǒŽg,±,Æ□CCE^•t,«'è□",ì'l,ǒŽw'è,Á,«,Û,·□B

CE^•t,«'è□",íŽÀ□Ú,É,í'è□"l,ǒŽ□,Á•ï□",È,ì,Á□C'¼,ì'è□",ì□éCE¾,ì't,ÁŽg,±,±,Æ,í,Á,«,Û,¹,ñ□B

ŽQÆ

Ĉ

Ĉ•t,«'è

-á

ŽŸ,ì—á,í'P□fCE^'è□",đ□éCE¾,μ,Ü,·□B

const

Maximum: Integer = 9999;

Factor: Real = -0.1;

Breakchar: Char = #3;

• ¶Žš—ňĀ^'è"

ŽQAE —á Ā^•t,«'è"

• ¶Žš—ňĀ^, Ā^•t, «'è", ĩéĀ¾, íPff, É• ¶Žš—ň'è", đŽw'è, μ, Û, ·B

'Z, ç• ¶Žš—ň, Ā^•t, «'è", đéĀ¾, ·, é, É, ĩCéĀ¾, É', ³Žw'èŽq, đŽw'è, μ, Û, ·B

ŽQÆ

•řžš—ňĀ^

Ā^•t,«'è”

—á

ŽŸ,ì—á,í'•¶Žš—ňĀ^'è",đéĀ¾,μ,Û,·B

const

Heading: **string** = 'Section';

NewLine: **string** = #13#10;

TrueStr: **string** = 'Yes';

FalseStr: **string** = 'No';

ŽŸ,ì—á,í'Z,¶Žš—ňĀ^'è",đéĀ¾,μ,Û,·B

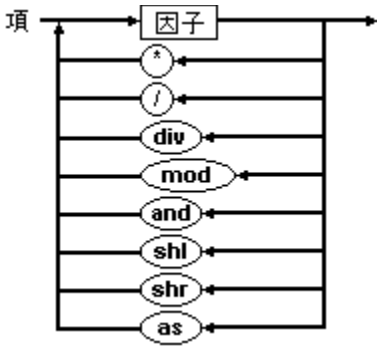
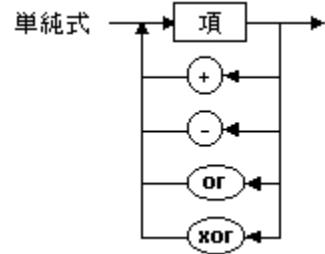
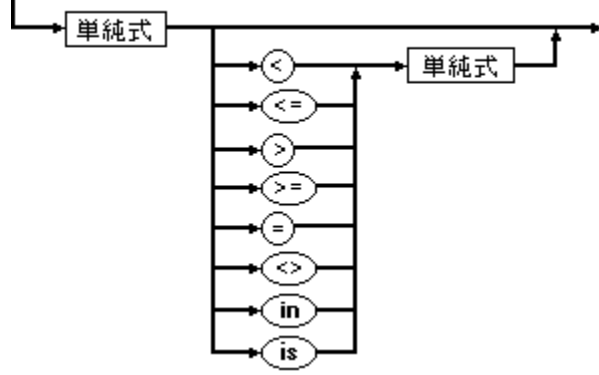
const

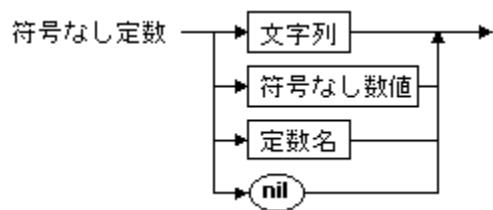
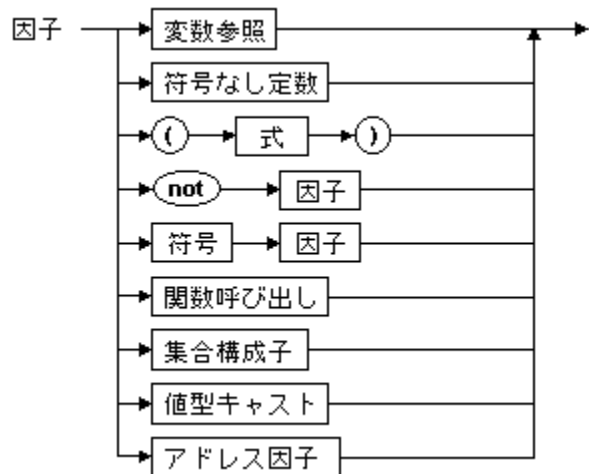
ShortStr: **string**[5] = 'Short';

Ž®

ŽQÆ

Ž®,í%%ŽŽžq,Æfłyf%of“fh,ì'g,Ý‡,í,¹,Å, ,èC•]%%ž,É,æ,Á,ÄÆ<%Ê,ì'l,ª 1 ,Å“¼,ç,ê,Û,·B
式





f|fyf%of“fh,đžŸ,ÉŽ!,μ,Û,·□B

‘è□”

ŠÖ□”œÄ,Ñ□o,μ

Žè‘±,«•¶

□W□#□\□→Žq

•ĩ□”

•”•až® ,đffbfR,Â^í,p,Æ□C—D□æ□#^Ê,đ•ĩ□X,Â,«,Û,·□B

ŽQÆ

@ %%%ŽŽŽq

fufbfN

fRf“fg

‘è”é¾

ŠÖ”ÆÄ,Ńo,u

%%ŽŽŽq,ì—Dæ‡Ê

W‡Æ^

•¶

‘lÆ^fLffXfg

•İ”ŽQÆ

ŠÖ"CEÄ,Ño,μ

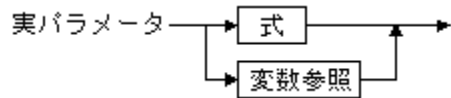
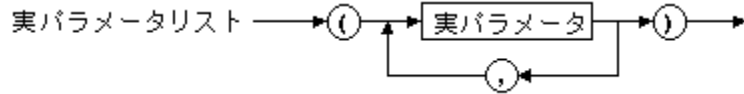
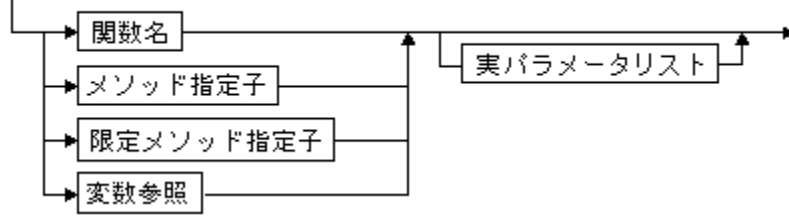
ŽQÆ

ŠÖ"CEÄ,Ño,μ,ÍŽÿ,ì,ç,,ê,©,ÁŽw'è,³,ê,½ŠÖ",ð«N"®,μ,Ü,·B

- ŠÖ"Ž·ÉŽq
- ffbfhŽw'èŽq
- CEÄ'èfbfbfhŽw'èŽq
- Žè±,«CE^·i"ŽQÆ

'î%ž,·,éŠÖ"éCE¾,É%¼4fpf%of[f^,lfŠfXfg,ª, ,éê#CŠÖ"CEÄ,Ño,μ,É,ÍŽÀfpf %of[f^,lfŠfXfg,ª"ü,Á,Ä,ç,É,,Ä,Í,È,è,Ü,¹,ñBfpf%of[f^,ì«K'¥,É],Á,ÄCŠefpf%of[f^,ªî %ož,·,é%¼4fpf%of[f^,ì,©,í,è,ÉŽg,í,è,Ü,·B

関数呼び出し



Object Pascal ,Á,ÍŠÖ"CEÄ,Ño,μ,ìCE<%oÉ,ð"jŠü,·,é,±,Æ,ª%oÄ"\ ,ÁCŽÄŽì"Í,ÉŠÖ"CEÄ,Ño,μ,ðŽè'±,«·¶,Æ,μ,Ä^μ,±,Æ,ª,Á,«,Ü,·B

ŽQÆ

f\fbfh,ì<N“®

ÆÀ'èf\fbfh,ì<N“®

fp%of[f^

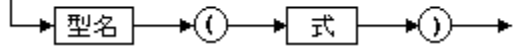
Žè'±,«Æ^

'ICE^fLfffXfg

ŽQAE —á

'ICE^fLfffXfg,É,æ,èCŽ®,ìCE^,ª•Ê,ìCE^,É•ì,í,è,Ü,·B

値型キャスト



Ž®,ìCE^,ÆŽw'è,μ,½CE^,í—¼•û,Æ,àŽŸ,ì,ç,ì,ç,©,ìCE^,Å,È,,Ä,Í,È,è,Ü,¹,ñB

- ¶~CE^
- fjCf"j^CE^

¶~CE^,É,Å,ç

,Ä,ÍCCÉ<%oÊ,ì'l,ÍŽ®,ì•İŠ,É,æ,Á,Ä"¾4,ç,è,Ü,·BŽw'è,μ,½CE^,ìTfCfY,ªŽ®,ìTfCfY,Æ^Ü,È,Á,Ä,ç

,éê¶CCÉ³,ì'l,ìØ,èŽÌ,Ä,Ü,½,ÍŠg'£,ª•K—v,É,È,é,±,Æ,ª, ,è,Ü,·B'l,ªŠg'£

,³,è,éê¶C'l,ì•,¶t,ìí,É•ÚŽ,³,è,Ü,·B

'ICE^fLfffXfg,í'l,Éì—p,μ,Ü,·BCEã,ÉCEÀ'èŽq,ð•t,¯,é,±,Æ,í,Å,«,Ü,¹,ñB

—á

ŽŸ,ì—á,í'ICE^fLfffXfg,ì•¶,Á,·□B

Integer ('A')

Char (48)

Boolean (0)

Color (2)

Longint (@Buffer)

ŽQÆ

•i"CE^LfffXfg

Ž® ,Ä, ÌŽè'±, «CE^, ÌŽg, ç • û

ŽQ□Æ —á

Ž®, Ì • ¶, ÄŽè'±, « • Ì□", ðŽg, x, Æ□C • Ì□", ÉŠi"[, ³, ê, ½Žè'±
, «, âŠÖ□", ³ÆÄ, Ñ□o, ³, ê, Û, ·□B, ½, ¾, µ□C'ã"ü • ¶, Ì□¶ • Ó, ÉŽè'±, « • Ì□", ³, , é□é□#□C%oE • Ó, ÉŽè'±
, «'l, ³ • K—v, É, È, é, ±, Æ, ðfRf"fpfCf%o, ³" FŽ", µ, Û, ·□BŽc"O, È, ³, ç□C□ • ¶, ©, ç, Í • K—v, É□^—
□, ðfRf"fpfCf%o, ³" »'f, Å, «, È, ç, ±, Æ, ³, , è, Û, ·□B

Žè'±, «CE^, Æ @ %o%oŽŽŽq

Žè'±, «Ž" • ÊŽq, âŠÖ□"Ž" • ÊŽq, ÉfAfhfÆfX%o%oŽŽŽq (@) , ð • t, , é, Æ□C^ø□", ³f|
fCf" f^, É • ÌŠ, ³, ê□CfRf"fpfCf%o, ³Žè'±, «, ðÆÄ, Ñ□o, ¹, È, , È, è, Û, ·□B

@ %o%oŽŽŽq, ÍCE^, È, µf|fCf" f^'l, ðŽè'±, « • Ì□", É'ã"ü, , é, Æ, «, È, æ, Žg, ç, Û, ·□B

Žè'±, « • Ì□", ÉŠi"[, ³, ê, Ä, ç, éfAfhfÆfX, Å, Í, È, □CŽè'±

, « • Ì□", Ìf□f, fŠfAfhfÆfX, ðŽæ"¾, , é, É, Í□C"ñ□dfAfhfÆfX%o%oŽŽŽq (@@) , ðŽg, ç, Û, ·□B

—á

type

IntFunc = **function**: Integer;

var

F: IntFunc;

N: Integer;

function ReadInt: Integer;

var

I: Integer;

begin

Read(I);

ReadInt := I;

end;

begin

F := ReadInt; { Žè'±,«'l,đ'ã"ü,μ,Û,· }

N := ReadInt; { ŠÖ□",ìĀ<%oÊ,đ'ã"ü,μ,Û,· }

end.

ŽQÆ

@ %%%ŽŽŽq

Žè'±,«Æ^

“ÁŽêfVf”f{f<

ŽQ□Æ

“ÁŽêfVf”f{f<,í“Á`è,ì`Ó-; ,đŽ□,Â ASCII •¶ŽšfZfbfg,ì•¶Žš,Â, □B,μ,½,ª,Á,Ä□Cfvf□fOf%of€
 ,Ä“ÁŽêfVf”f{f<,đŽg,æ,Æ,«,í□CObject Pascal Æ¾Æê,Ä,ìSefVf”f{f<,ì`è<` ,É•K, □,ç,Ü, □B
 ŽŸ,ìŠe•¶Žš,í“ÁŽêfVf”f{f<,Ä, □B

+ - * / = < > [] . , () : ;
 ^ @ { } \$ #

ŽŸ,ì•¶Žš,ì'g,à“ÁŽêfVf”f{f<,Ä, □B

<= >= := .. (* *) (. .) <>

“ÁŽêfVf”f{f<,É,í%%ŽŽŽq,à, ,è,Ü, □B

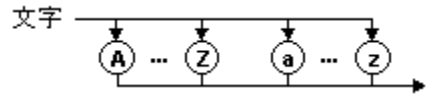
“ÁŽêfVf”f{f<,Ä,í□C1 •¶Žš,Æ•¶Žš,ì'g,Æ,Ä“,«,ª“` ,¶ê□¶ª,ª, ,è,Ü, □B

•¶Žš ‘Š“-.,é•¶Žš,ì'g

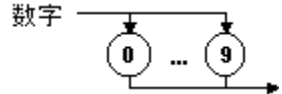
[(.
]	.)
{	(*
}	*)

Object Pascal ,Ä,í□CASCII •¶ŽšfZfbfg,ìŽŸ,ìfTfufZfbfg,ªŽg,í,è,Ü, □B

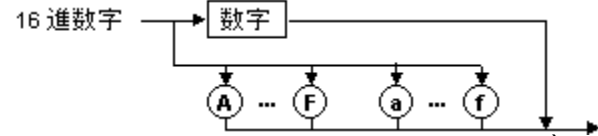
- %opŽš□BA □` Z□Ca □` z



- □`Žš□B0 □` 9



- 16 □i□`Žš□B0 □` 9□CA □` F□Ca □` f



- <ó“□BfXfy□lfX (ASCII 32) ,Æ□C□s,ì□l,í,è,â•œ<A•¶Žš (ASCII 13) ,É,Ç,ì,.,x,Ä,ì ASCII □šÆä•¶Žš (ASCII 0 □` 31)

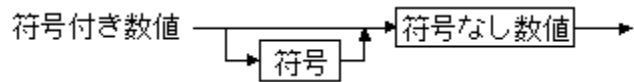
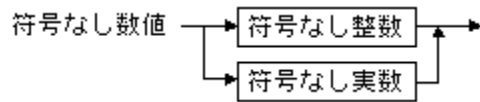
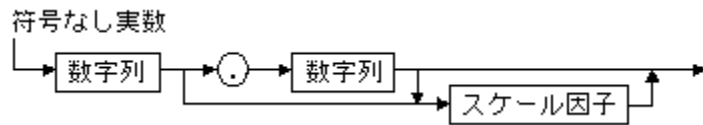
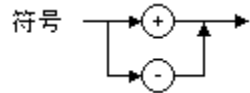
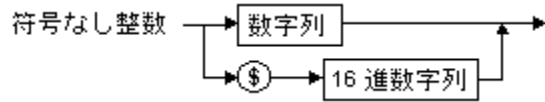
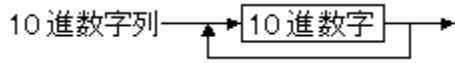
ŽQÆ

fRf“fg

%o%ožžžq

□”

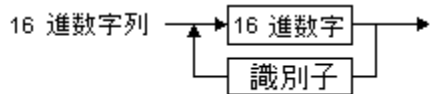
□@□”CE^,âŽÀ□”CE^,ì’è□”,Å, ,é□”,δ•\, ,É,Í□C’É□í,ì 10 □i•\<L,đŽg,ç,Û,•□B



□~□””_Û,½,íŽw□”•”,ì, ,é□”,íŽÀ□”CE^`è□”,δ•\,μ,Û,•□B,»,ì¼,ì 10 □i□”,í□@□”CE^`è□”,δ•\,μ□C-2,147,483,648 ,©,ç 2,147,483,647 ,ì”í’í,É,È,,Ä,Í,È,è,Û,¹,ñ□B

16 □i□”

16 □i□@`è□”,É,Ívf□EftfBfbfNfX,Æ,μ,Äfhf<<L□† (\$),δ•t, ,Û,•□B



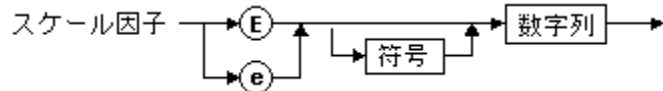
16 □i□”,δ□@□”CE^`è□”,Æ,μ,ÄŽg,μ□é□†□C\$00000000 ,©,ç \$FFFFFFFF ,ì”í’í,É,È,-,Ä,Í,È,è,Û,¹,ñ□BCE<%É,ì’ì,ì•,,□†,í 16 □i•\<L,ÉŠÛ,Û,è,Ä,ç,Û,•□B

Žw□”•\<L

Žw□”•\<L (E,Û,½,í e ,ÆCEã±,ìŽw□”•”) ,íŽÀ□”CE^,Å□u□`Š|, ,é 10 ,ì□c□æ□v,Æ %øđŽB,μ,Û,•□BŽŸ,É—á,đŽì,μ,Û,•□B

7E-2 ,í 7 x 0.01 ,δ^Ó-j,μ,Û,•□B

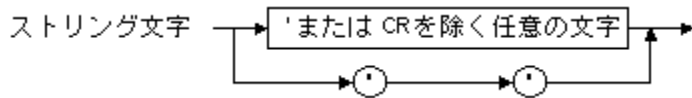
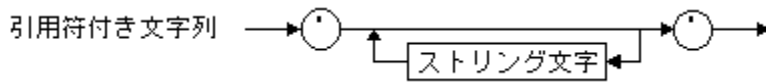
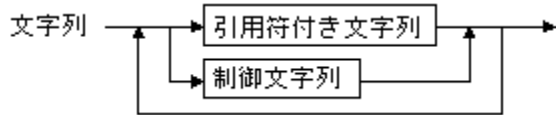
12.25e+6 ,Æ 12.25e6 ,í—¼•û,Æ,à 12.25 x 1000000 ,δ^Ó-j,μ,Û,•□B



• ¶Žš—ñ

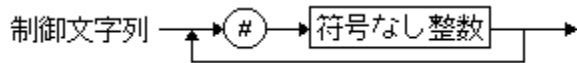
—á

- ¶Žš—ñ, íŠg'£ ASCII • ¶ŽšfZfbfg, ì• ¶Žš, ì—ñ, Å, · (• ¶Žš, ¢
%½, àŠÜ, Ü, é, È, ¢ëë, à, , è, Ü, ·) BfvfOf%œ, Å, íC• ¶Žš—ñ, íP^ø—p•, Å^í, ñ, Å 1
□s, Å□', «, Ü, ·□B
- 'P^ø—p•, ìŠÔ, É%½, à, È, ¢• ¶Žš—ñ, ífj<• ¶Žš—ñ, É, È, è, Ü, ·□B
- ¶Žš—ñ't, ì~A'±, μ, ½ 2 , Å, ì'P^ø—p•, í 1 , Å, ì'P^ø—p•, ð•\, μ, Ü, ·□B
- ¶Žš—ñ, ì', ¢, ì'@□, ì'P^ø—p•, ìŠÔ, É, , é• ¶Žš, ìŽÅ□Ü, ì□", ð•\, μ, Ü, ·□B • ¶Žš—ñ, ì□Å'á', í 255
- ¶Žš, Å, ·□B



□§Eä• ¶Žš

- W□€ Object Pascal, ìŠg'£, Æ, μ, Å□C• ¶Žš—ñ"à, Å□§Eä• ¶Žš, ¢Žg, ì, Ü, ·□B
- # • ¶Žš, ìEä, É 0 , ©, ¢ 255 , Ü, Å, ì•, □t, È, μ□@'è□", ð'±, , é, Æ□C'í%ž, , é ASCII 'ì, ì• ¶Žš, ¢•\ , ¢, è, Ü, ·□B



- # • ¶Žš, Æ□@'è□", Æ, ìŠÔ, ÉfZfpfE□[f^, ð"ü, é, Å, í, È, è, Ü, , ñ□B
- ¶Žš—ñ, É•;□", ì□§Eä• ¶Žš, ð"ü, é, éëë□□□□§Eä• ¶ŽšŠÔ, ÉfZfpfE□[f^, ð"ü, é, Å, í, È, è, Ü, , ñ□B

• ¶Žš—ñ, ìEÝŠ•□«

- ' , ¢, ¢ 0 , ì• ¶Žš—ñ (fj<• ¶Žš—ñ) , ì• ¶Žš—ñE^, Æ, ¢/4, ^EÝŠ•□« , ¢ , é
- ' , ¢, ¢ 1 , ì• ¶Žš—ñ, í, Ç, ì Char E^, â string E^, Æ, àEÝŠ•□« , ¢ , é
- ' , ¢, ¢ N (N, í 2 ^É□ã) , ì• ¶Žš—ñ, ìŽÝ, ì, à, ì, ÆEÝŠ•□« , ¢ , é
- "C^O, ì• ¶Žš—ñE^
- N • ¶Žš, ìfpfbfN"z—ñ
- { \$X+ } fRf"fpfCf%žw—β, É, æ, Å, ÅŠg'£□\ • ¶Žš, ¢—LCEø, É, È, Å, Å, ¢, éëë□, ì PChar E^

—á

'BORLAND'	{ BORLAND }
'You''ll see'	{ You'll see }
''''	{ ' }
''	{ fkf•¶Žš—ñ }
' '	{ fXfy□[fX }

fRf"fg

ŽQÆ —á

fRf"fg,lfufbfN,ì—p"r,í,©,é,æ,x,É,μ,½,ç,Æ,«,íCà-¾,ì,½,β,ìfRf"fg,ð'tfjfbfR ({ })
,Ü,½,íAfxf^fšfxN,ÆfjfbfR (** *) ,Å^í,ñ,Å' } "ü,Å,«,Ü,·B

fRf"fg,ìæ∅,è<Lt,É^í,Ü,ê,½fefLfxfg,íRf"fpfCf%o,Å,í-³Ž<,³,ê,Ü,·B

fRf"fg,ìl,í,è,ìæ∅,è<Lt (} ,Ü,½,í *) ,ðRf"fg,ìfefLfxfg"à,É"ü,ê,é,ÆCfRf"fpfCf%o
,ÅfRf"fg,ìl,í,è,Æ,Ý,É,³,ê,é,ì,ÅC"ü,ê,Å,í,É,è,Ü,¹,ñB

Žn,Ü,è,ì { ,Ü,½,í (* ,ì¼Æã,Éfhf<<Lt (\$) ,ì ,éfRf"fg,íRf"fpfCf%oŽw—β,Å,·B\$
,ìÆã,ÉfRf"fpfCf%oŽw—β,ìjlf,fffbfN,ð'±, ,Ü,·B

fRf"fgfefLfxfg,ìO,Éfxf%ofbfVf...,ð 2 ,Å (//) ,ð'u,±,Æ,Å'P^êsfRf"fg,ðì-.,é,±
,Æ,à,Å,«,Ü,·BfRf"fpfCf%o,íC,»,±,©,çs--Ü,Å,ð-³Ž<,μ,Ü,·B

ŽQÆ
fufbfN

—á

```
{ "r't,É%oE'tfjfbfR,ì,È,ç"C^Ó,ìfefLfXfg }  
(* "r't,ÉfAfXf^fŠfXfN,Æ%oEfjfbfR,ì'g,Ý□#,í,1,a,È,ç"C^Ó,ìfefLfXfg *)  
// 2 ,Â,ìfXf%o_fbfVf...,©,ç□s--,Ü,Å,ì"C^Ó,ìfefLfXfg
```

fg [fNf“

ŽQAE

fg [fNf“, í Object Pascal fvf [fOf %of€, ìfeflfXfg, Å^Ó-; ì, , éÅÅ- , ì'P^Ê, Å, ·Bfg [fNf“, ìŽí—
p, ðŽŸ, ÊŽì, μ, Û, ·B

- ¶Žš—ñ
- Ž·ÊŽq
- f%ofxf<
- ”
- \—ñÆê
- “ÅŽêfvf“f{f<

fvf [fOf %of€, Åfg [fNf“, ð'±, -, Ä 2 , ÅŽg, xê#C, », ìfg [fNf“, ì, Ç, ÿ, ç, ©, ð—\—ñÆê□CŽ·ÊŽq□Cf
%ofxf<□□”, ì, Æ, «, ìfg [fNf“ ŠÔ, ÉfZfpfCE [f^, ð“ü, ê, é·K—v, ð, , è, Û, ·B·¶Žš—
ñ'è□^ÊŠO, Å, ì□CfZfpfCE [f^, ðfg [fNf“, ì^ê·”, Æ, μ, ÅŽg, x, ±, Æ, ì, Å, «, Û, ¹, ñ□B

ŽQÆ

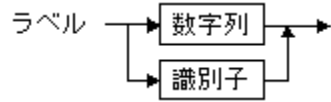
fRf“fg

•W€Žw—ß

f%ofxf<

ŽQÆ

f%ofxf<, í goto •¶, ì"ò, Ñæ, ðf} [fN, , é 0 , ©, ç 9999 , ì"í^í, ì"Žš, ì—ñ, Å, · (æ"ª, ìf[f, É, í^Ó-
j,ª, , è, Ü,¹, ñ) B



•W€ Pascal , ìŠg'£, Æ, µ, Ä CObject Pascal , Å, àŽ^-ÊŽq, ðf%ofxf<, Æ, µ, ÄŽg, ì, Ü, · B

ŽQÆ

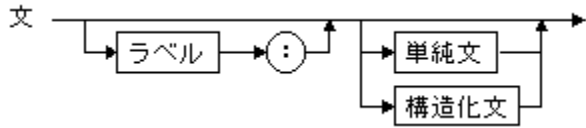
fufbfN

label (—\-ñĈĚ)

•¶

ŽQAE

•¶,ÍfvfOfOf%of€„ÄŽÀs%oA“\,ÈfAf<fSfŠfYf€“l^—□,ð•\,μ,Ü,·□B



•¶,ÌŠî-{"l,ÈŽí—p,Æ,μ,ÄŽŸ,ì 2 ,Â,a ,è,Ü,·□B

- 'P□f•¶
- □\‘¢%o»•¶

'P□f•¶

'P□f•¶,Â,Íl,ì"ü□CŽè'±,«„âŠÖ□",ì<N“®□CfR□[fh,ì•Ê,ì•¶,Ö,ìŽÀ□sfvfOfOf%of€„l“]’—,a,Â,«„Ü,·□B



Object Pascal ,Äftfj□[fg,³,è,Ä,¢,é'P□f•¶,ðŽŸ,ÉŽl,μ,Ü,·□B

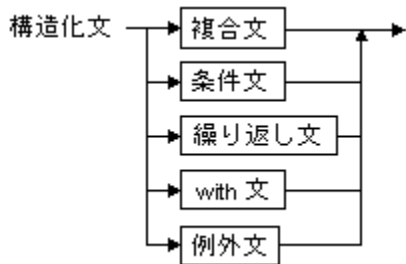
'ã"ü (: =) •¶

goto •¶

Žè'±,«•¶

□\‘¢%o»•¶

□\‘¢%o»•¶,Í□‡,ÉŽÀ□s,³,è,é•¶□C□ðCE□•t,«„ÄŽÀ□s,³,è,é•¶□C□EJ,è•Ö,μŽÀ□s,³,è,é•¶,Â□□→,³,è,Ü,·□B



Object Pascal ,Ä,Í□CŽŸ,ì□\‘¢%o»•¶,Äftfj□[fg,³,è,Ä,¢,Ü,·□B

•j□‡•¶

□ðCE□•¶

f<□[fv

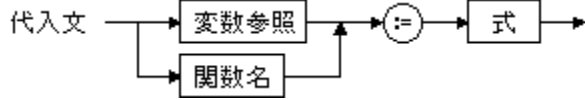
with •¶

ŽQÆ
fufbfN

‘ă“ü•¶

ŽQ□Æ —á

‘ă“ü•¶,í‘ă“ü%%ŽŽŽq,ì%%E‘α,É, ,éŽ®,ì‘l,đ¶¶‘α,É, ,éŽ˘•ÉŽq,É—^,|,Û,·□B‘ă“ü%%
%%ŽŽŽq,Æ,μ,Ä□C‘ă“ü•¶,ì—¼•Ö,ìŠÖ,Ä := ,đŽg,ç,Û,·□B



‘ă“ü•¶,đŽg,α,ÆŽŸ,ì□—□,ª,Ä,«,Û,·□B

- ‘î□”,ìCE»□Ý,ì‘l,đŽ®,ÄŽw’è,μ,½□V,μ,ç‘l,Ä’u,«Š,|,é
- ŠÖ□”,ª•Ö,‘l,đŽ□,ÄŽ®,đŽw’è,·,é

f|fufWfFfNfgCE^,ì‘ă“ü•¶

f|fufWfFfNfgCE^,ìfCf“fXf^f“fX,É,Í□C,»,ì%%°^ÊCE^,Ä, ,é,î,ç,ìCE^,ìfCf“fXf^f“fX,Ä,à‘ă“ü,Ä,«,Û,·□
B,±,ì,æ,α,É‘ă“ü,ì□C□ă^ÊCE^,ìy,Ô×óŠÖ,Ö,ì%%°^ÊCE^,ìŽĚ%%e,É,È,Ä,Ä,ç,Û,·□B

f□f,: f|fufWfFfNfgCE^,ìfCf“fXf^f“fX,đ‘ă“ü,μ,Ä,à□C,»,ìfCf“fXf^f“fX,ì□%%Šú%%»,³,é,Û,¹,ñ□B

ŽQÆ

'ă"ü,ìĈÝŠ·□«

'ă"ü%‰‰žžžq

f|fufWfFfNfgĈ^

Ĉ^,ìĈÝŠ·□«

—á

X := Y + Z;

Done := (I >= 1) **and** (I < 100);

Hue1 := [Blue, Succ(C)];

I := Sqr(J) - I * K;

goto •¶

ŽQÆ

goto •¶, íŽw'è, ìf%ofxf<, Åf}[]fN,³,ê,½•¶, Öfvf[]fOf%of€, ìŽÀ[]s, ð"']'—, µ, Ü, ·[]B

goto 文 → **goto** → ラベル →

goto •¶, ðŽg,æ,Æ,«, í[]CŽÿ, ì<K'¥, É[], í, È,, Ä, í, È, è, Ü,¹, ñ[]B

- **goto •¶**, ÅŽQÆ, ·, éf%ofxf<, í **goto •¶**, Æ“~¶fuf[]fbfN, É, È,, Ä, í, È, ç, È, ç[]BŽè'±, «, âŠÖ[]”, ÉfWfff“fv, µ, ½, è[]CŽè'±, «, âŠÖ[]”, ©, ç”ð, Ñ[]o, ·, ±, Æ, í, Å, «, È, ç
- []'ç%o»•¶, ÉŠO'æ, ©, çfWfff“fv, ·, é, Æ[]CfRf“fpfCf%o, æGf%o[][, ð[]o, µ, Ä, ç, È,, Ä, à[]C—\ Šú, µ, È, çÆ<%oÉ, È, é, ±, Æ, æ, , é

ŠÈÆ%o, Èfvf[]fOf%of~f“fO, ì, ½, ß, É, í[]C**goto •¶**, í, Å, «, é, ¾, ~Žg, í, È, ç, æ, æ, É, µ, Ä,, ¾, ¾, ç[]B

ŽQÆ

goto (-\-ñĈê)

fXfRfv

Žè'±,«•¶

ŽQ□Æ

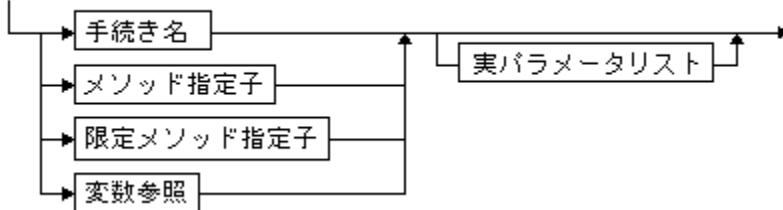
Žè'±,«•¶,íŽŸ,ì,ç,,é,©,ÅŽw'è,³,ê,½Žè'±,«,đ<N“®,μ,Ü,·□B

- Žè'±,«Ž̄•ÊŽq
- f□f□bfhŽw'èŽq
- ĄÄ'èf□f□bfhŽw'èŽq
- Žè'±,«ĄĒ^•ī□ŽQ□Æ

'î%ž,·,éŽè'±,«□éĄ³⁄₄,É%¼fpf%□□[f^,ìfŠfXfg,ª, ,é□ê□#□CŽè'±,«•¶,É,íŽÀfpf
%□□□[f^,ìfŠfXfg,ª“ü,Á,Ä,ç,È,,Ä,í,É,è,Ü,¹,ñ□B

ŽÀfpf%□□□[f^,íĄÄ,Ñ□o,μ,ì^ê•”,Æ,μ,Ä%¼fpf%□□□[f^,É“n,³,ê,Ü,·□B

手続き文



ŽQÆ

ŠÖ"ÆÄ,Ño,μ

f\fbfh,ì<N"®

fp%of[f^

Žè'±,«Æ^

procedure (—\-ñÆè)

ÆÀ'èf\fbfh,ì<N"®

•ï"ŽQÆ

—á

ŽŸ,ì—á,í•i□±•¶,ìfR□[fh,Á,·□B

begin

 Z := X;

 X := Y;

 Y := Z;

end;

ŽQÆ

begin..end fufbfN

fufbfN

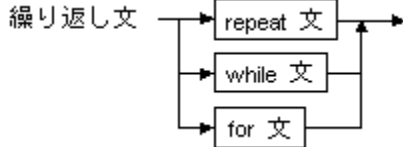
f<[]fv

ŽQ[]Æ Ć¾¼Ćĕ'è<`

f<[]fv, í[]C, , é[]ðĆ[]²-ž, ½, ³, ě, é, Ü, Å, Ü, ½, í-ž, ½, ³, ě, Ä, ģ, , éŠÓ[]C•¶, ðĆJ, è•Ô, μŽÀ[]s, , , é, Æ, «, ÉŽg, ģ, Ü, ·[]B

f<[]fv, É, íŽŸ, ì 3 Ží—p, ², , è, Ü, ·[]B

- for..to/downto..do
- while...do
- repeat..until



, Ć, íf<[]fv, ðŽg, ², ©, íŽŸ, ì 2 , Å, ÌŠì[]Ć, É, æ, Å, ÄĆ^, Ü, è, Ü, ·[]B

- ŽÀ[]s, μ, ½, ģ^—[]
- f<[]fv, É“ü, é‘O, É[]^—[], É, Å, ģ, Ä, Ć, ì“ö“x—[]%ð, μ, Ä, ģ, é, ©

f<[]fv Žg, ², Æ, «

for f<[]fv, ìĆJ, è•Ô, μ%ñ[]”, ²[]³Šm, É, í, ©, Å, Ä, ģ, é

while...do f<[]fv, É“ü, é‘O, É[]ðĆ[], ðfefXfg, μ, ½, ģ

repeat...until []ðĆ[], ðfefXfg, , , é‘O, Éf<[]fv, ð[], È, , Æ, à 1 %ñŽÀ[]s, μ, ½, ģ

•W[]ĆŽè±, «, ì Break , Æ Continue , ðŽg, ², Æ[]Ćf<[]fv, ì—, è, ð[]\$Ćä, Å, «, Ü, ·[]B

ŽQÆ

ðCE•¶

~—Ž®

条件文

条件文

条件文, í ê è, ì Ž ®, ð] % o i, , é, ©, Ç, ƣ, ©, ð \$ Ç È ä, , é, Æ, «, É Ž g, ç, Û, · □ B □ ð Ç È □ • ¶, Å, í C “ Á ’ è □ ð Ç È □, º - ž, ½, ¾, ê, Ä, ç, é, ©, Ç, ƣ, ©, ç Ç È ä ±, ì • ¶, ì f u f □ f b f N, ð Ž Ä □ s, μ, Û, · □ B

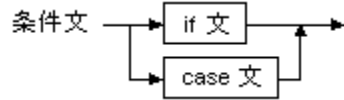
条件文, É, í Ž Ÿ, ì 2 Ž í - p, º, , è, Û, · □ B

• if • ¶

• case • ¶

• ¶, ì ’ ð Ž ^, º 2, Ä, ¾, -, ì ê □ ¶, í **if** • ¶, ð Ž g, ç, Û, · □ B

• ¶, ì ’ ð Ž ^, º ½, , , é ê □ ¶, í **case** • ¶, ð Ž g, ç, Û, · □ B



ŽQÆ

~—Ž®

f<fv

~_—□Ž®

ŽQ□Æ

~_—□Ž®, í **True**, Ü, ½, í **False**, É•]‰ž, ³, ê, Ü, ·□B, ·, x, Ä, ìf<□[fv, Æ□ðCE□•¶, a~_—□Ž®, É□¶
‰E, ³, ê, Ü, ·□B

~_—□Ž®, Å, í 2, Å, ìfìfyf‰f“fh, ð”äŠr, μ, Ü, ·□B, »; ìCE<‰E, í~_—□CE^, ì•ì□”, É‘ä“ü, ³, ê, È, -
, Å, í, È, è, Ü, ¹, ñ□B

~_—□‰‰ŽŽŽq, ì **and**, Æ **or**, í~_—□‘ì, ì‘g, É□ì—p, μ, Ü, ·□B Object Pascal, Å, í□C~_—□‰
‰ŽŽŽq, É, Å, ç, Ä, ìfR□[fh□¶□¬, ìf, fff<, Æ, μ, ÄŽŸ, ì 2 Ží—p, a¶Tfì□[fg, ³, ê, Ä, ç, Ü, ·□B

- Š®‘S•]‰ž
- fVf#□[fgfT□[fLfbfg•]‰ž
-]‰žf, fff<, í \$B fRf“fpfCf‰Žw—ß, É, æ, Å, Ä□\$CEä, μ, Ü, ·□B ffftfHf<fg, ì **{\$B-}** □ó‘Ô, Å, ìfRf“fpfCf
‰, ÅfVf#□[fgfT□[fLfbfg•]‰ž, ìfR□[fh, a□¶□¬, ³, ê□C**{\$B+}** □ó‘Ô, Å, íŠ®‘S•]‰
ž, ìfR□[fh, a□¶□¬, ³, ê, Ü, ·□B

ŽQÆ

~ —□%o%oŽŽŽq

~ —□E^

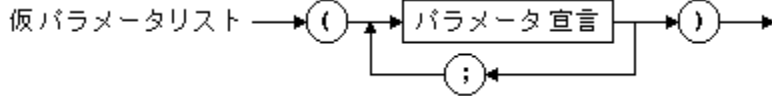
ŠÖEW%o%oŽŽŽq

関数宣言

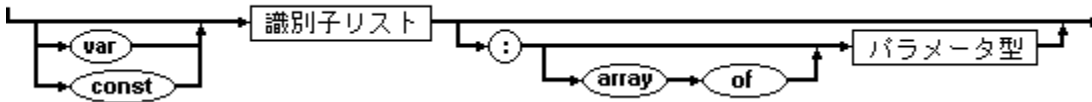
関数宣言

関数宣言の構文: `関数名(パラメータ宣言) { 関数体 }`

関数宣言の構文: `関数名(パラメータ宣言) { 関数体 }`



パラメータ宣言



関数宣言の構文: `関数名(パラメータ宣言) { 関数体 }`

変数宣言

var 変数宣言: `var 変数名 変数型`

定数宣言

const 定数宣言: `const 変数名 変数型`

変数宣言

var 変数宣言: `var 変数名 変数型`

変数宣言

var 変数宣言: `var 変数名 変数型`

変数宣言

`変数宣言`

ŽQÆ

ŠÖ"CEÄ,Ño,μ

ŠÖ"

Žè'±,«

'lfpf%of□□lf^

ŽQ□Æ

%¼'lfpf%of□□lf^,í,»è,éCE¾,³,è,Ä,ç,éŽè'±,«,âŠÖ□",Éf□□[ffj<,Éfpf
%of□□lf^,Ä,·□B,½,¾,μ□CCEÄ,Ñ□o,μ'α,ìŽè'±,«,âŠÖ□",ì'í%ž,·,éŽÀfpf%of□□lf^,©,ç□
%Šú'l,ðŽæ"¾,μ,Ü,·□B

%¼'lfpf%of□□lf^,Ö,ì•ï□X,íŽÀfpf%of□□lf^,ì'l,É,í%e<¿,ð<y,Ú,μ,Ü,¹,ñ□B

Žè'±,«•¶,âŠÖ□"CEÄ,Ñ□o,μ,Ä,í□C'lfpf%of□□lf^,É'í%ž,·,éŽÀfpf%of□□lf^,íŽ®,Ä,È,-
,Ä,í,È,è,Ü,¹,ñ□B,±,ìŽÀfpf%of□□lf^,ì'l,íftf@fCf<CE^,â□Cftf@fCf<CE^,ðŠÜ,þ□\`ç%»CE^,Ä, ,Á,Ä,í
,È,è,Ü,¹,ñ□B

ŽÀfpf%of□□lf^,É,í%¼'lfpf%of□□lf^,ìCE^,Æ,ì'ã"ü,ìCEÝŠ·□«,ª,È,,Ä,í,È,è,Ü,¹,ñ□B

ŽQÆ

ŠÖ"CEÄ,Ño,μ

fpf%of[f^

•i"fpf%of[f^

'è"fpf%of□□lf^

ŽQ□Æ

%o¼'è"fpf%of□□lf^,í□□□fj<,È"Ç,Ý□o,μ□ê—p•ï□",Å□C'î%ž,·,éŽÀfpf
%of□□lf^,©,ç'l,đŽæ"¾,μ,Ü,·□B

%o¼'è"fpf%of□□lf^,Ö,ì'ã"ü,í,Å,«,Ü,¹,ñ□B%o¼'è"fpf%of□□lf^,đ•É,ìŽè'±
,«,âŠÖ□",ÉŽÀ•ï□"fpf%of□□lf^,Æ,μ,Ä"n,·,±,Æ,à,Ä,«,Ü,¹,ñ□B

Žè'±,«•¶,âŠÖ□",Å,í□C'è"fpf%of□□lf^,É'í%ž,·,éŽÀfpf%of□□lf^,íŽ®,Å,È,,Ä,í,È,è,Ü,¹,ñ□B,±
,ìŽÀfpf%of□□lf^,ì'l,íftf@fCf<CE^,â□Cftf@fCf<CE^,đŠÜ,þ□\`ç%»CE^,Å, ,Ä,Ä,í,È,è,Ü,¹,ñ□B

Žè'±,«,âŠÖ□",ìŽÀ□s't,É%o¼fpf%of□□lf^,ì'l,đ•ï□X,μ,½,,È,ç□ê□‡,É□C'lfpf
%of□□lf^,ì,©,í,è,É'è"fpf%of□□lf^,đŽg,ç,Ü,·□B'è"fpf%of□□lf^,đŽg,κ,Æ□C%oß,Á,Ä%o¼fpf
%of□□lf^,Ö'ã"ü,·,é,ì,đ-h,°,Ü,·□B

□\`ç%»CE^fpf%of□□lf^,Æ•¶Žš—ñCE^fpf%of□□lf^,ì□ê□#□C'lfpf%of□□lf^,ì,©,í,è,É'è"fpf
%of□□lf^,đŽg,κ,Æ□CfRf"fpfCf%o,Å□¶□¬,³,é,éfR□lfh,ìCEø—,ª□ã,^a,è,Ü,·□B

ŽQÆ

ŠÖ"CEÄ,Ño,μ

fpf%of[f^

• ě "f p f % o f [f ^

ž Q □ Æ

• ě "f p f % o f [f ^ , í ž Q □ Æ , é , æ , Á , Ä ž è ' ± , « , â š Ö □ " , é • ě " , ð " n , μ , Ü , · □ B , Á , Ü , è □ C f p f % o f [f ^ , ì ' l , é ' í , μ , Ä f A f N f Z f X , â • ě X , â , Ä , « , é , æ , x , é □ C f p f % o f [f ^ , ì f A f h f C f X , â " n , ³ , è , Ü , · □ B

ž Ä f p f % o f [f ^ , ð • ě "f p f % o f [f ^ , é , · , é , é , í □ C , » , ì ž Ä f p f % o f [f ^ , ð • ě " ž Q □ Æ , é , æ , Á , Ä " n , ³ , È , - , Ä , í , È , è , Ü , ¹ , ñ □ B • ě " ž Q □ Æ , í ž è ' ± , « □ é C ¾ , â š Ö □ " □ é C ¾ , ì f p f % o f [f ^ f š f X f g , é — \ - ñ C è , ì var , ð " ü , è , Ä □ ñ - , μ , Ü , · □ B

% ¼ • ě "f p f % o f [f ^ , í ž è ' ± , « , â š Ö □ " , ì < N " ® ž ž , ì ž Ä • ě " , ð • \ , μ , Ü , · □ B , μ , ½ , ² , Á , Ä □ C % ¼ • ě "f p f % o f [f ^ , ì ' l , Ö , ì • ě X , ì ž Ä f p f % o f [f ^ , é " ½ % o f , ³ , è , Ü , · □ B

f f : f t f @ f C f < C ^ , í • ě "f p f % o f [f ^ , Æ , μ , Ä , ¾ , - " n , · , ± , Æ , ² , Ä , « , Ü , · □ B

ž è ' ± , « , â š Ö □ " , ì " à • " , Á , í □ C % ¼ • ě "f p f % o f [f ^ , Ö , ì ž Q □ Æ , ì ž Ä f p f % o f [f ^ , » , ì , à , ì , é f A f N f Z f X , μ , Ü , · □ B ž Ä f p f % o f [f ^ , ì C ^ , í % ¼ • ě "f p f % o f [f ^ , ì C ^ , Æ " - , ¶ , Á , È , - , Ä , í , È , è , Ü , ¹ , ñ (C ^ , È , μ f p f % o f [f ^ , ð ž g , x , Æ , ± , ì □ š - ñ , ð - ³ ž < , Á , « , Ü , ·) □ B

ž Ä • ě "f p f % o f [f ^ , Ö , ì ž Q □ Æ , Á " z - ñ , é " Y ž š • t , - , μ , ½ , è f j f C f " f ^ , ì ' í □ Ü , ð ' T , · • K - v , ² , , é □ è □ # □ C , » , ì , æ , x , é □ - □ , ì ž è ' ± , « , â š Ö □ " , ì < N " ® , ì ' O , é ž Ä □ s , ³ , è , Ü , · □ B

ŽQÆ

'ä"ü,ìĉÝŠ-«

ŠÖ"ĉĚÄ,Ño,μ

fpf%of[f^

ĉ^,È,μfpf%of[f^

—á

function Equal(**var** Source, Dest; Size: Integer): Boolean;

type

TBytes = **array**[0..MaxInt - 1] **of** Byte;

var

N:Integer;

begin

N := 0;

while (N < Size) **and** (TBytes(Dest) [N] = TBytes(Source) [N]) **do**

Inc(N);

Equal := N = Size;

end;

fi[fvf""z-ñfpf%of[f^

ŽQAE —á

fi[fvf""z-ñfpf%of[f^, íŠeŽíTfCfY, í"z-ñ, ðŽè'±, «, âŠÖ", É"n, ·, Æ, «, ÉŽg, ç, Ü, ·B

ŽŸ, ì\·¶, ðŽg, Á, Ä%¼fpp%of[f^, ðfi[fvf""z-ñfpf%of[f^, Æ, µ, ÄéCE¾, µ, Ü, ·B

array of T

T, íCE^Ž·ÉŽq, Á, È,, Ä, í, È, è, Ü, ·, ñBŽÀfpf%of[f^, í T CE^, ì·ï", ©C-v'f,ª T CE^, ì"z-ñ·ï", Á, È,, Ä, í, È, è, Ü, ·, ñB

Žè'±, «, âŠÖ", ì"à·, Á, íC%¼fpp%of[f^, íŽŸ, ì, æ, x, ÉéCE¾, µ, ½éê±, Æ"·, ¶, æ, x, É"®ì, µ, Ü, ·B

array[0..N - 1] of T

N, íŽÀfpf%of[f^, ì-v'f, ì", Á, ·BŽÀfpf%of[f^, ì"YŽš, ì"í'í, í 0, ·, ç N-1

, ì"®", É, È, è, Ü, ·BŽÀfpf%of[f^,ª T CE^, ì"p·ï", ìéê±CT CE^, ì-v'f,ª 1, Á, ·, é"z-ñ, Æ, µ, Ä^—,ª, è, Ü, ·B

%¼fi[fvf""z-ñfpf%of[f^, Ö, ìfAfNfzX, í-v'f^Ê, Á, µ, ©, Á, «, Ü, ·, ñBfi[fvf""z-ñ'S'í, Ö, ì"ä"ü, í, Á, «, Ü, ·, ñB

fi[fvf""z-ñ, ìfi[fvf""z-ñfpf%of[f^, Ü, ½, íCE^, È, µ·ï"fpf%of[f^, Æ, µ, Ä,¾, ·, Ü, ©, ìŽè'±, «, âŠÖ", É"n, ·, ±, Æ,ª, Á, «, Ü, ·B

fi[fvf""z-ñfpf%of[f^, Æ, µ, Ä'lfpf%of[f^C'è"fpf%of[f^C·ï"fpf%of[f^,ªŽg, ì, Ü, ·BŞefp%of[f^, ì§CEÄŽ-¶É,ª, ±, ìéê±, à"K-p,ª, è, Ü, ·B

fif: fi[fvf""z-ñ'lfpf%of[f^, ìéê±CŽè'±, «, âŠÖ", ìfXf^fbfNftfCE[f€"à, ÉŽÀfpf%of[f^, ìfj·fRfs[·,ªfRf"fpfCf%o, É, æ, Á, Ä"ï—,ª, è, Ü, ·B, µ, ½,ª, Á, ÄC'á, «, È"z-ñ, ðfi[fvf""z-ñ'lfpf%of[f^, Æ, µ, Ä"n, ·, Æ, «, ÉCfXf^fbfN, ìfi[fof[f·f·,ª"¶, µ, È, ç, æ, x, É"Ó, µ, Ä,ª, ç, çBfXf^fbfN, ìfi[fof[f·f·,ª"¶, µ, È, ç, æ, x, É, ·, é, É, íCfi[fvf""z-ñ'lfpf%of[f^, ð"n, ·, Æ, «, É **var**, Ü, ½, í **const**, ðŽg, ç, Ü, ·B

fi[fvf"·¶Žš"z-ñ, Æ, µ, Ä"n, ·éê±C'ó, ì·¶Žš-ñ, ìfkf·¶Žš, ì-v'f,ª 1, Á, ·, é·¶Žš-ñ, É·íS·,ª, è, Ü, ·B, µ, ½,ª, Á, ÄCPrintStr("") , Æ, ç, x·¶, í PrintStr(#0) , Æ, ç, x·¶, Æ"·, ¶, Á, ·B

fi[fvf""z-ñfpf%of[f^, ì-v'f, íCE^,ª Char, ìéê±CŽÀfpf%of[f^, Æ, µ, Ä·¶Žš-ñ"è",ªŽg, ì, Ü, ·B

fi[fvf""z-ñfpf%of[f^, É'í, µ, ÄŽŸ, ì·W¶€ŠÖ",ªŽg, ì, Ü, ·B

ŠÖ" -ß, è'I

Low	fif
High	ŽÀ"z-ñfpf%of[f^, ìÁCEä, ì-v'f, ì"YŽš
SizeOf	ŽÀ"z-ñfpf%of[f^, ìTfCfY

fi[fvf""z-ñfpf%of[f^, ì"ì—

·K-v, È"z-ñ-v'f, ðff"·f}, Á<æ∅, Á, Ä'âffbfR [] , Á'í, ÝC,ª, ç, É, » , ìŽù, è, ðffbfR, Á'í, p, ÆC·ï", à"è", ìéCE¾, à"ä"ü, ð, µ, È, ·, Ä, à, ·, ®, Éfi[fvf""z-ñfpf%of[f^, ð"ì—, Á, «, Ü, ·B, µ, ½,ª, Á, ÄC"z-ñ, ðéCE¾, µ, Ä·K-v, È-v'f, ð"ü, è, é, ©, í, è, ÉC"z-ñ, ð"ì—, µ, Ä"Žž, É"n, ·, Ü, ·B

MyProcedure([3, 2, 1900, 42]);

ŽQÆ

"z—ñĈ^

f[]f[]f[]"fpf%of[]f^

Ĉ^%oÂ•jfi[]f[]f[]"z—ñfpf%of[]f^

—á

```
procedure Clear(var A: array of Real); { Real  $\mathbb{C}^n$ ,  $z \in \mathbb{C}$ ,  $f: \mathbb{C} \rightarrow \mathbb{C}$  }  
  ,đ'ă"ü,μ,Ü,· }
```

var

I: Word;

begin

for I := 0 to High(A) do A[I] := 0;

end;

```
function Sum(const A: array of Real): Real; { Real  $\mathbb{C}^n$ ,  $z \in \mathbb{C}$ ,  $f: \mathbb{C} \rightarrow \mathbb{C}$  }  
  v'f,  $\int_0^1 f(x) dx$ ,  $\beta, \mu, \cdot$  }
```

var

I: Word;

S: Real;

begin

S := 0;

for I := 0 to High(A) do S := S + A[I];

Sum := S;

end;

```
procedure PrintStr(const S: array of Char); {  $\mathbb{C}^n$ ,  $z \in \mathbb{C}$ ,  $f: \mathbb{C} \rightarrow \mathbb{C}$  }  
  ,É,μ,Ü,· }
```

var

I: Integer;

begin

for I := 0 to High(S) do

if S[I] <> #0 then Write(S[I]) else Break;

end;

Ā•İfi[fvf""z—ñfpf%of[f^

ŽQÆ

array of const ,Æ,ç,ıV,μ,ç\•ı,ı•ı",İCE^,İfİufWfFfNfg,©,ç,È,éfi[fvf""z—
ñ,đCE^•Úá•úŽ®,ÅŽè'±,«,âŠÖ",É"n,•,Æ,«,ÉŽg,ç,Û,•B,±,ê,É,æ,èC•ı",İCE^,İ€-Ú,đ,ç,-
,Å,Å,à—LCEø,É,•,éCE`Ž@f<[f`f",đéCE¾,Å,«,Û,•B

ŽŸ,İŽè'±,«éCE¾,Å,İC•ıŽš—ñCE`Ž@ŠÖ",İéCE¾,Å **array of const** ,đŽÀÛ,É,ç,ı,æ,ı
,ÉŽg,ı,©,đŽı,μ,Û,•Bfpf%of[f^,İ Args ,Í"ĆÓ,İCE^,ı•İ",đ,ç,,Å,Å,à"ü,ê,é,±
,Æ,ª,Å,«,éfi[fvf""z—ñ,đ—LCEø,É,μ,Û,•B

```
procedure FmtStr(var Result: string; const Format: string; const Args:  
  array of const);
```

array of const ,İfRf"fpfCf%o,Å **array of TVarRec** ,Æ"~,ı,æ,ı,É^—,³,ê,Û,•B

ŽQÆ

f[fvf""z—ňfpf%of[f^

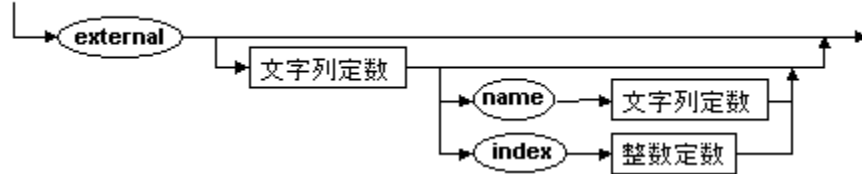
external 指令

external 指令

external 指令的语法格式如下：

- external 指令的语法格式如下：
- external 指令的语法格式如下：

external 指令



external 指令的语法格式如下：

external 指令的语法格式如下：

—á

ŽŸ,íšO•"Žè'±,«,ìéĚ¾,ì—á,Á,·B

procedure MoveWord(**var** Source, Dest; Count: Integer); **external**;

procedure MoveLong(**var** Source, Dest; Count: Integer); **external**;

procedure FillWord(**var** Dest; Data: Integer; Count: Integer); **external**;

procedure FillLong(**var** Dest; Data: Longint; Count: Integer); **external**;

ŽŸ,íšO•"éĚ¾,íCuser32.dll ,Æ,ç,¤ DLL,©,ç MessageBox ,Æ,ç,¤ŠÖ" (Windows API ,ì^ê•") ,ðfCf"f|fg,μ,Ü,·B

function MessageBox(HWnd: Integer; Text, Caption: Pchar;

Flags: Integer): Integer; **stdcall**;

external 'user32.dll' name 'MessageBoxA';

ŽQÆ

f_fCfif~fbfNfŠf“fNf%ofCfuf%ofŠ

ŠÖ”

Žè'±,«

fufbfh, ié

ŽQAE —á

fufWfFfNfgE^, i"à•", Å, ifufbfh, ié, í, » , ifufbfh, i forward é, É Š" -, μ, Ü, ·B

fufWfFfNfgE^ é, i ä, è, ì, Ç, ±

, ©, ÅC, » , ifufWfFfNfgE^ é, Å" -, ¶fXfR[fv"à, ÉC'è` é, É, æ, Á, Äfufbfh, ðŽÀE», μ, È, , Ä, í, È, è, Ü, ¹, ñB

Žè' ±, «fufbfh, âŠÖ" fufbfh, iê#C'è` é, í' Êí, i Žè' ±

, «, âŠÖ", Å" -, ¶C` Ž®, ð, Å, è, Ü, ·B, ½, ¾, μCŽè' ±, «Ž` ·ÊŽq, âŠÖ" Ž` ·ÊŽq, ì, ©, í, è, ÉEÀ'èfufbfh Ž` ·ÊŽq, ðŽg, ç, Ü, ·B

fRf" fXfgf%ofNf^ fufbfh, âfffXfgf%ofNf^ fufbfh, iê#C'è` é, i Žè' ±, «fufbfh

é, Å" -, ¶C` Ž®, ð, Å, è, Ü, ·B, ½, ¾, μC—\ -ñEè, i **procedure**, ì, ©, í, è, É—\ -ñEè, i **constructor**, Ü, ½, í **destructor**, ðŽg, ç, Ü, ·B

fufbfh, i'è` é, Å, íCfufWfFfNfgE^, Å, ifufbfh"â•", i%¼fpf

%of[f^ fšXfg, ðE], è•Ö, ·, ±, Å, Å, «, Ü, ·B, » , iê#C'è` é, ifufbfh"â•", ípf%of[f^, iê#C^C-¼'O, ÅC(, à, μ, , è, í) ŠÖ"CE<%É, iE^, É³Šm, É^è'v, μ, Å, ç, È, -, Å, í, È, è, Ü, ¹, ñB

Self fpf%of[f^

fufbfh, i'è` é, Å, íC^Ä-Ü, i Self fpf%of[f^, ¶í, É, , èCfufWfFfNfgE^, i%¼•ï" fpf%of[f^, É'í%ž, μ, Å, ç, Ü, ·B

fufbfhfufbfN"à, Å, íCfufbfh—v'f, ¶fufbfh, ð<N"®, ·, , é, æ, x, ÉŽw'è, ³, è, Ä, ç, éCf" fXf^f" fX, a

Self, É, æ, Á, Ä•\, ³, è, Ü, ·B, μ, ½, a, ÄCSelf, ìftB[f·fh, ì'I, Ö, ì•ïX, íCf" fXf^f" fX, É"½%of, ³, è, Ü, ·B

—á

{ f fbfh, i éE^{3/4}—á, Á, } }

```
procedure TRectangle.Intersect(var R: TRectangle);
```

```
begin
```

```
    if A.X < R.A.X then A.X := R.A.X;
```

```
    if A.Y < R.A.Y then A.Y := R.A.Y;
```

```
    if B.X > R.B.X then B.X := R.B.X;
```

```
    if B.Y > R.B.Y then B.Y := R.B.Y;
```

```
    if (A.X >= B.X) or (A.Y >= B.Y) then Init(0, 0, 0, 0);
```

```
end;
```

```
procedure TField.Display;
```

```
begin
```

```
    GotoXY(X, Y);
```

```
    Write(Name^, ' ', GetStr);
```

```
end;
```

```
function TNumField.PutStr(S: String): Boolean;
```

```
var
```

```
    E: Integer;
```

```
begin
```

```
    Val(S, Value, E);
```

```
    PutStr := (E = 0) and (Value >= Min) and (Value <= Max);
```

```
end;
```


ŽQÆ

fRf“fXfgf%oofNf^,ÆffXfgf%oofNf^

f□fbfh

flfufWfEfNfgCE^

fRf“fXfgf%ofNf^,ÆffXfgf%ofNf^

ŽQ□Æ —á

fRf“fXfgf%ofNf^,ÆffXfgf%ofNf^,lfifufWfFfNfg,ì□□¬,Æ”pŠü,ð□\$CEä,·,é“ÁŽè,Èf□f\fbfh,Á,·□B
fNf%ofX,É,í□C,».,lfNf%ofXCE^,lfifufWfFfNfg,É’í,μ,ÄfRf“fXfgf%ofNf^,âffXfgf%ofNf^,ð,ç,-
,Á,Á,àŽg,ì,Ü,·,â□CŽg,í,É,ç,±,Æ,à,·,è,Ü,·□B,».,è,¼,è,lfRf“fXfgf%ofNf^,âffXfgf%ofNf^,ÍŽè±
,«f□f\fbfh,âŠÖ□”f□f\fbfh,ì□è±,Æ”¬,¶,æ,α,É□CfNf%ofX,ì—
v’f,Æ,μ,ÄŽw’è,μ,Ü,·□B,½,¾,μ□C**procedure**,â **function**,ì,©,í,è,É—\—ñCEè,ì constructor
,Ü,½,ì destructor,ÁŠe□éCE¾,ðŽn,β,Ü,·□B,Ü,©,lf□f\fbfh,Æ”¬,¶,æ,α,É□CfRf“fXfgf
%ofNfg,âffXfgf%ofNf^,íCEp□³,Á,«.,Ü,·□B

fRf“fXfgf%ofNf^

fRf“fXfgf%ofNf^,í□V,μ,çfifufWfFfNfg,ð□□¬,μ,Ä□%Šú%»,·,é,Æ,«.,ÉŽg,ç,Ü,·□B^è”É,É□Cfj
%of□□f^,Æ,μ,ÄfRf“fXfgf%ofNf^,É“n,³,è,é’l,ÉŠí,Á,ç,ÄfifufWfFfNfg,â□%Šú%»,³,è,Ü,·□B
’É□í,lf□f\fbfh,lfifufWfFfNfgŽQ□Æ,ÁCEÄ,Ñ□o,³,È,Á,í,È,è,Ü,¹,ñ,â□CfRf“fXfgf%ofNf^,lfNf
%ofXŽQ□Æ,Á,âfifufWfFfNfgŽQ□Æ,Á,àCEÄ,Ñ□o,¹,Ü,·□B

□V,μ,çfifufWfFfNfg,ð□□¬,·,é,É,í□CfRf“fXfgf%ofNf^,ðfNf%ofXŽQ□Æ,ÁCEÄ,Ñ□o,³,È,-
,Á,í,È,è,Ü,¹,ñ□BfRf“fXfgf%ofNf^,ðfNf%ofXŽQ□Æ,ÁCEÄ,Ñ□o,·,Æ□CŽÿ,ì,æ,α,É,È,è,Ü,·□B

- V,μ,çfifufWfFfNfg—p,ì<L%~æ,âf□□f\,©,çŠ,,,è“-.,Á,ç,è,é
 - Š,,,è“-.,Á,ç,è,½<L%~æ,âfNfŠfA,³,è,é□B,±
- è,É,æ,è,·,x,Ä,ì□□~CE^ftfB□□f\fh,ì□□~’l,âf□□,É,È,è□C,·,x,Ä,lf□Cf“f^CE^ftfB□□f\fh,ÆfNf
%ofXCE^ftfB□□f\fh,ì’l,â **nil**,É,È,è□C,·,x,Ä,ì·¶Žš—ñCE^ftfB□□f\fh,ì’l,â,ó,É,È,é
- fRf“fXfgf%ofNf^,lf□□fU□□[’è<,ì□—□,âŽÄ□s,³,è,é
 - V,μ,Š,,,è“-.,Á,ç,è□%Šú%»,³,è,½fifufWfFfNfg,Ö,ìŽQ□Æ,âfRf“fXfgf
%ofNf^,©,ç·Ö,³,è,è□B-β,è’l,ìCE^,lfRf“fXfgf%ofNf^CEÄ,Ñ□o,μ,ÄŽw’è,μ,½fNf%ofXCE^,Æ”¬,¶,Á, ,
é

fRf“fXfgf%ofNf^,ðfifufWfFfNfgŽQ□Æ,ÁCEÄ,Ñ□o,·,Æ□C□V,μ,çfifufWfFfNfg,ìŠ,,,è“-
,Á,âfNfŠfA,à,³,è,·,□CfRf“fXfgf
%ofNf^CEÄ,Ñ□o,μ,ÄfifufWfFfNfgŽQ□Æ,â·Ö,³,è,Ü,¹,ñ□B,».,ì,©,í,è,É□CfRf“fXfgf
%ofNf^,âŽw’è,lfifufWfFfNfgŽQ□Æ,É□ì—p,μ□CfRf“fXfgf
%ofNf^,ìŽÄ□s”,ÉŽì,³,è,½ft□fU□□[’è<,ì□—□,¾,·,ðŽÄ□s,μ,Ü,·□B^è”É,É□CfRf“fXfgf
%ofNf^,ðfifufWfFfNfgŽQ□Æ,ÁCEÄ,Ñ□o,·,ì,ì□CfL□□f□□f\fh,ì **inherited**
,ð^è□□,ÉŽg,Á,ÁCEp□³Rf“fXfgf%ofNf^,ðŽÄ□s,·,é□è□±,¾,·,Á,·□B

,Ü,Æ,ñ,ç,ì□è□□CfRf“fXfgf%ofNf^,í,Ü,·,CEp□³Rf“fXfgf
%ofNf^,ðCEÄ,Ñ□o,μ,Ä□CfifufWfFfNfg,ìCEp□³ftfB□□f\fh,ð□%Šú%»,μ,Ü,·□BŽÿ,É□CfNf
%ofX,É“±“ü,³,è,½fifufWfFfNfg,lf□f\fh,ð□%Šú%»,μ,Ü,·□BfRf“fXfgf
%ofNf^,í□V,μ,çfifufWfFfNfg—p,ÉŠ,,,è“-.,Á,½<L
%~^æ,ð·K,·fNfŠfA,·,é,½,β□C,·,x,Ä,lf□f\fh,ÉffftfHf<fg’l,Æ,μ,Äf□□ (□±□~CE^)□C**nil** (f
fCf“f^CE^,ÆfNf%ofXCE^)□C<ó (·¶Žš—ñCE^)□CUnassigned (Variant CE^),âŽ©“@’l,É—
^,ì,ç,è,Ü,·□BftfB□□f\fh,lf□f\fh,ÉffftfHf<fg’l,âf□□^ÈŠÖ,ì’l,Á,È,·,è,ì□CfRf“fXfgf%ofNf^,lf□f\fh,ð□%Šú
%»,·,é·K—v,ì,·,è,Ü,¹,ñ□B

fNf%ofXŽQ□Æ,ÁCEÄ,Ñ□o,μ,½fRf“fXfgf%ofNf^,ìŽÄ□s’t,É—áŠÖ,â□f□¬,³,è,½□è□□CDestroy
ffXfgf%ofNf^,âŽ©“@’l,ÉCEÄ,Ñ□o,³,è,Á-çŠ@□¬,lfifufWfFfNfg,â”pŠü,³,è,Ü,·□B

,Ü,©,lf□f\fbfh,Æ”¬,¶,æ,α,É□CfRf“fXfgf%ofNf^,ì%¼’z,É,Á,«.,Ü,·□BfNf
%ofXCE^Ž·ÉŽg,ðŽg,Á,ÁCEÄ,Ñ□o,·,É□í,ì□è□□C%¼’zfRf“fXfgf%ofNf^,ì□Ä’lfRf“fXfgf
%ofNf^,Æ”¬,¶,Á,·□B,½,¾,μ□CfifufWfFfNfgŽQ□ÆCE^,ð^è□□,ÉŽg,α,Æ□C’½’Ö□□,ð□—
¶,μ,½fifufWfFfNfg,ì□□¬□C,Á,Ü,èfRf“fpfCf<Žž,É,íCE^,â,í,©,ç,É,çfifufWfFfNfg,ì□□¬,â
%¼’zfRf“fXfgf%ofNf^,Á,Á,«.,é,æ,α,É,È,è,Ü,·□B

fffXfgf%ofNf^

fffXfgf%ofNf^,lfufWfFfNfg,ð”pšü,·,é,Æ,«,ÉŽg,ç,Ü,·BfffXfgf%ofNf^,ðCEÄ,Ño,·,ÆCfffXfgf%ofNf^,lfufWfFfNfg—p,ÉŠ,,,è“-,Ä,ç,è,Ä,ç,éL%o^æ,â^•â,³,è,Ü,·B^ê”É,ÉCfffXfgf%ofNf^,lfufWfFfNfg—p,ÉŠ,,,è“-,Ä,ç,è,Ä,ç,éL%o^æ,â^•â,³,è,Ü,·B^ê”É,ÉCfffXfgf%ofNf^,lfufWfFfNfg,È,æ,Ä,ÄŠ,,,è“-,Ä,ç,è,½fŠf[fX,ì%ð•ú,ª,è,Ü,·B

’ÉíCfffXfgf%ofNf^,íÄCEä,ÉEp³fffXfgf%ofNf^,ðCEÄ,Ño,µ,ÄCfufWfFfNfg,ìEp³ftfB[f<fh,ð”pšü,µ,Ü,·B

fNf%ofX,É’í,µ,Ä•;” ,lfffXfgf%ofNf^,ðéCE¾,Ä,«,Ü,·,ªC,Ä,«,é,¾,¯Ep³fffXfgf%ofNf^ Destroy ,lf[f%ofCfh,¾,¯,ðfNf%ofX,ÄŽÄCE»,·,é,æ,æ,É,µ,Ä,¾,¾,çfBDestroy ,í TObject ,ÄéCE¾,¾,è,éfpf%of[f^ ,È,µ,ì%¼’zfffXfgf%ofNf^ ,Ä,·B TObject ,í,·,x,Ä,lfNf%ofX,É,Æ,Ä,Ä,ìÄä^ÉfNf%ofX,È,ì,ÄCDestroy fffXfgf%ofNf^ ,í,ç,lfufWfFfNfg,É’í,µ,Ä,Ä,àí,ÉŽg,ì,Ü,·B

fRf“fXfgf%ofNf^ ,ìŽÄs’t,É—áŠO,ª¶¶—,³,è,½ê¶CDestroy fffXfgf%ofNf^ ,ªCEÄ,Ño,³,è,Ä-çŠ@¶—,lfufWfFfNfg,ª”pšü,³,è,Ü,·B,Ä,Ü,èC•”•ª“l,É,µ,©Š@¶—,µ,Ä,ç ,È,çfufWfFfNfg,ì”pšü¶—,ì,½,ß,ÉfffXfgf%ofNf^ ,ð¶¶—,µ,Ä,·,©,È,,Ä,í,È,è,Ü,¹,ñBfRf“fXfgf%ofNf^ ,í¶V,µ,çfufWfFfNfg,ì,·,x,Ä,lfufWfFfNfg,ðfç<’l,É¶Y’è,µ,Ä,©,çfufWfFfNfg,lfNf%ofXCE^ftfB[f<fh,Æf] fCf“f^CE^ftfB[f<fh,í•K, , nil ,É,È,è,Ü,·B,µ,½,ª,Ä,ÄCfffXfgf%ofNf^ ,íí,É nil ’l,lf`fFbfN,ð,µ,Ä,©,çNf%ofXCE^ftfB[f<fh,âf]fCf“f^CE^ftfB[f<fh,ì’€¶,ð,µ,È,,Ä,í,È,è,Ü,¹,ñB

flufWfFfNfgŽQÆ,Ä,í Destroy ,ðCEÄ,Ño,·,©,í,è,É Free f¶f¶fh,ðCEÄ,Ño,·,ÆCnil ,lf`fFbfN,ª,³,è,é,ì,Ä•Ö—~ ,Ä,·BfNf%ofXCE^ftfB[f<fh,É’í,µ,Ä Destroy ,ì,©,í,è,É Free ,ðCEÄ,Ño,·,ÆCfRf“fXfgf%ofNf^ ,Ä,ì—áŠO,ì,½,ß,É•”•ª“l,É,µ,©Š@¶—,µ,Ä,ç ,È,çfufWfFfNfg,ð¶—,·,éfffXfgf%ofNf^ ,ªŽ©“@“l,É¶¶—,³,è,Ü,·B,µ,½,ª,Ä,ÄCDestroy ,í,Ä,«,é,¾,¯¼UÄ,Ño,³,È,ç,æ,æ,É,µ,Ä,,¾,¾,çfB

—á

ŽŸ,ì—á,í TShape ,É'í,·,éƒRf“fXfgf%ofNf^ ,ÆffXfgf%ofNf^ ,Á,·□B

type

```
TShape = class(TGraphicControl)
private
  FPen: TPen;
  FBrush: TBrush;
  procedure PenChanged(Sender: TObject);
  procedure BrushChanged(Sender: TObject);
public
  constructor Create(Owner: TComponent); override;
  destructor Destroy; override;
  :
end;
```

```
constructor TShape.Create(Owner: TComponent);
```

```
begin
```

```
  inherited Create(Owner);           { Cp□³·”·ª,ð□%Šú%»„μ,Û,· }
  Width := 65;                       { Cp□³fvf□fpfefB,ð·Ī□X,μ,Û,· }
  Height := 65;
  FPen := TPen.Create;                { □V,μ,çftfB□[f·fh,ð□%Šú%»„μ,Û,· }
  FPen.OnChange := PenChanged;
  FBrush := TBrush.Create;
  FBrush.OnChange := BrushChanged;
```

```
end;
```

```
destructor TShape.Destroy;
```

```
begin
```

```
  FBrush.Free;
  FPen.Free;
  inherited Destroy;
```

```
end;
```

```
procedure TObject.Free;
```

```
begin
```

```
  if Self <> nil then Destroy;
```

```
end;
```

ŽQÆ

flfufWfFfNfg.lfCf“fXf^f“fX%oo»

f\Fbfh.léCE^{3/4}

flfufWfFfNfgCE^

ŠŌÚftjjfbfgŽQÆ

ŽQÆ —á

f,fWf...[f<,l **uses** []ß,Á,íC,»,lf,fWf...[f<,Á'¼ÚŽg,æftjjfbfg,¾, -,É-¼'O,đ•t, -,é•K—
v,^a, ,è,Ü,·B

,½,¾,µC, ,éf,fWf...[f<,^a•É,lf,fWf...[f<,É'¼Ú^É'¶,µ,Ä,ç,é,±,Æ,^a,æ,, ,è,Ü,·Bf,fWf...
[f<,đfRf“fpfCf<·,é,É,íC'¼Ú“l,©ŠŌÚ“l,©,ÉŠŌÆW,É,,»,lf,fWf...[f<,^a^É'¶,µ,Ä,ç
,é,·,x,Ä,lf,tjjfbfg,đfRf“fpfCf%o,Á'T,¹,É,,Ä,í,É,è,Ü,¹,ñB

ftjjfbfg,ì **interface •**”,đ•íX,µ,½êê¶C•íX,µ,½ftjjfbfg,đŽg,æ
,Ü,©,ì,·,x,Ä,lf,tjjfbfg,đÄfRf“fpfCf<,µ,É,-
,Ä,í,É,è,Ü,¹,ñBmfvf[]fWfFfNfg(P)[]b[]Ä[]z(B)[]n,đŽg,æ,ÆC,±,ìÄfRf“fpfCf<,ífRf“fpfCf%o
,É,æ,Á,ÄŽÀ[]s,³,é,Ü,·B

,½,¾,µC**implementation •**”,â **initialization**
•”,¾, -,đ•íX,µ,½êê¶,íC•íX,µ,½ftjjfbfg,đŽg,æ,Ü,©,lf,tjjfbfg,đÄfRf“fpfCf<·,é•K—v,í, ,è,Ü,
¹,ñB

f[]f: C ,É,ç,ìCE¾CEè,ìft[]fU[][,íŽŸ,ì“_É'□^Ó,µ,Ä,,¾,³,ç[]BC++Builder fvf[]fOf%of€,ì **uses**
[]ß,É,íC'¼,ìCE¾CEè,ìf[]CfNftf@fCf<,âfvf[]fWfFfNfgftf@fCf<,É[]—^,©,ç, ,é[]umake[]v,
l~_[]□î•ñ,^aŽ!,³,é,Ä,ç,Ü,·B,±,ì **uses** []ß,É,æ,èC^É'¶ŠŌÆW,ì,·,x,Ä,ìî•ñ,đf,fWf...
[f<,»,ì,à,ì,É'g,Ý[]ž,ñ,Á[]CfGf%o[][,ì%o^“\□«,đ[],É,,Ä,«,Ü,·B

C++Builder
,Á,íCftjjfbfg,đfRf“fpfCf<·,é,Æ,«,Éftjjfbfg,ìfo[]fWf[]f“”Ô[]t,^aCEvŽZ,³,é,é,½,ßCftjjfbfg,ì
interface •”,^a,ç,Á•íX,³,é,½,©,^a,í,©,è,Ü,·B

ŽQÆ

ftjfbfg

Uses

—á

```
{ ŽŸ,ì—á,íftfjfbfgŠÔ,ì^È'ŕŠÖŒW,ðŽ!,μ,Û,·□BUnit2 ,a Unit1 ,É'¼□Ú^È'ŕ,μ, Prog ,a  
Unit2 ,É'¼□Ú^È'ŕ,μ,Ä,ç,é,±,Æ,É'□^Ó,μ,Ä,,¾,¾,ç }
```

```
program Prog;  
uses Unit2;  
const a = b;  
begin  
end.
```

```
unit Unit2;  
interface  
uses Unit1;  
const b = c;  
implementation  
end.
```

```
unit Unit1;  
interface  
const c = 1;  
implementation  
const d = 2;  
end.
```


ftfjfbfg zŠĂŽQÆ

ŽQÆ —á

ftfjfbfg, l zŠĂŽQÆ, lftfjfbfg, ŠŒÝ, É Ě ħ, μ, Ä, ç, é, Æ, «, É Ý è, ³, è, Ü, · B

ftfjfbfg, l **implementation** ·, É uses

β, ð ü, è, é, Æ C ŠŒÝ, É Ě ħ, ·, éftfjfbfg, ³ Ý è, ³, è Cuses β, ĂŽQÆ, ³, è, Ä, ç

, éftfjfbfg, l “à” ·, l Ú ×, Š Š ‘S, É % B, è, Ü, · BŽQÆ, ³, è, Ä, ç, éftfjfbfg, lfvf

% of Cf x lfg, Èftfjfbfg, É, È, è C, » ·, è, ðŽQÆ, μ, Ä, ç, éftfjfbfg, ðŽg, xfvf l fOf % of €, âftfjfbfg, Ă, Í — — p, Ă, «, È, È, è, Ü, · B

C++ Builder, Ă, l Š ‘S, È **interface** ·, ðRf “fpfCf”, Ă, «, é, ½, β C2, Ă, lftfjfbfg, l, » ·, è, ¼, è, l

implementation ·, l uses β, Ă ŠŒÝ, ÉŽQÆ, Ă, «, Ü, · B2, Ă, lftfjfbfg, l **interface**

·, ³ ŠŒÝ, É Ě ħ, μ, Ä, ç, È, ç CÈ, è C ě · û, lftfjfbfg, l **implementation** ·, ÉŽ, ³, è, Ä, ç

, é” · ðRf “fpfCf” ftfjfbfg, Ö, lŽQÆ, ðRf “fpfCf” %, lŽó, · t, ·, Ü, · B, μ, ½, ³, Ă, Ä C, ±, l 2, Ă, lftfjfbfg, l Pascal, Ă, l é C ¾ ħ, ÉŠÖ, ·, é C μ-š, È < K’ ¥, É], ç, Ü, · B

interface ·, ŠŒÝ, É Ě ħ, μ, Ä, ç, é ě ħ Cftfjfbfg, l zŠĂŽQÆ, lfg % [, ³ ħ —, ³, è, Ü, · B

ŠŒÝ, É Ě ħ, ·, éftfjfbfg, ³-ð—š, Ă, l, l “ĂŽè, È ě ħ, Ă, ·, ³ C, ç, ĂŽg, x, ©, ð l — ħ, μ, Ä, ¾, ³, ç B · K—

v, à, È, ç, l, É, ±, l, æ, x, Èftfjfbfg, ðŽg, x, Æ Cfvf l fOf % of €, ³ ŠÇ—, μ, É, , È, è Cfg % [, ð < N, ±, μ, â, ·, - , È, é, ±, Æ, ³, , è, Ü, · B

ŽQÆ

ftjfbfg

Uses

—á

```
{ ŽŸ,ĭfvfĭOf%of€,Í 2 ,Â,ĭftfĭfbfg,ªŒÉŸ,č,É ŠŽè,đĭuŽg,ꜛĭv•û-@,đŽĭ,μ,Û,· }
```

```
program Circular;  
{ WriteXY ,đŽg,Á,ÄfefĭfXfg,đ•\Žĭ,μ,Û,· }
```

uses

```
WinCrt, Display;
```

begin

```
ClrScr;  
WriteXY(1, 1, 'Upper left corner of screen');  
WriteXY(1000, 1000, 'Way off the screen');  
WriteXY(81 - Length('Back to reality'), 15, 'Back to reality');
```

end.

unit Display;

```
{ 'Pĭf,Éfĭffĭ•\Žĭf<ĭf`f“,đŠÛ,ň,Â,č,Û,· }
```

interface

```
procedure WriteXY(X, Y: Integer; Message: String);
```

implementation

uses

```
WinCrt, Error;
```

```
procedure WriteXY(X, Y: Integer; Message: String);
```

begin

```
if (X in [1..80]) and (Y in [1..25]) then
```

begin

```
GoToXY(X, Y);
```

```
Write(Message);
```

end

else

```
ShowError('Invalid WriteXY coordinates');
```

end;

end.

unit Error;

```
{ 'Pĭf,ÉfGf%oĭfŒfĭĭfgf<ĭf`f“,đŠÛ,ň,Â,č,Û,· }
```

interface

```
procedure ShowError(ErrMsg: String);
```

implementation

```
uses Display;  
  
procedure ShowError(ErrMsg: String);  
begin  
  WriteXY(1, 25, 'Error: ' + ErrMsg);  
end;  
  
end.
```

fq{fv}fl{Wff

ŽQÆ

Windows ,Á,íCŽÿ,ì 2 Ží—p,lfq{fv,Á“®“lf{f,šš,,è“-,Ä,³Tf|{fg,³,è,Ä,ç,Ü,·B

- fOf{fof{fv
- f{f{fv

Delphi ,É,íCŽÿ,ì•W€Žè'±,«,ðŽÀ»:,éfq{fv}fl{Wff,ª, ,è,Ü,·B

- New
- Dispose
- GetMem
- FreeMem

fq{fv}fl{Wff,í,·,x,Ä,ìš,,è“-,Ä,ÉfOf{fof{fv,ðŽg,ç,Ü,·BfOf{fof{fv,É,ífVfXfef€'S'í,Á 8192 f{f,ššuf{fbfN,Æ,ç,µ\$CEÀ,ª, ,é,½,ß (fAfVfššP{fVf#“ ,É,æ,Á,Ä,í,±,è,æ,è'½,,ìf{f,ššuf{fbfN,ª•K—v,É,È,ééé±,ª, ,è,Ü,·)Cf{fv}fl{Wff,ífZfOf{f“fgfTfufAf{fP{f^ ,ífAf{fSfYf€ ,É,æ,Á,Ä^—CEø—|,ðä,°C8192 ,ð,©,É,èä %oñ,é“ ,íf{f,ššuf{fbfN,ðš,,è“-,Ä,ç,è,é,æ,µ,É,µ,Ä,ç,Ü,·B

fuf{fbfN,ífZfOf{f“fgfAfhfCEfX,ª•íX,³,è,É,ç,æ,µ,ÉCfOf{fof{fuf{fbfN,íš,,è“-,Ä,ì¼CEä,É GlobalLock ,É,æ,Á,Äf{fbfN,³,è,Ü,·Bš,,è“-,Ä%øðœ,ì¼'O,Ü,Ä,±,íf{fbfN,í%øðœ,³,è,Ü,¹,ñB

Windows ,ífXf^f“f_{fhf,_{fh,Æ 386 fGf“fnf“fXfhf,_{fh,Á,íC•— f{f,šš,ìCEÁ'èfuf{fbfN,ð^Ú“® ,µ,ÄC,Ü,© ,íf{f,šš,,è“-,Ä—v< ,ì,½,ß,É<ó,«— ì^æ,ðšm•Û,Ä,« ,Ü,·B,µ,½,ª,Á,ÄCC++Builder ,lfq{fv}fl{Wff,ðŽg,Á,Ä,à^—CEø—|,ª %oª,ª,é,±,Æ,í, ,è,Ü,¹,ñB

ŽQÆ

DLL

□I—¹Zè'±,«

ŽŒ —á

□I—¹Zè'±,« ,ífvf□fOf%œ, ì□I—¹fvf□fZfX, ð□§CEä, ·, é, Æ, «, ÉŽg, ç, Ü, ·□Bfvf□fOf%œ, ð□I—¹, ·, é' O, É"Á"è, ì□^—□, ð, µ, ½, ç, Æ, «, É (, ½, Æ, í, íftf@fCfç, ð□X□V, µ, Ä·Ä, ¶, é□^—□, É, Ç, á^è"É"í, Ä, ·)□C, ±, ì□§CEä, á-ð-§, ç, Ü, ·□B

fAfvfŠfP□[fvfçf" , ì□I—¹, É, íŽŸ, ì 3 Ží—p, á, , è, Ü, ·□B

- □³□í□I—¹
- Halt , ìCEÄ, Ñ□o, µ, É, æ, é□I—¹
- ŽÄ□sŽžfGf%œ□[, É, æ, é□I—¹ (C++Builder , Ä, ífAfvfŠfP□[fvfçf" , ð□I—¹, µ, È, , Ä, à—áŠO□^—□, É, æ, Ä, ÄŽÄ□sŽžfGf%œ□[, ð□^—□, Ä, «, é)

□I—¹Zè'±,« , ðfCf" fXfg□[fç, ·, é, É, ì□Cf|fCf" f^·ï□" , ì ExitProc , ðŽg, ç, Ü, ·□B

□I—¹Zè'±,« , ífpf%œ□□[f^ , ð, Æ, è, Ü, ¹, ñ□B

□³, µ, ŽÄCE», µ, ½□I—¹Zè'±,« , ì□C□I—¹Zè'±,« , ì~A□½, É'g, Ý□ž, Ü, è, Ä, ç, Ü, ·□B, ± , è, É, æ, è□Cftfjfbfg, Æfvf□fOf%œ, ì—¼·ù, Ä□I—¹Zè'±,« , ðfCf" fXfg□[fç, Ä, «, Ü, ·□Bftfjfbfg, Ä□%Šú%œ»fR□[fh, ì^è" , Æ, µ, Ä□I—¹Zè'±,« , ðfCf" fXfg□[fç, µ, ½□è□#□C, » , ìŽè'± , « , áftfjfbfg, ìCEäŽn—, ì, ½, ß, É·K, , CEÄ, Ñ□o, ³, è, é, æ, æ, É, È, è, Ü, ·□B

□I—¹Zè'±,« , ì~A□½, Ä, ì□CfCf" fXfg□[fç, ì, Æ, «, Æ, íç, ì□#~ , ÄŽè'± , « , áŽÄ□s, ³, è, Ü, ·□B, µ, ½, á, Ä, Ä□CŠeftfjfbfg, ì□I—¹fR□[fh, ì□C, » , ìftfjfbfg, É^É'¶, µ, Ä, ç, éftfjfbfg, ì□I—¹fR□[fh, á□I, í, é, Ü, ÄŽÄ□s, ³, è, Ü, ¹, ñ□B

□I—¹Zè'±,« , ì~A□½, ð·ÙŽ□, ·, é, É, ì□CŽŸ, ì 2 , Ä, ðŽÄ□s, µ, È, , Ä, í, È, è, Ü, ¹, ñ□B

- ExitProc , ð□I—¹Zè'±,« , ìfAfhfCEfX, É·ï□X, ·, é' O, É□CEExitProc , ìCE»□Ÿ, ì"à—e, ð·Ù'¶, ·, é
- ·Ù'¶, µ, ½ ExitProc , ì'í, ð□I—¹Zè'±,« , ì□Ä□%œ, ì·¶, É□Ä, Ñ' } "ü, ·, é

f%œfCf" f^fCfœf%œfCfuf%œfŠ, ì□I—¹fç□[f" f" , ì ExitProc , á nil , É, È, é, Ü, Ä□I—¹Zè'±,« , ðCEÄ, Ñ□o, µ' ± , ·, Ü, ·□B

-³CEÄfç□[fv, ð"ð, ·, é, ½, ß, É□C, Ç, ìCEÄ, Ñ□o, µ, ì' O, Ä, à ExitProc , á nil , É□Ÿ'è, ³, è, é, ì, Ä□CE»□Ÿ, ì□I—¹Zè'±,« , Ä ExitProc , ÉfAfhfCEfX, á"á"ü, ³, è, ½, Æ, «, ³/₄, -ŽŸ, ì□I—¹Zè'±,« , áCEÄ, Ñ□o, ³, è, Ü, ·□B□I—¹Zè'±,« , ÄfGf%œ□[, á"¶, µ, ½□è□#□C, » , ì□I—¹Zè'±,« , á□Ä, ÑCEÄ, Ñ□o, ³, è, é, ±, Æ, í, , è, Ü, ¹, ñ□B

□I—¹Zè'±,« , Ä, ì□C□@·ï□" , ì ExitCode , Æf|fCf" f^·ï□" , ì ErrorAddr , ð'², x, é, ±, Æ, É, æ, è□C□I—¹, ìCE'^ö, á, í, ©, è, Ü, ·□B□I—¹, ìŽí—p, É%œž, ¶, Ä□CEExitCode , Æ ErrorAddr , ì'í, ìŽŸ, ì, æ, æ, É, È, è, Ü, ·□B

·ï□"	□ ³ □í□I— ¹	'áž~	ŽÄ□sŽžfGf%œ□[
ExitCode	f f□	Halt , É"n, ³ , è, ½'í	fGf%œ□[fR□[fh
ErrorAddr	nil	nil	fGf%œ□[·¶, ìfAfhfCEfX

□ÄCEä, ì□I—¹Zè'±,« (f%œfCf" f^fCfœf%œfCfuf%œfŠ, É, æ, Ä, ÄfCf" fXfg□[fç, ³, è, ½□I—¹Zè'±,«) , ì Input ftf@fCfç, Æ Output ftf@fCfç, ð·Ä, ¶, Ü, ·□BErrorAddr , á nil , Ä, È, ·, è, ì□CŽÄ□sŽžfGf%œ□[f□fbfZ□[fW, ð□o—í, µ, Ü, ·□B

fGf%œ□[f□fbfZ□[fW

ŽÄ□sŽžfGf%œ□[f□fbfZ□[fW, ðŽ©·á, Ä·\Ž'í, µ, ½, ç□è□# , ì□CErrrorAddr , ð'², x, Ä nil , Ä, È, ·, è, ìf□fbfZ□[fW, ð□o—í, ·, é, æ, æ, È□I—¹Zè'±,« , ðfCf" fXfg□[fç, µ, Ü, ·□B□§CEä, ð-ß, ·' O, É·K, , ErrorAddr , ð nil , É□Ÿ'è, µ□C"- , ¶fGf%œ□[, á, Ü, ©, ì□I—¹Zè'±,« , Ä□Ä, ÑfCEf|□[fg, ³, è, È, ç, æ, æ , É, µ, Ü, ·□B

, ·, x, Ä, ì□I—¹Zè'±,« , ðCEÄ, Ñ□o, ·, Æ□Cf%œfCf" f^fCfœf%œfCfuf%œfŠ, ì Windows , É□§CEä, ð-ß, µ□CErrrorAddr , ì'í, ð-ß, èfR□[fh, Æ, µ, Ä"n, µ, Ü, ·□B

ŽQÆ

DLL

—áŠO^—

-á

{ ŽŸ,ì-á,í|l-¹Žè'±,«,ìŽÀŒ»•û-@,ìŠT-a,ðŽ|,μ,Ä,ç,Û,· }

program Testexit;

var

ExitSave: Pointer;

procedure MyExit; **far**;

begin

ExitProc := ExitSave; { •K,ŒÄ,çfxfNf^,©,ç[]æ,É%oñ•œ,μ,Û,· }

end;

begin

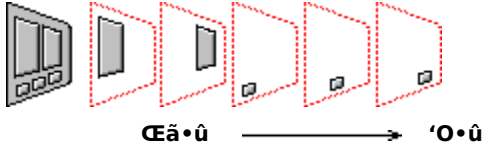
ExitSave := ExitProc;

ExitProc := @MyExit;

end.

fRf“f|[]f|f“fg,ì Z f|[]f_[][,ì•i[]X

ftfH[]f€[]ã,ÁfRf“f|[]f|f“fg,ª[]d,È,è[]±,Á,Ä,ç,é[]ê[]±[]C[]ÁCEã,É'Ç%°Á,³,ê,½fRf“f|[]f|f“fg,ðŠÜ,þ-
 Ê,ª[]C,» ,ê^Ê'O,É'Ç%°Á,³,ê,Ä,ç,éRf“f|[]f|f“fg,ðŠÜ,þ-
 Ê,æ,è[]í,É'O,É,«,Ü,·[]B,Á,Ü,è[]CftfH[]f€[]ã,Á[]d,È,è[]±,±fRf“f|[]f|f“fg,í'w[]ó,É,È,è,Ü,·[]B



•\Ž,µ,½,ç[]±,É•À,Ô,æ,±,ÉfRf“f|[]f|f“fg,ð'Ç%°Á,µ,Ä,ç,È,ç[]ê[]±,à, ,è,Ü,·[]B,» ,ì[]ê[]±[]CfRf“f|
 []f|f“fg,ð•Ê,ìfRf“f|[]f|f“fg,ìCEã,è,É^Ú“® ,Á,« ,Ü,·[]BfRf“f|[]f|f“fg,ð^Ú“® ,·,é,É,í[]C,» ,ì•\
 Ž!^w,ì^Ê^u,ð•i[]X,µ,È,,Á,í,È,è,Ü,¹,ñ[]BfRf“f|[]f|f“fg,ìfCEfCfAfEfg,ì Z Ž² ([][,³)
 []ã,É, ,é,½,ß[]CftfH[]f€[]ã,ìfRf“f|[]f|f“fg,ì•\Ž!^w,ì Z f|[]f_[][,Æ,ç,ç,Ü,·[]B,Ç,ìfRf“f|[]f|f“fg,ì'O,É
 (,Ü,½,í[]ã,É) ,Ç,ìfRf“f|[]f|f“fg,ª,é,©,ì Z f|[]f_[][,É,æ,Á,ÄCE^,Ü,è,Ü,·[]B

ftfH[]f€,ì" wCEi,É•\Ž,µ,½,çfOf%°ftfBfbfN,â[]}CE` ,ð'Ç%°Á,·,é,Æ,« ,É[]CZ f|[]f_[][,ª" ñ[]í,É-ð,É-
 š,¿,Ü,·[]B

fRf“f|[]f|f“fg,ì Z f|[]f_[][,ð•i[]X,·,é,É,í

1. fRf“f|[]f|f“fg,ð'í'ð,µ,Ü,·[]B
2. fRf“f|[]f|f“fg,ì^Ú“® •ûCEü,É%°ž,¶,Ä[]m•Ò[]W(E)[]b'O-
 Ê,É^Ú“®(F)[]n,Ü,½,í[]m•Ò[]W(E)[]b" w-Ê,É^Ú“®(B)[]n,ð'í'ð,µ,Ü,·[]B

f[]f: fEfBf“fhfEfRf“fgf[][]f<,Æ" ñfEfBf“fhfEfRf“fgf[][]f<,É,í[]C,» ,ê,¼,ê[]ê—p,ì Z f|[]f_[][~ _—
 [],ª, ,è,Ü,·[]B" ñfEfBf“fhfEfRf“fgf[][]f< (Label fRf“f|[]f|f“fg,à Shape fRf“f|[]f|f“fg)
 ,ìfEfBf“fhfEfRf“fgf[][]f< (f{f^f",É,Ç) ,ì Z f|[]f_[][,É,í"}ü,Á,« ,Ü,¹,ñ[]B

ŽQÆ

Žè'±,«

ŠÖ"

%%ŽŽžq,ì—Dæř^Ê

ŽQÆ

%%ŽŽžq,í 1 ,Â,Û,½,í•;” ,lff[]f^ ,É’í,μ,Ä%%ŽŽ,đ,·,é,±,Æ,đŽ!,·fVf“f{f<,Û,½,í—\= ñÆé,Â,·B

Object Pascal ,ì%%ŽŽžq,ì—Dæř^Ê,đŽÿ,ÉŽ!,μ,Û,·B

%%ŽŽžq	—Dæř^Ê	ffefSfš
@ not	1 "Ô-Ú (,)	'P€%%ŽŽžq
* / div mod as	2 "Ô-Ú	ææœ,ÆÆ^fLfffXfg,ì
and shl shr		%%ŽŽžq
+ - or xor	3 "Ô-Ú	%%ÁÆ,%%ŽŽžq
= <> < >	4 "Ô-Ú ('á)	ŠÖÆW[]C[]W[]ř<A'®ŠÖÆW[]C
<= >= in is		Æ^"äšr,ì%%ŽŽžq

—Dæř^Ê,ì<K'Ÿ

- Dæř^Ê,è^Û,È,é 2 ,Â,ì%%ŽŽžq,ìŠÔ,ìfifyf%of“fh,ì—Dæř^Ê,è,ç,·ù,ì%%ŽŽžq,ÆÆ<,Ñ,Â,«,Û,·B
- “™%ø,È 2 ,Â,ì%%ŽŽžq,ìŠÔ,ìfifyf%of“fh,ì[]‘Ÿ,ì%%ŽŽžq,ÉÆ<,Ñ,Â,«,Û,·B
- ffbfR“à,ìŽ®,í•]ø,³,è,½Æă,É 1 ,Â,ì%%ŽŽžq,Æ,μ,ÄŽæ,è^μ,í,è,Û,·B

ŽQÆ

@ %%%žžžq

'ă"ü%%žžžq

"ñ€žžp%%žžžq

frfbfg%%žžžq

~ —%%žžžq

•ŕžš|fCf“f^%%žžžq

ŠÖÆW%%žžžq

W‡%%žžžq

•ŕžš—ñ%%žžžq

'P€žžp%%žžžq

fofŠfAf“fg%%žžžq

“ñ€ŽŽp%%ŽŽq

ŽQÆ %%ŽŽq

“ñ€ŽŽp%%ŽŽq, í 2 , Â, Ìfÿf%of“fh, Éí, µ, ÄŽŽp%%ŽŽ, ð, µ, Ü, ·B
 Žÿ, Ì“ñ€ŽŽp%%ŽŽq, ð, è, Ü, ·B

%%ŽŽq	%%ŽŽ	fÿf%of“fh	€<%É
+	%%ÄŽŽ	Ⓜ“€^ ŽÀ“€^	Ⓜ“€^ ŽÀ“€^
-	€ , ŽŽ	Ⓜ“€^ ŽÀ“€^	Ⓜ“€^ ŽÀ“€^
*	ⓂæŽŽ	Ⓜ“€^ ŽÀ“€^	Ⓜ“€^ ŽÀ“€^
/	ⓂœŽŽ	Ⓜ“€^ ŽÀ“€^	ŽÀ“€^ ŽÀ“€^
div	ⓂⓂ“ⓂœŽŽ	Ⓜ“€^	Ⓜ“€^
mod	Ⓜè—]	Ⓜ“€^	Ⓜ“€^

€^, ðⓂⓂ“€^, Ì••“íí, Â, , éfÿf%of“fh, ÌⓂⓂ“€^, Æ, µ, ÄŽæ, è^µ, í, è, Ü, ·B

+ⓂC-ⓂC*ⓂC**div**, **mod** %%ŽŽq, Ìê•ù, Ü, ½, Í—¼•ù, Ìfÿf%of“fh, ðⓂⓂ“€^, ÌêⓂⓂC€<%É, Ì€^, í 2 , Â, Ìfÿf%of“fh, Ì<“É€^, Â, ·B

+ⓂC-ⓂC* %%ŽŽq, Ì—¼•ù, Ìfÿf%of“fh, ðŽÀ“€^, ÌêⓂⓂC€<%É, Ì€^, í Extended , Â, ·B

X/Y, Ìl, Ìfÿf%of“fh, Ì€^, ÉŠÖ€W, È, Ìí, É Extended €^, Â, ·B Y, ð 0, ÌêⓂⓂC ŽÀsŽžfGf %%[, É, È, è, Ü, ·B ŽÀsŽžfGf%%[, Ì—áŠÖ, ðŽg, Á, Ä^—, Â, «, Ü, ·B

l **div** J, Ìl / J, ÌŽŽpⓂ, ð 0, Ì•ù€ü, ÌⓂⓂ“€^l, ÉŠÜ, ß, ½l, Â, ·B J, ð 0, ÌêⓂⓂC fGf %%[, É, È, è, Ü, ·B ŽÀsŽžfGf%%[, Ì—áŠÖ, ðŽg, Á, Ä^—, Â, «, Ü, ·B

mod %%ŽŽq, í 2 , Â, Ìfÿf%of“fh, É, æ, éœŽŽ, Ìè—], ð•Ô, µ, Ü, ·B

$$I \text{ mod } J = I - (I \text{ div } J) * J$$

mod, Ì€<%É, Ì•, Ⓜ+, Ìl, Ì•, Ⓜ+, Æ“^, ¶, Â, ·B J, ð 0, ÌêⓂⓂCfGf%%[, É, È, è, Ü, ·B

fÿf : +ⓂC-ⓂC* %%ŽŽq, ÌⓂⓂⓂ+%%ŽŽqⓂC•¶Žšfÿf“f^%%ŽŽqⓂC’P€%%ŽŽq, Æ, µ, Ä, àŽg, Ì, Ü, ·B+ %%ŽŽq, Ì•¶Žš—ñ%%ŽŽq, Â, à, , è, Ü, ·B

ŽQÆ

CE^

Is %%%ŽŽŽq

ŽQÆ

is %%%ŽŽŽq, í“®“ICE^f`fffbfN, ð, ·, é, ì, ÉŽg, ç, Ü, ·**Bis** %%%ŽŽŽq, ðŽg, x
, ÆCfífufWfFfNfgŽQÆ, ÌŽÀÜ (ŽÄsŽž) , ICE^, a“Á’è, ífNf%ofX, É’®, ·, é, ©, Ç, x
, ©, ðf`fffbfN, Á, «, Ü, ·**Bis** %%%ŽŽŽq, Ì\·¶, ðŽÿ, ÉŽì, µ, Ü, ·B

ObjectRef **is** ClassRef

ObjectRef , ífífufWfFfNfgŽQÆ, ÁCClassRef , ífNf%ofXŽQÆ, Á, ·**Bis** %%%ŽŽŽq, Í~—
¶l, ð•Ô, µ, Ü, ·BCE<%É, í ObjectRef , a ClassRef , É, æ, Á, ÄŽì, ³, è, éfNf%ofX, ífCf“fXf^f“fX, Ü, ½, í
ClassRef , É, æ, Á, ÄŽì, ³, è, éfNf%ofX, ©, ç“h¶¶, µ, ½fNf%ofX, ífCf“fXf^f“fX, È, ç, Í True
, Á, ·B, » , è^ÈŠO, Ìê¶, íCFalse , Á, ·BObjectRef , a **nil** , È, ç, ICE<%É, í¶í, É False , Á, ·BObjectRef
, Æ ClassRef , ÌéCE¾, ³, è, ½CE^, aŠÖCEW, È, ç, ±, Æ, a, í, ©, Á, Ä, ç, éêê¶C, ·, È, í, z ObjectRef
, ÌéCE¾, ³, è, ½CE^, a ClassRef , Ìã^ÊC“™ %%%C%ºÉ, Ì, ç, , è, Á, à, È, ç, ±, Æ, a, í, ©, Á, Ä, ç
, éêê¶CfRf“fpfCf%o, ICE^·s^é’vfGf%o[, ð•ñ¶, µ, Ü, ·B

is %%%ŽŽŽq, í·ÚCEì, ³, è, ½CE^flffXfg, Ì, ½, ß, É **if** ·¶, Æ^ê¶, ÉŽg, x, ±, Æ, a, æ, -
, , è, Ü, ·B, ½, Æ, !, ÌCŽÿ, Ì, æ, x, ÉŽg, ç, Ü, ·B

if ActiveControl **is** TEdit **then** TEdit(ActiveControl).SelectAll;

, ±, ±, Á, í **is** fefXfg, a True , Ìêê¶CActiveControl , ð^À’S, ÉfNf%ofX TEdit
, ÉCE^flffXfg, Á, «, Ü, ·B

%%ŽŽŽq—D¶æ¶^Ê, Ì<K’¥, Á, í **is** %%%ŽŽŽq, ÍŠÖCEW%%ŽŽŽq
(=C<>C<C>C<=C>=Cin) , Æ“~ , ¶fOf<¶[fv, É’®, µ, Ü, ·B, Á, Ü, èC**and** , Æ **or** %
%%ŽŽŽq, ðŽg, Á, Ä¼, Ì~—¶Ž®, ÆCE<¶, ·, éêê¶C**is** fefXfg, ífjfbfR, Á^í, Ü, È, , Á, í, È, è, Ü, ¹, ñB

if (Sender **is** TButton) **and** (TButton(Sender).Tag <> 0) **then** ...;

ŽQÆ
ðCE•¶

As %oo%ooŽŽŽq

ŽQ□Æ

as %oo%ooŽŽŽq, íf`fFfbfN•t,«,ìCE^fLfffXfg,đ,·,é,ì,ÉŽg,ç,Ü,·□**Bas** %oo%ooŽŽŽq,ì□\
•¶,đŽŸ,ÉŽ!,μ,Ü,·□B

ObjectRef **as** ClassRef

ObjectRef ,íffufWfFfNfgŽQ□Æ,Å□CClassRef ,íNf%ofXŽQ□Æ,Å,·□BCE<%oÉ,ì!í ObjectRef
,Æ“~,¶ffufWfFfNfg,Ö,ìŽQ□Æ,Å,·,ª□CClassRef ,É,æ,Á,Ä—^,!,ç,é,éCE^,Å,·□BŽÄ□sŽž,É•]‰
¿,·,é□ê□#□CObjectRef ,í **nil**, ClassRef ,É,æ,Á,ÄŽ!,ª,é,fNf%ofX,ífCf“fXf^f“fX□CClassRef
,É,æ,Á,ÄŽ!,ª,é,fNf%ofX,©,ç“h□¶,μ,½fNf%ofX,ífCf“fXf^f“fX,ì,ç,,é,©,Á,È,,Á,Í,È,è,Ü,¹,ñ□B,ç
,,é,ì□đCE□,à True ,Á,È,ç□ê□#□C—áŠO,ª□¶□¬,ª,é,Ü,·□BObjectRef ,Æ ClassRef
,ì□éCE¾,ª,é,½CE^,ªŠÖCEW,È,ç,±,Æ,ª,í,©,Á,Ä,ç,é□ê□#□C,·,È,í,¿ ObjectRef
,ì□éCE¾,ª,é,½CE^,ª ClassRef ,ì□ã^É□C“™ %oo¿□C%ooº^É,ì,ç,,é,Á,à,È,ç,±,Æ,ª,í,©,Á,Ä,ç
,é□ê□#□CfRf“fpfCf%oo,íCE^•s^é'vfGf%oo□[,đ•ñ□□,μ,Ü,·□B

as %oo%ooŽŽŽq,í **with** •¶,Æ^ê□□,ÉŽg,±,±,Æ,ª,æ,, ,è,Ü,·□B,½,Æ,!,î□CŽŸ,ì,æ,±,ÉŽg,ç,Ü,·□B

with Sender **as** TButton **do**

begin

Caption := '&Ok!';

OnClick := OkClick;

end;

%oo%ooŽŽŽq—D□æ□#^É,ì<K'¥,Å,Í **as** %oo%ooŽŽŽq,í□æ□œŽŽ%oo%ooŽŽŽq (*□C/□Cdiv, **mod**,
and, **shl**, **shr**) ,Æ“~,¶fOf<□[fv,É'®,μ,Ü,·□B,Á,Ü,è□C•ï□“ŽQ□Æ“à,ÁŽg,±□ê□#□Cas
CE^fLfffXfg,ífjfbfR,Å^í,Ü,È,,Ä,í,È,è,Ü,¹,ñ□B

(Sender **as** TButton).Caption := '&Ok!';

ŽQÆ

•i",.iCE^fLfffXfg

With •¶

'P€ŽŽp%%ŽŽžq

%%ŽŽžq

'P€ŽŽp%%ŽŽžq,íflyf%of“fh,ì•,„†,žž,μ,Û,·B

žž,ì'P€ŽŽp%%ŽŽžq,à, ,è,Û,·B

<u>%%ŽŽžq</u>	<u>%%ŽŽ</u>	<u>flyf%of“fh</u>	<u>€<%Ê</u>
+ •„†žž•Ê	®“€^ žž“€^	®“€^ žž“€^	
- •„†“Û'è	®“€^ žž“€^	®“€^ žž“€^	

f f: €^,à†~€^,ì•”•à”íí,íflyf%of“fh,í†~€^,Æ,μ,Äžæ,è^μ,í,è,Û,·B

+ ,Û,½,í - %%ŽŽžq,íflyf%of“fh,àžž“€^,ìé†C€<%Ê,ì€^,í Extended ,Å,·B

f f: + ,Æ - %%ŽŽžq,íW†%%ŽŽžqC•žžf|fCf“f^%%ŽŽžqC“ň€%%
ŽŽžq,Æ,μ,Ä,àžž,ì,Û,·B+ %%ŽŽžq,í•žžš—ň%%ŽŽžq,Å,à, ,è,Û,·B

frfbfg%oo%oZZZq

%oo%oZZZq

frfbfg%oo%oZZZq, í®" ,lfrfbfg'l, ð•ïX, μ, Ü, ·B

ŽŸ, lfrfbfg%oo%oZZZq, a, , è, Ü, ·B

%oo%oZZZq	%oo%oZZ	flfyf%of"fh	CE<%oÊ
not ffrfbfg"Ù'è	®"CE^	®"CE^	
and ffrfbfg, Ì~_—□□ï	®"CE^	®"CE^	
or ffrfbfg, Ì~_—□~a	®"CE^	®"CE^	
xor ffrfbfg, Ì			
"r'¼"l~_—□~a	®"CE^	®"CE^	
shl ffrfbfg, Ì¶fVftfg	®"CE^	®"CE^	
shr ffrfbfg, Ì%EfVftfg	®"CE^	®"CE^	

not ,lfrfbfg'l, ð"½", μ, Ü, ·B, ½, Æ, !, lfrfbfg, a 1 , È, ç, ÎC**not** , É, æ, Á, Ä 0 , É, È, è, Ü, ·B

not , í'P€%oo%oZZZq, Å, ·B**not** %oo%oZZZq, lflfyf

%of"fh, a®"CE^, Ìê#CCCE<%oÊ, í"~, ¶®"CE^, Å, ·B

frfbfg%oo%oZZZq **and**, **or**, **xor** , í'í%ž, ·, éfrfbfgŠÔ, Ì~_—□%oo%oZZ, ð, μ, Ü, ·B

and, **or**, **xor** %oo%oZZZq, Ì—¼•û, lflfyf%of"fh, a®"CE^, Ìê#CCCE<%oÊ, ÌCE^, í 2 , Â, lflfyf
%of"fh, Ì<α'ÊCE^, Å, ·B

%oo%oZZ | **shl** J , Æ | **shr** J , í | , Ì'l, ð¶, Ü, ½, í%oE, É J ffrfbfg, ¾, ~fVftfg, μ, Ü, ·BCE<%oÊ, ÌCE^, í |
, ÌCE^, Æ"~, ¶, Å, ·B

not, **and**, **or**, **xor** , í~_—□%oo%oZZZq, Å, à, , è, Ü, ·B

~_—□%o%oŽŽŽq

ŽQ□Æ %o%oŽŽŽq

~_—□%o%oŽŽŽq,íŽ® ,đ•]‰, ,é,½,β,É~_—□f□Wf□fN,đŽg,¢,Ü,·□B

ŽŸ,ì~_—□%o%oŽŽŽq,ª, ,è,Ü,·□B

%o%oŽŽŽq	%o%oŽŽ	f fyf%of“fh	œ<%oÉ
not	~_—□”Ù’è	~_—□	~_—□
and	~_—□□ĩ	~_—□	~_—□
or	~_—□~a	~_—□	~_—□
xor	”r’¼“l~_—□~a	~_—□	~_—□

not ,í~_—□’l,đ”½“],μ,Ü,·□B,½,Æ,ı,ı **not** True ,ı False ,Á,·□B**not** ,ı’P□€%o%oŽŽŽq,Á,·□B

and ,ı—¼•û,ıfıfyf%of“fh,ª True ,È,ç,ı□CTrue ,đ•Ô,μ,Ü,·□B

or ,ı,¢, ,è,©,Ü,½,ı—¼•û,ıfıfyf%of“fh,ª True ,È,ç,ı□CTrue ,đ•Ô,μ,Ü,·□B

xor ,ı—¼•û,Á,ı,È, ,¢, ,è,©^è•û,ıfıfyf%of“fh,¾,¯,ª True ,È,ç,ı□CTrue ,đ•Ô,μ,Ü,·□B—¼•û,ıfıfyf%of“fh,ª True ,ı□ê□‡,ı□CFalse ,đ•Ô,μ,Ü,·□B

and ,Æ **or** %o%oŽŽŽq,ı~_—□’l,ıfyfA,É’ı,μ,Äı—p,μ□CObject Pascal ,ı,±,è,ç,ı%o%oŽŽŽq,É,Á,¢ ,Ä 2 Žı—p,ıfR□[fh□ı□¬f,fff<,đfTf|□[fg,μ,Ä,¢,Ü,·□B

▪ Š®’S•]‰,ı

▪ fVf‡□[fgfT□[fLfbfg•]‰,ı

•]‰,ıf,fff<,ı \$B fRf“fpfCf%oŽw—β,É,æ,Á,Ä□\$Eä,μ,Ü,·□BfffTfHf<fg□ó’Ô **{\$B-}** ,Á,ıfRf“fpfCf%o ,ıfVf‡□[fgfT□[fLfbfg•]‰,ıfR□[fh,đ□ı□¬,μ,Ü,·□B **{\$B+}** □ó’Ô,Á,ıfRf“fpfCf%o,ıŠ®’S•]‰,ı,đ□ı□¬,μ,Ü,·□B

not , **and** , **or** , **xor** ,ıfıfbfg%o%oŽŽŽq,Á,à, ,è,Ü,·□B

ŽQÆ

~ — □ Ž®

~ — □ Ć^

ŽQÆ

ŠÖEW%%ŽŽq

WZq

Zq

WZq, í 2, Á, W, ã, a, C, C, i, ð, ß, ½, è, W, kA' ŠÖEW, ðfefXfg, é, ð, ÉŽg, ç, Ü, B

ŽŸ, WZq, à, è, Ü, B

Zq	Z	fh
+	ã	ÝŠ·«, ð, éW^
-	·	ÝŠ·«, ð, éW^
*	ĩ	ÝŠ·«, ð, éW^
in	<A' ŠÖEW	¶, ðfh: "C^Ó, ð^ T E, ðfh: Šî- { ^, à T , ÝŠ·«, ð, éW

WZ, ð<É, WZ_—, ðŽŸ, ðK'¥, É], ç, Ü, B

- ð^'I C, í A, Ü, ½, í B, ÉŠÜ, Ü, è, éê, ¾, CA + B, ÉŠÜ, Ü, è, é
- ð^'I C, í A, ÉŠÜ, Ü, è, C, µ, ©, à B, ÉŠÜ, Ü, è, É, çê, ¾, CA - B, ÉŠÜ, Ü, è, é
- ð^'I C, í A, Æ B, ð—¼•ù, ÉŠÜ, Ü, è, éê, ¾, CA * B, ÉŠÜ, Ü, è, é

WZ, ð<É, É<A'®, ·, éÅ, à—, ð, Èð^'I, à A, ÅCÅ, à'á, «, Èð^'I, à B, ðêC<É, ð^, í set of A..B, Å, ·B+ C-C* Zq, ð<É, WZ, ÅCin % Zq, ð<É, í_—^, Å, B

ŠÖŒW%‰‰‰ŽŽŽq

ŽQ□Æ ‰‰‰ŽŽŽq

ŠÖŒW%‰‰‰ŽŽŽq,ÍfÍyf‰‰f“fh,ð”äŠr,μ□CŒ<‰‰Ê,ÉŠî,Ã,~_—□'l,ð•Ô,μ,Û,·□B

‰‰‰ŽŽŽq	‰‰‰ŽŽ	Œ<‰‰Ê	fÍyf‰‰f“fh
=	“™,μ,¢	~_—□	ŒÝŠ·□«,ì, ,é'P□f□CfNf‰‰fX□CfNf‰‰fXŽQ□Æ□CfÍfCf“f^□C□W□‡□C•ŦŽš—ñ□CfpfbfN•ŦŽš—ñ□CVariant ,ìŠeŒ^
<>	“™,μ,,É,¢	~_—□	ŒÝŠ·□«,ì, ,é'P□f□CfNf‰‰fX□CfNf‰‰fXŽQ□Æ□CfÍfCf“f^□C□W□‡□C•ŦŽš—ñ□CfpfbfN•ŦŽš—ñ□CVariant ,ìŠeŒ^
<	,æ,è□¬,³,¢	~_—□	ŒÝŠ·□«,ì, ,é'P□f□C•ŦŽš—ñ□CfpfbfN•ŦŽš—ñ□CPChar□CVariant ,ìŠeŒ^
>	,æ,è'â,«,¢	~_—□	ŒÝŠ·□«,ì, ,é'P□f□C•ŦŽš—ñ□CfpfbfN•ŦŽš—ñ□CPChar□CVariant ,ìŠeŒ^
<=	^È‰‰º	~_—□	ŒÝŠ·□«,ì, ,é'P□f□C•ŦŽš—ñ□CfpfbfN•ŦŽš—ñ□CPChar□CVariant ,ìŠeŒ^
>=	^È□ã	~_—□	ŒÝŠ·□«,ì, ,é'P□f□C•ŦŽš—ñ□CfpfbfN•ŦŽš—ñ□CPChar□CVariant ,ìŠeŒ^
<=	□Ŧ•Ó,ª‰‰E•Ó,ì •”•ª□W□‡	~_—□	ŒÝŠ·□«,ì, ,é□W□‡Œ^
>=	‰‰E•Ó,ª□Ŧ•Ó,ì •”•ª□W□‡	~_—□	ŒÝŠ·□«,ì, ,é□W□‡Œ^

ŽQÆ

~ — Ž®

~ — %%%ŽŽq

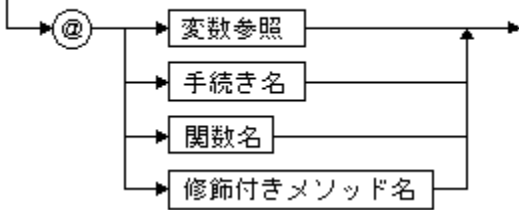
Ā^, ĪĒŸ· «

@ (at) %%%ŽŽŽq: f|fCf“f^“€□i

ŽQ□Æ —á %%%ŽŽŽq

@ %%%ŽŽŽq, í•i□□Čžè±, «□CSÖ□□Cf□f
fbfh, lfAfhfCEfX, ðCEvŽŽ, ·, é, ½, ß, ÉfAfhfCEfX^öžq“à, Åžg, ç, Ü, ·□B

アドレス因子



@ %%%ŽŽŽq, lf|fyf%of“fh, lfAfhfCEfX, ð•Ô, μ, Ü, ·□B, Å, Ü, è□Cf|fyf%of“fh, ðžw, ·f|
fCf“f^“l, ð□i□-, μ, Ü, ·□B

@ %%%ŽŽŽq, É, æ, Å, Ä•i□, Ö, lf|fCf“f^, ð□i□-, Å, «, Ü, ·□B

@ , íP□€%%ŽŽŽq, Å, ·□B

@ %%%ŽŽŽq, ðžè±, «CE^•i□, /Æ^è□□, Éžg, x□è□#, í□C“Ážè, È<K'¥, a“K—p, ³, è, Ü, ·□B

'l, i□e^, í nil, i□e^, /Æ“-, ¶, È, Ì, Å□C, Ç, lf|fCf“f^•i□, É, à“ã“ü, Å, «, Ü, ·□B

@ , /Æ^è□□, Éžg, x, à, Ì •Ô, ·f|fCf“f^, ažw, ·, à, Ì

•i□	•i□
'lfpf%of□□lf^	žÀ□Ü, Ì'l, a“ü, Å, ½xf^fbfN□è□š
•i□“fpf%of□□lf^	žÀfpf%of□□lf^□B fCf“f^CE^, Ì'l, í \$T fRf“fpfCf%žw— ß, É, æ, Å, Ä□šCEä, ·, é
žè±, «, Ü, ½, ÍšÖ□	žè±, «, Ü, ½, ÍšÖ□, lfGf“fgfšf fCf“fg
f□f fbfh	f□f fbfh, lfGf“fgfšf fCf“fg
@ %%%ŽŽŽq, ð•i□“ŽQ□Æ, É“K—p, μ, ½□è□#□CCE<%oÉ, lf fCf“f^“l, i□e^, í { \$T } fRf“fpfCf%žw— ß, É, æ, Å, Ä□šCEä, ³, è, Ü, ·□B	
f<□lf`f“, lfGf“fgfšf fCf“fg, ðžw, ·CE<%oÉ, lf fCf“f^, i□e^, í□í, É Pointer, Å, ·□B	
f□f fbfh, Ü, ½, Ížè±, «f fCf“f^, lfAfzf“fufšCE¾CEéf<□lf`f“, É“n, ·, ±, /Æ, ¾, -, a<-³, è, Ü, ·□B	
f□f fbfh, íCEÀ`è□f fbfhž`•Éžq, É, æ, Å, ÄžQ□Æ, ·, é, æ, x, É, μ, Ä, ¾, ¾, ç□B	

—á

```
{ŽŸ,}fR[fh,ífpf%of[f^,}fRfs[,đ•í[X,μ,Ü,·}
```

```
procedure ValueEx (X :Integer);
```

```
var
```

```
  ptr : ^integer;
```

```
begin
```

```
  ptr := @X;
```

```
  writeln(Ptr^);
```

```
  Ptr^ := 15;
```

```
end;
```

```
var
```

```
  Fred : integer;
```

```
begin
```

```
  Fred := 10;
```

```
  ValueEx (Fred);
```

```
  Writeln (Fred);    {10}
```

```
end.
```

```
{ŽŸ,}fR[fh,íŽÀfpf%of[f^,đ•í[X,μ,Ü,·}
```

```
procedure VarEx(var Y : integer);
```

```
var Ptr : ^integer;
```

```
begin
```

```
  Ptr := @Y;
```

```
  writeln (Ptr^);
```

```
  Ptr^ := 15;
```

```
end;
```

```
var Fred : integer;
```

```
begin
```

```
  Fred := 10;
```

```
  VarEx (Fred);
```

```
  writeln (Fred);    {15}
```

```
end.
```

ŽQÆ

Žè'±,«'l

'lfpf%of[]f^

•i"fpf%of[]f^

'ã"ü%%%žžžq

žQ□Æ =á %%%žžžq

□\•¶

□à-¾

'ã"ü%%%žžžq := ,í (%E•Ó,ì) ž®,ì'ì,đ (□¶•Ó,ì) "¬,¶Æ^,ì•i□",É—^,ì,Ü,·□B

—á

X := Y;

Done := (I > 0) **and** (I < 100)

A[I] := A[I] + 1;

ŽQÆ

'ã"ü,ìŒÝŠ·«

Ž®

•¶

•ï”

fofŠfAf“fg%oo%oZZŽq

ŽQ□Æ %oo%oZZŽq

+□C-□C*□C/□Cdiv□Cmod□Cshl□Cshr□Cand□Ccor□Cxor□Cnot ,iše%oo
%oZZŽq,ífofŠfAf“fgCE^,ìfífyf%of“fh,đfTf|□[fg,μ,À,ç,Û,·□B“ñ□€%oo%oZZŽq,ì□ê□#□C^ê•û,ìfífyf
%of“fh,³fofŠfAf“fgCE^,É,ç,Î,à,π^ê•û,ìfífyf%of“fh,àfofŠfAf“fgCE^,ÉŽ©“®•İŠ·³,ê,Û,·□B

ŽQÆ

foššAf“fgCE^

foššAf“fgŽ®

—\-ñĈĚ

ŽQĚ

—\-ñĈĚ,É,Í Object Pascal Ĉ¼ĈĚ,ì†,ĈĈ^,β,ç,Ě,½^Ó-;ª, ,è,Û,·B—\-ñĈĚ,ÍĈ'è<`,Ĉ,«,Û,¹,ñB

Object Pascal ,íâ•ŕŽš,ĈĈ-•ŕŽš,ð<æ•Ě,μ,È,ç,ì,ĈĈC—\-ñĈĚ,ð<LĈq,·,é,Ĉ,«,íâ•ŕŽš,ĈĈ-•ŕŽš,ð"Ĉ^Ó,É'g,ÝĈ†,í,¹,ĈŽg,ì,Û,·B

f{[f%of"fh,ìf}ffj...fAf<,â,±,ìfwf<fvfVfXfef€,Ĉ,ÍĈC—\-ñĈĚ,ð'¼Žš'ì,Ĉ•\<L,μ,Ĉ,ç,Û,·B

Object Pascal ,ì—\-ñĈĚ,ìfAf<ftf@fxfbfgĈ†Ě—,ðŽŸ,ÉŽì,μ,Û,·B

and

as

asm

array

begin

case

class

const

constructor

destructor

div

do

downto

else

end

except

exports

file

finalization

finally

for

function

goto

if

implementation

in

inherited

inline

initialization

interface

is

label

library

mod

nil

not

object

of

on

or

packed

procedure

program

property

raise

record

repeat

set

shl

shr

string

then

threadvar

to

try

type

unit

until

uses

var

while

with

xor

ŽQÆ

•W€Žw—ß

•W□€Žw—β

ŽQ□Æ

Object Pascal ,ì•W□€Žw—β,É,í'è<`□ī,Ý,ì^Ó—;ª, ,è□C□Ä'è<` ,à%oÁ"\
,Ä,·□B,½,¾,μ□Ä'è<` ,í,È,é,x,,μ,È,ç,Ä,,¾,³,ç□BŽw—

β,íft□[fU□['è<` ,ìŽ`•ÉŽq,ª□oCE»,Ä,« ,È,çfRf"fefLfXfg,Ä,ì,ÝŽg,ç,Ü,·□B

f{□[f%of"fh,ìf}ffj...fAf<,â,±,ìfwf<fvfvfXfef€,Ä,í□C•W□€Žw—β,ð'¾Žš'ì,Ä•\<L,μ,Ä,ç,Ü,·□B

Object Pascal ,í'â•¶Žš,Æ□¬•¶Žš,ð<æ•É,μ,È,ç,ì,Ä□CŽw—

β,ð<L□q,·,é,Æ,« ,í'â•¶Žš,Æ□¬•¶Žš,ð" C^Ó,É'g,Ý□‡,í,¹,ÄŽg,ì,Ü,·□B

Object Pascal ,ì•W□€Žw—β,ìfAf<ftf@fxfbfg□‡^ê—,ðŽŸ,ÉŽì,μ,Ü,·□B

absolute

abstract

assembler

at

automated

cdecl

default

dispid

dynamic

external

forward

index

message

name

nodefault

on

override

pascal

private

protected

public

published

read

register

resident

stdcall

stored

virtual

write

private **protected** **public** **published** **Automated** ,išeŽw—β,íƒNf

%ofXĈ^□éĈ¾,ì†,Å,Í—\-ñĈê,Æ,μ,Ä“,«,Ü,·,ª□C,»ê^ÈŠO,ìó<μ,Å,Í—\-ñĈê,Æ,μ,Ä^μ,í,ê,Ü,·□B

ŽQÆ
—\-ñĈê

Absolute

—á •W□€Žw—β

□\•¶

absolute <address>

□à-¾

•W□€Žw—β **absolute** ,í“Á’è,ìf□f,fŠfAfhfCefX,É^Ê’u,·,é•ï□”,đ□éC¾,μ,Û,·□B

ŽŸ,ì,ç,ì,ç,©,ìŽw’è,^aÂ,«,Û,·□B

- ï□”,đ“Á’è,ìfAfhfCefX,É’¼□ÚŠ,,è“-,Ä,é
- Ê,ì•ï□”,Æ“- ,¶f□f,fŠfAfhfCefX,É^Ê’u,·,é•ï□”,đ□éC¾,·,é

□Å□%o,ìC`Ž®,Â,í•ï□”,ìfAfhfCefX,đ’¼□ÚŽw’è,μ,Û,·□B

2 "Ô-Ú,ìC`Ž®,íŠù’¶,ì•ï□”,ì□ă (“-,¶fAfhfCefX^Ê’u) ,É□V,μ,ç•ï□”,đ□éC¾,μ,Û,·□B

•ï□”□éC¾,É **absolute** □β,^a ,é□ê□#□CŽ`•ÊŽqfŠfXfg,É,í 1 ,Â,ìŽ`•ÊŽq,^¾,` ,đŽw’è,Â,«,Û,·□B

-á

var

Str: ShortString;

StrLen: Byte **absolute** Str;

Abstract

—á •W□€Žw—β

□à-¾

abstract Žw—β, ífífufWfFfNfg'è< , ÅŽg, í, ê□C, ±, iŽw—β, ^aŽw'è, ³, è, ½fífufWfFfNfg"à, Å, í
%o¼'zf□f□fbfh, Ü, ½, í" @ "íf□f□fbfh, ^a□éCÉ¾, ³, è, È, ç, ±, Æ, ðŽ!, μ, Ü, ·□B, ±, í'è< , í%o^oÉ, ífNf
%ofX, É, àCÉp³, ³, è, Ü, ·□B—LCEø, È'ŠÜf□f□fbfh, ífCf"f^□[ftfF□[fX, ð'è< , μ, Ü, ·, ^a□CSî-
{'€□i, í'è< , í, μ, Ü, ¹, ñ□B

f□f□fbfh, ð'ŠÜ, Æ, μ, Ä□éCÉ¾, ·, é, É, í□æ, É **virtual** , Ü, ½, í **dynamic** , Æ□éCÉ¾, μ, È, -
, Ä, í, È, è, Ü, ¹, ñ□B'ŠÜf□f□fbfh, ífí□[fo□[f%ofCfh, ¹, , ÉCÄ, Ñ□o, μ, Ä, í, È, è, Ü, ¹, ñ□B'ŠÜf□f□
fbfh, ífí□[fo□[f%ofCfh, í'Éí, í%o¼'zf□f□fbfh, Ü, ½, í" @ "íf□f□fbfh, ífí□[fo□[f
%ofCfh, Æ" , ¶, Å, ·, ^a□Cfí□[fo□[f%ofCfh, ·, é'x, íf□f□fbfh, iŽÄC» , Å **inherited** f□f
fbfh, ðCÄ, Ñ□o, ¹, È, ç" _ , ^a^Ü, È, è, Ü, ·□B

fí□[fo□[f%ofCfh, ³, è, Ä, ç, È, ç'ŠÜf□f□fbfh, ðCÄ, Ñ□o, » , x, Æ, ·, é, Æ□Cf%of"f^fCf€f%ofCfuf
%ofŠ, iŽè'±, « Abstract , ^aCÄ, Ñ□o, ³, è□Cfvf□fOj%of€, íf%of"f^fCf€fGf%o□[, Å□i—¹, μ, Ü, ·□B

-á

type

 TMyObject = **class**

procedure Something; **virtual; abstract;**

end;

Array

ŽQAE =á

|\•¶

array [index-type] **of** element-type

à-¾

—\-ñĈê **array**, í"z—ñĈ^, ð'è<` , μ, Ū, · □B

•;□", ìfCf"ffbfNfXĈ^, ðjff"f}, Å<æ□Ø, Á, ÄŽw'è, Å, «, Ū, · □B

—v'fĈ^, í, Ç, ìĈ^, Å, à, ©, Ū, ç, Ū,¹, ñ, ^a□CfCf"ffbfNfXĈ^, í□±□~Ĉ^, Å, È, , Ä, í, È, è, Ū,¹, ñ □B

—á

type

```
IntList = array[1..100]    of Integer;  
CharData = array['A'..'Z'] of Byte;  
Matrix   = array[0..9, 0..9] of real;
```

ŽQÆ

"z—ñĈ^

"z—ñĈ^'è"

fCf"ffbfNfX

Asm

ŽQAE —\-ñCEè

□\•¶

asm

AssemblerStmt <Separator AssemblerStmt>

end

- AssemblerStmt ,ÍfAfZf“fuf%•¶,đŽ!,·
- Separator ,ÍfZf~fRf□f“□C%ü□s□CPascal fRf□f“fg,ì,ç,,è,©,Å, ,é

□à-¾

—\-ñCEè **asm** ,Í'g,Ý□ž,ÝfAfZf“fuf%•¶,ÉfAfNfZfX,μ,Ü,·□B

•j□”,ÍfAfZf“fuf%•¶,đ 1 □s,ÉŽw'è,·,é□ê□#□C,»è,¼,è,đfZf~fRf□f“,Å<æ□Ø,è,Ü,·□BfAfZf“fuf%•¶,đ•É□X,ì□s,É'u,□ê□#,ÍfZf~fRf□f“,Í•s—v,Å,·□B

asm •¶,Å,Í□CfZf~fRf□f“,Í□s,ìŽc,è•”•ª,ªfRf□f“fg,Å, ,é,±,Æ,đ^Ó-i,μ,Ü,¹,ñ□BfRf□f“fg,Í { ,Æ } ,Ü,½,Í (* ,Æ *) ,đŽg,¤ Pascal fXf^fCf<,Å,È,,Å,Í,È,è,Ü,¹,ñ□B

fCEfWfXf^,ìŽg,ç•û

asm •¶,Å,ìfCEfWfXf^,ìŽg,ç•û,ì<K'¥,ÍŠO•”,ìŽè'±,«Ü,½,ÍŠÖ□”,Å,ì<K'¥,Æ“-,¶,Å,·□B

asm •¶,Å,ÍŽŸ,ìfCEfWfXf^,đ•Ü□Ø,μ,È,,Å,Í,È,è,Ü,¹,ñ□B

EDI ESI

EBP EBX

asm •¶,Å,ÍŽŸ,ìfCEfWfXf^,đŽ©—R,É•ì□X,Å,«Ü,·□B

EAX EDX ECX

EDI□CESI□CEBP□CEBX fCEfWfXf^ ^ÈŠO,É,Å,ç,Ä,Í□C**asm** •¶,ìfCEfWfXf^,ì“à—e,É,Å,ç,Ä%½,à'z'è,μ,Ü,¹,ñ□B

ŽQÆ

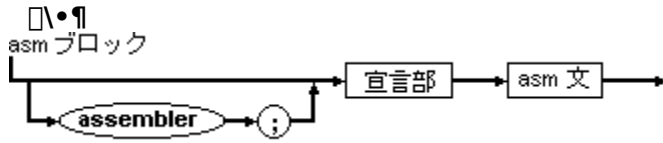
Assembler Žw—ß

fRf“fg

External

Assembler

ŽQ□Æ •W□€Žw—ß



□à-¾

•W□€Žw—ß **assembler** ,đŽg,ꝛ,Æ□C**begin...end** •¶,đŽg,í,,ÉfCf“f %ofCf“fAfZf“fufŠCE¾Æê,ÁŠ@‘S,ÈŽè‘±,«,âŠÖ□”,đ<L□q,Á,«,Ü,·□B

assembler ,đŽg,ꝛ,ÆfRf“fpcf%o,íŽŸ,ì,æ,ꝛ,ÈfR□[fh□¶□→,ì□Á“K%o»,đŽÀ□s,μ,Ü,·□B

- 'lfpf%of□□[f^: fRf“fpcf%o,í'lpf %of□□[f^,đf□□[fj<•i□”,ÉfRfs□[.,éR□[fh,đ□¶□→,μ,È,¢□B,±,ì□Á“K%o»,í,.,x,Ä,ì•¶Žš—ñCE^,ì'lpf %of□□[f^,ÆfTfCfY,^a 1□C2□C4 fofCfg^ÈŠO,ì'lpf%of□□[f^,É□i—p,.,é Žè‘±,«,âŠÖ□”“à,Á,í□C,±,é,¢,lpf%of□□[f^,í **var** fpf%of□□[f^,Æ,μ,Ä^μ,í,È,,Ä,í,È,¢,È,¢ ŠÖ□”CE<%oÈ•i□”: fRf“fpcf%o,íŠÖ□”CE<%oÈ•i□”,đŠ,,è“-Ä,.,□C@Result fvf“f{f<,Ö,ìŽQ□Æ,ífGf%o□[,É,È,é •¶Žš—ñŠÖ□”,íŠÖ□”CE<%oÈ,ì□Á“K%o»,Á,í—áŠO,Æ,μ,Ä^μ,í,é,é□B•¶Žš—ñŠÖ□”,íCEÄ,Ñ□o,μ'ꝛ,É,æ,Á,ÄŠ,,è“-Ä,¢,é,½ @Result fJfCf“f^,đ□í,ÉŽ□,Á,Ä,¢,é fXf^fbfNftfCE□[f€: fRf“fpcf%o,lpf%of□□[f^,âf□□[fj<•i□”,đŽ□,½,È,¢Žè‘± <,ÆŠÖ□”,É,ífXf^fbfNftfCE□[f€,đ□¶□→,μ,È,¢ fAfZf“fuf%oŽè‘±,«,Ü,½,íŠÖ□”,ÉŽ©“@“i,É□¶□→,³,é,éGf“fgfŠfR□[fh,Æ□i—¹fR□[fh,íŽŸ,ì,æ,ꝛ ,É,È,è,Ü,·□B

```

PUSH    BP                ;Locals <> 0 ,Ü,½,í Params <> 0 ,È,¢,í□¶□→,μ,Ü,·
MOV     BP, SP            ;Locals <> 0 ,Ü,½,í Params <> 0 ,È,¢,í□¶□→,μ,Ü,·
SUB     SP, Locals       ;Locals <> 0 ,È,¢,í□¶□→,μ,Ü,·
.
.
.
MOV     SP, BP            ;Locals <> 0 ,È,¢,í□¶□→,μ,Ü,·
POP     BP                ;Locals <> 0 ,Ü,½,í Params <> 0 ,È,¢,í□¶□→,μ,Ü,·
RET     Params            ;í,É□¶□→,3,é,Ü,·
  
```

Locals ,Æ Params ,^a,Æ,à,Éf[f□,ì□é□#□CfGf“fgfŠfR□[fh,í□¶□→,³,é,.,□C□i—¹fR□[fh,í RET -½—ß,¾,.,É,È,è,Ü,·□B

assembler ,đŽg,ꝛŠÖ□”,íCE<%oÈ,đŽŸ,ì,æ,ꝛ,É•Ö,³,È,,Ä,í,È,è,Ü,¹,ñ□B

ŠÖ□”,ìCE^ •Ö,³,é,éCE<%oÈ

□#□~CE^	AL (8 frfbfg'l) AX (16 frfbfg'l) EAX (32 frfbfg'l)
ŽÀ□”	fRfvf□fZfbfT,ífCEfWfXf^fXf^fbfN□ã,ì ST(0)
fJfCf“f^	EAX
'Z,¢•¶Žš—ñ	@Result ,ÁŽ!, ³ ,é,é^èŽž“i,È^È'u

ŽQÆ
Asm

ŽQÆ

fRf“f□[f□f“fg,ì%oÂŽ<□«

private

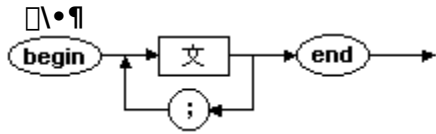
protected

public

published

begin ... end fufjbfN

ŽQÆ á ÑÊ



à-¾

ÑÊ **begin** ,Æ **end** ,Íê~A,ì¶,đfOf<¶[fv%»»,μ,Ä¶;¶,É,μ,Ü,·B

¶;¶,Í 1 ,Â,ì¶,Æ,μ,Ä^μ,í,é,Ü,·B

-á

(* •i□#•¶,ð if •¶“à,ÅŽg,ç,Ü,• *)

if First < Last **then**

begin

Temp := First;

First := Last;

Last := Temp;

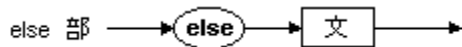
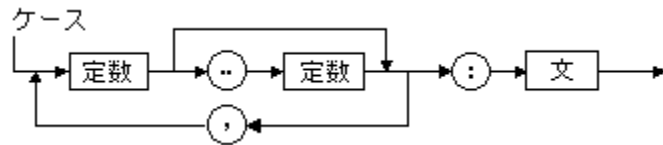
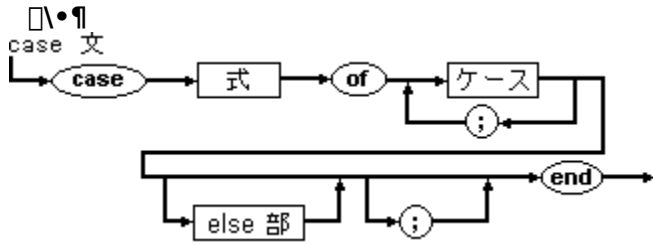
end;

ŽQÆ

•9

Case

ŽQ□Æ =á =\-ñCEê



□à-¾

case •¶, ífR□[fh“à, ÅCEÿ□o, ¾, ê, ½CE<%oÊ, Ü, ½, í'l, ÉŠî, Ā, ç, ÄfR□[fh, ð•³Šð, ·, é, ½, ß, ÉŽg, ç, Ü, ·□B

case •¶, íŽ® (fZfCEfNf^), Æ•¶, ífŠfXfg, Å□□¬, ¾, ê□CŠe•¶, ì□æ“ª, É, í 1, Ā, Ü, ½, í•j□”, ì'è□” (case 'è□”) , Ü, ½, í-\-ñCEê **else** ,ª'u, ©, ê, Ü, ·□BfZfCEfNf^, ì□#□~CE^, Ā, È, , Ā, í, È, ç, È, ç, ½, ß□C•¶Žš—ñCE^, ífZfCEfNf^, ìCE^, Æ, µ, Ā, í-³CEø, Ā, ·□B

, ·, x, Ā, ì case 'è□”, íftfj□[fN, Ā, È, , Ā, í, È, ç, , □CfZfCEfNf^CE^, ÆCEÿŠ·, ì□#□~CE^, Ā, È, -, Ā, í, È, è, Ü, ¹, ñ□B

fVf□[fOf%of€,ª **case** •¶, É“ü, é, Æ□C^è'v, ·, é'l,ªCE©, Ā, ©, é, Ü, ĀŠeŽ®,ª•]‰
 ž, ¾, ê, Ü, ·□Bè'v, ·, é'l,ªCE©, Ā, ©, é, ÆfVf□[fOf%of€, í, »), íŽ®, ÉŠÖ~A•t, -, ç, ê, Ā, ç
 , éfAfNfVf#f”, ðŽÀ□s, µ, Ü, ·□Bè'v, ·, é'l,ªCE©, Ā, ©, ç, È, ç□ê□#□C**else**

•¶, ðfftfHfçfg, Æ, µ, ĀŽg, í, ê, Ü, ·□B**else** •”,ª, È, ç□ê□#□C**case** •¶, íŽÿ, ì•¶,ª±, ç, ĀŽÀ□s, ¾, ê, Ü, ·□B

case •¶, ì"í, ì□d•j, µ, Ā, í, È, è, Ü, ¹, ñ□B, µ, ½,ª, Ā, Ā□CŽÿ, ì **case** •¶, í" F, ß, ç, ê, Ü, ¹, ñ□B

```

case MySelector of
    5: Writeln('Special case');
    1..10: Writeln('General case');
end;

```

case 'è□”, ð□, □#É”z'u, ·, é, ÆfRf“fpfCf%o, í **case** , ð□Ā“K%o», µ, ÄfWfff“fv, É'u, «Š·, ì, é, ½, ß□C-^%oñCEvŽŽ, ð, ·, é•K—v,ª, È, È, è, Ü, ·□B, ½, Æ, í, î□CfRf“fpfCf%o, íŽÿ, ì **case** •¶, ðfWfff“fv, É'u, «Š·, ì, Ü, ·□B

```

case MySelector of
    1: Writeln('One');
    2: Writeln('Two');
    else Writeln('More');
end;

```

Žÿ, ì□ê□# , íCEvŽŽ,ª•j□”‰oñŽÀ□s, ¾, ê, Ü, ·□B

```

case MySelector of

```

```
2: Writeln('Two');  
1: Writeln('One');  
  else Writeln('More');  
end;
```

-á

```
case Ch of  
  'A'..'Z', 'a'..'z': WriteLn('Letter');  
  '0'..'9':          WriteLn('Digit');  
  '+', '-', '*', '/': WriteLn('Operator');  
else  
  WriteLn('Special character');  
end;
```

ŽQÆ

Else

Ž®

•¶

Cdecl

ŽQÆ •W€Žw—β

∅\•¶

procedure A; cdecl;

∅à-¾

cdecl Žw—β, íCŽè'±, «, Ü, ½, íŠÖ", aƒpf%of[f^, ðŽó, ~"n, µ, É C/C++ , ðÄ, Ño, µ<K-ñ, ðŽg, x, ±, Æ, ðŽw'è, µ, Ü, ·B

C/C++ Ä, Ño, µ<K-ñ, Å, íCƒpf%of[f^, í%oE, ©, ç¶, ð‡, Å"n, ³, êCfXf^fbfNã, ðƒpf%of[f^, íÄ, Ño, µ'x, aŽæ, èœ, «, Ü, ·B

C/C++ Ä, Ño, µ<K-ñ, íCC/C++ , , é, ç, í'¼, ð¾Äê, Å', ©, ê, ½f_fCfif~fbfNfŠf"fnf%ofCfuf%ofŠ (DLL) , ©, çGfNfXf[f^g, ·, éf<[f`f", ðÄ, Ño, ·, ½, β, É, íÅ, à•Ö—~ , Å, ·B

ŽQÆ

Ā.Ño,μK-ñ

pascal

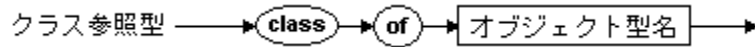
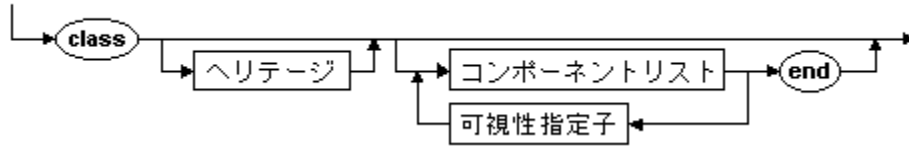
register

stdcall

Class

ŽQAE —\-ñĈĕ

□\•¶
オブジェクト型



□à-¾

—\-ñĈĕ **class** ,ílfufWfFfNfgĈĕ ,Ü,½,íNf%ofXf□f□fbfh,đ□éĈĕ¾,·,é,½,β,ÉŽg,ç,Ü,·□BfNf %ofXŽQ□AEĈĕ ,đ'è< ,·,é,½,β,É,àŽg,ç,Ü,·□B

flfufWfFfNfgĈĕ ,íĈĕ ,β,ç,é,½ĈĕĀ□" ,íRf" f□[f"fg,đŽ□,Āff□[f^□'ç,Ā,·□BŞefRf"fj □[f"fg,íftfB□[f<fh ("Ā'è,íĈĕ ,)ff□[f^ ,đŠÜ,β)□CflfufWfFfNfg,É'í,μ,Ā'€□,đŽĀ□s,·,é□f fbfh□C,Ü,½,ífv□pfefB,ì,ç,·,é,©,Ā,·□B

ftfB□[f<fh,ì□éĈĕ¾,Ā,íftfB□[f<fh,ì-¼'O,đŽw'è,·,éŽ'•ÉŽq,Ā□Cff□[f^Ĉĕ ,đŽw'è,μ,Ü,·□B

f□f□fbfh,ì□éĈĕ¾,Ā,íŽè'±,«□CŠÖ□"□CfRf"fXfgf%ofNf^□C,Ü,½,íffXfgf %ofNf^,ífwbf_□[,đŽw'è,μ,Ü,·□B

fv□pfefB,ì'è< ,Ā,ífv□pfefB,Ā,» ,íAfnfzxf□f□fbfh,đŽw'è,μ□C,³,ç,É□^—□,ì— —,è,ìŠÖ,Éfv□pfefB,³,ç,ì,æ,α,É" @□ì,·,é,©,É,Ā,ç,Ā,ì□í•ñ,đŽw'è,Ā,« ,Ü,·□B

flfufWfFfNfgĈĕ ,í•É,ílfufWfFfNfgĈĕ ,©,çRf"fj □[f"fg,đĈep□³,Ā,« ,Ü,·□BĈep□³,³,é,éflfufWfFfNfg,í%o^ÉflfufWfFfNfg,Ā ,è□CĈep□³Ĉĕ³,ílfufWfF fNfg,í□ă^ÉflfufWfFfNfg,Ā,·□B

flfufWfFfNfgĈĕ ,íhf□Cf" ,í,» ,ílfufWfFfNfgŽ©'ì,Ā,·,x,Ā,ì%o^ÉflfufWfFfNfg,Ā□□—,³,é,Ü,·□B

fNf%ofXŽQ□AEĈĕ ,í—\-ñĈĕ **class of** ,ĀfNf%ofX- ¼,©,ç,É,éfv□[fPf"fX,đŽg,Ā,Ā'è< ,μ,Ü,·□BfNf

%ofXŽQ□AEĈĕ ,ì•í□" ,đŽĀ□sŽž,É□Y'è,μ□C□éĈĕ¾,ĀŽw'è,³,é,½fNf%ofX,Ü,½,í,» ,íNf%ofX,ì %o^ÉfNf%ofX,đŽQ□AE,Ā,« ,Ü,·□B

ŽQÆ

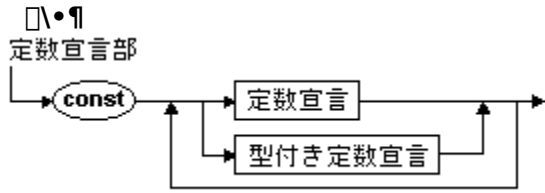
ftfB[f<fh,ÆflfufWfFfNfgCE^—v'f,iŽw'èŽq

flfufWfFfNfgCE^,lfXfR[fv

flfufWfFfNfgCE^

Const

ŽQ□Æ —á —\-ñŒê



□à-¾

—\-ñŒê **const** ,í,±

,ì□éŒ¾,đŠÛ,pfuf□fbfN“à,Ā'ì,ì•ï□X,ª,Ā,«,È,çŽ•ÊŽq,đ'è<` ,μ,Û,·□B'è□”Ž•ÊŽq,đ,» ,êŽ©'ì,ì□éŒ¾

¾,ÉŠÛ,β,é,±,Æ,Ā,«,Û,¹,ñ□B
C++Builder ,Ā,í'è□”Ž®,ªŽg,ì,Û,·□B

'è□”□éŒ¾,ĀŽg,ªŽ®,íRf“fpfCf%°,ªRf“fpfCf<Žž,É,» ,ìŽ®,đ•]‰; ,Ā,« ,é,æ,ª,É<L□q,μ,È,-
,Ā,Ā,È,è,Û,¹,ñ□B

ŽQÆ

'è"é¾

ž®

Æ^•t,«'è"

-á

```
(* 'è"é¼ *)
```

const

```
MaxData = 1024 * 64 - 16;
```

```
NumChars = Ord('Z') - Ord('A') + 1;
```

```
Message = 'Hello world...';
```

```
(* Ć^•t,«'è" *)
```

const

```
identifier: type = value;
```

```
...
```

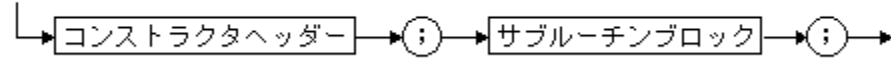
```
identifier: type = value;
```

Constructor

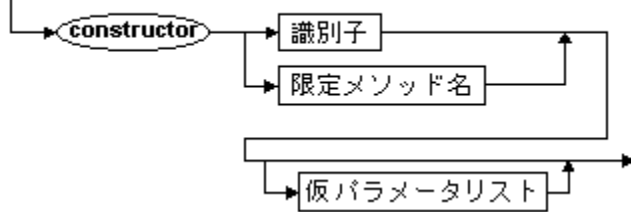
ŽQAE =\-ñĈĕ

□\•¶

コンストラクタ宣言



コンストラクタヘッダー



□à-¾

fRf“fXfgf%ofNf^,ílfufWfFfNfg,ì□i□-,ÉŠÖ~A,·,éfAfNfVf#f“,ð’è<` ,μ,Û,·□BfRf“fXfgf%ofNf^,í—\—ñĈĕ **constructor** ,ðŽg,Á,Ä□éĈ¾¾,μ,É,,Ä,Í,É,è,Û,¹,ñ□BC++Builder

,ì,·,×,Ä,ìlfufWfFfNfg,í□Á’á,Á,à Tobject ,©,çŠî- {fRf“fXfgf%ofNf^,ðĈp□³,μ,Û,·□B

fRf“fXfgf%ofNf^,íĈÄ,Ñ□o,³,è,é,Æ□CfNf%ofXĈ^,ì□V,μ,Š,,,è“- ,Ä,ç,è,½□%Šú

%o»fCf“fXf^f“fX,Ö,ìŽQAE,ð•Ô,μ,Û,·□B

ŽQÆ

fRf“fXfgf%ofNf^,ÆffXfgf%ofNf^

Destructor

fIfufWfEfNfg,IfCf“fXf^f“fX%o»

fIfbfh

Object

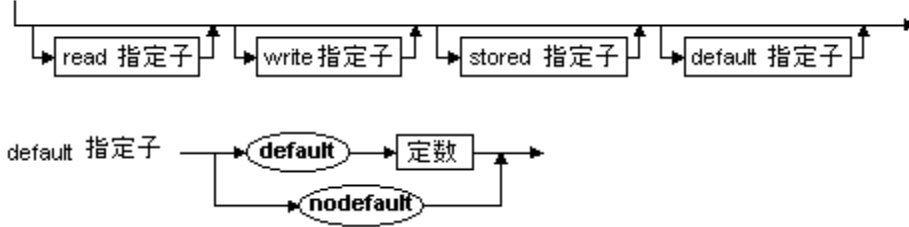
Virtual

Default

ŽQ□Æ •W□€Žw—β

□\•¶

プロパティ 指定子



□à-¾

default Žw—β, ífufWfFfNfg, ìfftfHf<fg, ì"z—ñfvf□fpfefB, ðŽw'è, ·, é, ½, β, ÉŽg, ç, Ü, ·□B
"z—ñfvf□fpfefB, ðfftfHf<fg, Æ, μ, Ä□éCE¾, ·, é, Æ□CfufWfFfNfg-¼, ¾, ¯, ðŽg, Á, Ä"z—
ñfvf□fpfefB, ÉfAfNfZfX, Å, «, Ü, ·□B

default Žw'èŽq, í□#□CE^, Æ□-, ³, ç□W□#CE^, ìfvf□fpfefB, É'í, μ, Ä, ¾, ¯Tf|□[fg, ³, è, Ä, ç
, Ü, ·□Bfvf□fpfefB'è<, Å **default** , ðŽw'è, ·, é□ê□#□Cfvf□fpfefB, Æ"¯, ¶CE^, ì'è□, ð'±
, ¯, ÄŽw'è, μ, È, , Á, Í, È, è, Ü, ¹, ñ□B

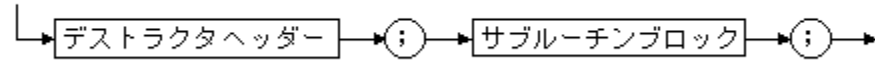
fvf□fpfefB'è<, É **default** , Ü, ½, Í **nodefault** Žw'èŽq, ðŠÜ, β, È, ç□ê□# (, Ü, ½, ÍŠÜ, β, é, ±
, Æ, ², Å, «, È, ç□ê□#)□CCE<%oÊ, Í **nodefault** Žw'èŽq, ðŠÜ, β, ½□ê□#, Æ"¯, ¶, É, È, è, Ü, ·□B

ŽQÆ
Nodefault

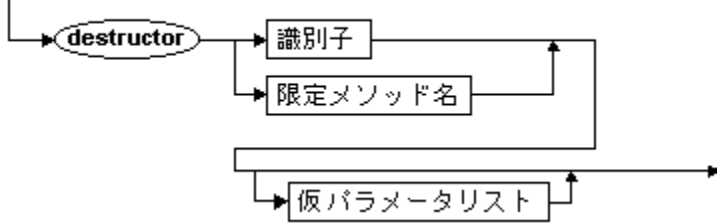
Destructor

ŽQAE —\-ñCEè

☐\•¶
デストラクタ宣言



デストラクタヘッダー



☐à-¾

fffXfgf%ofNf^,ílfufWfFfNfg,ì”pŠü,ÉŠÖ~A,.,éAfnfvfjf“,đ’è<` ,μ,Û,·☐BfffXfgf%ofNf^,í—\-ñCEè
destructor ,đŽg,Á,Ä☐éCE¾,μ,È,,Á,í,È,è,Û,¹,ñ☐B

fffXfgf%ofNf^,íCEÄ,Ñ☐o,¾,è,é,Æ☐CfRf“fXfgf%ofNf^,É,æ,Á,ÄflfufWfFfNfg,ÉŠ,,è“-
,Ä,ç,è,½f☐f,š,ìš,,è“-,Ä,đ%đ☐œ,μ,Û,·☐B

fffXfgf%ofNf^,í **virtual** ,Æ,μ,Ä☐éCE¾,Ä,«☐Cfpf%of☐☐lf^,đ,Æ,é,±,Æ,í,Û,Æ,ñ,ç, ,è,Û,¹,ñ☐B

ŽQÆ

Constructor

fRf“fXfgf%ofNf^,ÆffXfgf%ofNf^

Object

Virtual

Dispid

ŽQÆ •W€Žw—ß

à-¾

dispid •W€Žw—ß,íCfNf%ofX,ìf[fgf[fgfZfNfVf+f“ ,ÁéÆ¾,¾,è,Ä,ç,éf\fbfh,Ü,½,ívf\pfefB,ì OLE f[fgf[fVf+f“fffBfXfpfbf` ID ,ðŽw'è,·,é,½,ß,ÉŽg,ç,Ü,·B

ŽQÆ
Automated

Do

ŽQÆ —á —\-ñĚê

—\-ñĚê **do**, í **while** **for** **Con** **with** •¶,Æ'g,Ý¶,í,¹,ÄŽg,¢CđĚ,ª True
,ìŠÓ,ÉŽÀs,·,é•¶,ðŽw'è,μ,Û,·B

-á

```
while Ch = ' ' do Ch := GetChar;  
for Ch := 1 to 100 do Ch := GetChar;  
with Date[I] do month := 1;  
on <exception> do...
```

ŽQÆ

Except

For

While

With

Dynamic

ŽQAE •W€Žw—β

à-¾

dynamic Žw—β, íf\fbfh, ð“@“I, É, μ, Ü, ·B“@“If\fbfh, í^Ó-;“I, É, í¼’zf\fbfh, Æ“-, ¶, Å, ·B
%¼’zf\fbfh, Æ“@“If\fbfh, íŽÀsŽž, íf\fbfhCEÄ, Ño, μffBfXfpbf, íŽÀCE»•û-
@, ¾, -, ^Ü, È, è, Ü, ·B, »; í¼, Ì-Ú“I, Å, íC, ±, Ì 2, Ä, íf\fbfh, í“-, ¶, Æ, Ý, È, ^, Ü, ·B

%¼’zf\fbfh, ÌŽÀCE», Å, íCfRf“fpfCf%, íR[fhfTfCfY, æ, è, àCEÄ, Ño, μffBfXfpbf, Ì-“x, ð—
Dæ, μ, Ü, ·B”½’í, É“@“If\fbfh, ÌŽÀCE», Å, íCCEÄ, Ño, μffBfXfpbf, Ì-“x, æ, è, àfR[fhfTfCfY, ð
—Dæ, μ, Ü, ·B

^ê”Ê, ÉC’½’Ô«;, Ì, , é“@ì, ðŽÀCE», ·, é•û-@, Æ, μ, Ä, í¼’zf\fbfh, Å, àCE—|“I, Å, ·B“@“If\fbfh, Å•Ö—~, È, Ì, íCŠî- {fNf%ofX, Å½, , Ì¼’zf\fbfh, ðéCE¾, μCfAfvfŠfP[fVf†f“, Å½, , Ì
%ÅÊfNf%ofX, ðéCE¾, μCEp¾¼’zf\fbfh, íf[f%ofCfh, Å-
, È, çó<μ, Åžg, xê†, ¾, -, Å, ·B

ŽQÆ
f\bfh

Else

ŽQÆ —á —\-ñÆê

—\-ñÆê **else** ,í **if** **case** **try** •¶,ìffftfHf<fg,ìðÆ,Æ,μ,ÄŽg,¢,Ü,·B

-á

```
(* if •¶,ǒŽg,ç,Ü, • *)
if ParamCount <> 2 then
begin
  WriteLn('Bad command line');
  Halt(1);
end
else
begin
  ReadFile(ParamStr(1));
  WriteFile(ParamStr(2));
end;
(* case •¶,ǒŽg,ç,Ü, • *)
case Ch of
  'A'..'Z', 'a'..'z': WriteLn('Letter');
  '0'..'9':           WriteLn('Digit');
  '+', '-', '*', '/': WriteLn('Operator');
else
  WriteLn('Special character');
end;
```

ŽQÆ

Case

If

Try

End

ŽQ Æ —á —\-ñĀĕ

—\-ñĀĕ **end** ,í fuf fbfN, ì |, í, è, ð f} [fN, μ, Ü, · **Bend** , í Ž Ÿ, ì, æ, x, É Ž g, ç, Ü, · B

- **begin** ,Æ,Æ,à,ÉŽg,ç·i±•¶,ðĀ`□-,·,é
- **case** ,Æ,Æ,à,ÉŽg,ç case •¶,ðĀ`□-,·,é
- **record** ,Æ,Æ,à,ÉŽg,ç fĀfR [fhĀ^,ðéĀ^{3/4},·,é
- **object** ,Æ,Æ,à,ÉŽg,ç f fufWfFfNfgĀ^,ðéĀ^{3/4},·,é
- **asm** ,Æ,Æ,à,ÉŽg,ç 'g,Ÿž,ŸAfZf“fuf%o,ðĀ,Ńo,·
- **except** ,Æ,Æ,à,ÉŽg,ç —áŠOfŠfXfg,ð|—¹,·,é
- **finally** ,Æ,Æ,à,ÉŽg,ç finally fuf fbfN,ð|—¹,·,é

f,fWf... [f<, ì ĀĀĕ, ì **end** ,É, í, » , ì Āĕ, É % ½, à, È, ç, ±, Æ, ð Ž |, ·, ½, ß f s f Š f l f h, ð • t, , Ü, · B

ŽQÆ

Asm

Begin

Case

Except

Finally

Object

Record

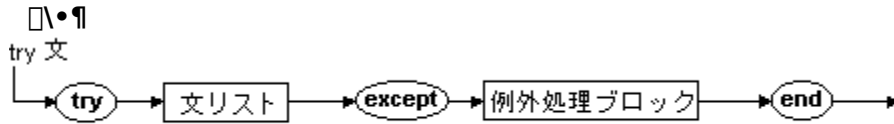
```

-á
(* begin ,Æ,Æ,à,ÉŽg,ç,•;□‡•¶,ðŒ`□¬,μ,Ü,· *)
if First < Last then
begin
  Temp := First;
  First := Last;
  Last := Temp;
end;
(* case •¶,Æ,Æ,à,ÉŽg,ç,Ü,· *)
case Ch of
  'A'..'Z', 'a'..'z': WriteLn('Letter');
  '0'..'9':           WriteLn('Digit');
  '+', '-', '*', '/': WriteLn('Operator');
else
  WriteLn('Special character');
end;
(* fŒfR□[fhŒ^□éŒ¾,ÅŽg,ç,Ü,· *)
type
  MyClass = (Num, Dat, Str);
  Date = record
    D, M, Y: Integer;
  end;
  Facts = record
    Name: string[10];
    case Kind: MyClass of
      Num: (N: real);
      Dat: (D: Date);
      Str: (S: string[8]);
  end;
(* flfufWfFfNfgŒ^□éŒ¾,ÅŽg,ç,Ü,· *)
type
Location = object
  X, Y: Integer;
  procedure Init(PX, PY: Integer);
  function GetX: Integer;
  function GetY: Integer;
end;
(* asm ,Æ,Æ,à,ÉŽg,ç,Ü,· *)
asm
  mov ax, 1
  mov cx, 100
end;

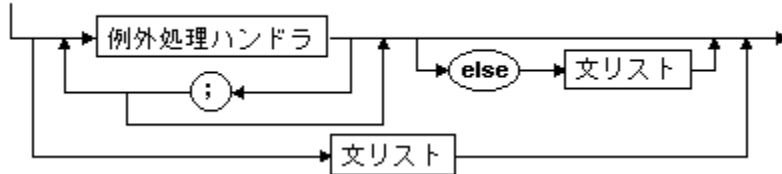
```

Except

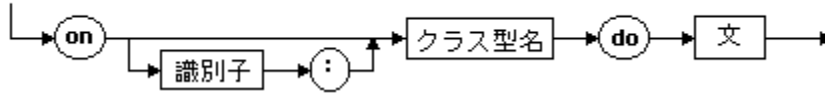
try 文



例外処理ブロック



例外処理ハンドラ



try 文

try 文 **except** , í—áŠO□^—□fuf□fbfN,Á—áŠOfnf“fhf%oo,lfŠfXfg,ìŽn,Ü,è,đf}□[fn,μ,Ü,·□B

except •”,í“Á’è,ì—áŠO,Æ,»,è,É’í,·,é%oož“š,lfŠfXfg,Á□C,»,è,¼,è **on...do**

•□,Á<L□q,³,è,Ü,·□**Bon..do** •□,ì,Ç,è,à□E»□Ý,ì—áŠO,ÉŠY“- ,μ,È,ç□ê□#□**Celse** •”,É, ,éfftfHf<fg,ì—áŠOfnf“fhf%oo,²ŽÀ□s,³,è,Ü,·□B

—áŠO□^—□fuf□fbfN,Á—áŠO,²□□,μ,¼□ê□#□CŽÀ□s,í,·,® ,É **except**

•”,ÉfWfff“fv,μ□C,»,ì□ê,ÁfAfvfŠfP□[fvf#“ ,í,»,è,¼,è,ì **on..do** •□,đ²,x”□□,μ,¼—áŠO,ÉŠY“- ,·,é,à,ì,đ’T,μ,Ü,·□Bfuf□fbfN“à,ÉŠY“- ,·,éfnf“fhf%oo

,²□□Ý,μ,È,ç□ê□#□CfAfvfŠfP□[fvf#“ ,ífftfHf<fg,lfnf“fhf%oo (—\—ñ□Eè **else** ,đŽg,Á,ÄŽw’è,³,è,¼fnf“fhf%oo) ,², ,è,í,»,è,đŽÀ□s,μ,Ü,·□B

fnf“fhf%oo (“Á’è,ìfnf“fhf%oo,Ü,¼,ífftfHf<fgfnf“fhf%oo) ,²—áŠO,đ^μ,α,Æ□C,»,ì—áŠO,í□^— □,³,è,¼,Æ,Ý,É,³,è□C—áŠOfIfufWfFfNfg,í”pŠü,³,è□C—áŠO□^— □fuf□fbfN,ì□Eă,©,çŽÀ□s,²’±□s,³,è,Ü,·□B

”□□,μ,¼—áŠO,ÉŠY“- ,·,é—áŠOfnf“fhf%oo,²,È,ç□ê□#□C—áŠO,đ□^—□,μ,È,ç ,Ü,Úfuf□fbfN,ìŽÀ□s,²□I—¹,μ,Ü,·□B

ŽQÆ

Else

—áŠO^—

Finally

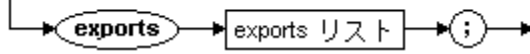
Try

Exports

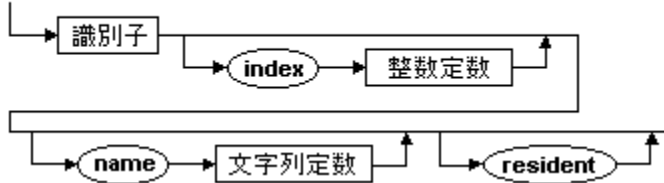
ŽQAE —\-ñĈĚ

—\-ñĈĚ **exports** ,í DLL “à,ĀŽg,ċCDLL ,É,æ,Ā,ĀfGfNfXfj[]fg,³,é,éŽè± ,«,ĀŠÖ”,đŽ!,μ,Û,·B

exports 節



exports エントリ



exports B,Ívf[]Of%of€,Û,½,Íf%ofCfuf%ofŠ,ìéĈ¼•,ì†,Ā^Ē'u,â%oñ”,ì\$ĈĀ,È,Žg,!,Û,·B

exports B,ìŠefGf“fgfŠ,ÍfGfNfXfj[]fg,·,éŽè±,«,Û,½,ÍŠÖ”,ìŽ-ĒŽq,đŽw'è,μ,Û,·B

fGfNfXfj[]fg,·,éŽè±,«,Û,½,ÍŠÖ”,í **exports** B,ªoĈ»,·,é'O,ÉéĈ¼,μ,È,,Ā,Í,È,è,Û,¹,ñB

exports B,ìŽ-ĒŽq,ì'O,ÉftfjfbfgŽ-ĒŽq,ĀfsfŠfjh,đ•t,·,é,±,Ā,ª,Ā,«,Û,·B,±,ì,æ,ª ,ÉŽw'è,μ,½Ž-ĒŽq,ÍŠ®'SĈĀ'èŽ-ĒŽq,ĀĈĀ,Ā,è,Û,·B

exports B,É,íŽŸ,ì,à,ì,đ“ü,é,ç,é,Û,·B

- index B
- name B

DLL fgf“fgfŠ,đĀ,à'¬,ŽQAE,·,é,É,ÍfCf“ffbfNfX,đŽg,ċ,Û,·B

fvf[]Of%of€,É,à **exports** B,đ“ü,é,ç,é,Û,·,ªCWindows ,Ā,ÍfĀvfŠfP[]fvf#f“f,fWf...

[]f<,ªŠÖ”,đfGfNfXfj[]fg,μ,Ā,à,»,é,đ•Ē,ÍfĀvfŠfP[]fvf#f“,©,çŽg,ª,±,Ā,Ā,«,È,ċ,½,BĈĒí,í

exports B,đ“ü,é,Û,¹,ñB

ŽQÆ

f_fCfif~fbfNfŠf“fNf%ofCfuf%ofŠ

DLL ,iŽg,č•û

DLL ,iîî=

External

ŽQ Æ —á •W € Žw—β

external Žw—β, đŽg, x, Æ C f Af Z f “ fuf Š CE ¾ CE è, Å < L q, ³, è • Ê X, É f R f “ f p f C f <, ³, è, ½ Ž è ‘ ±, «, â Š Ö “ C, Ü, ½, í DLL, ì Ž è ‘ ±, «, â Š Ö “, Æ C i —, ·, é v f f O f % f €, Æ, ð ~ A CE <, Å, «, Ü, · B

external Žw—β, í C { — ^, È, ç, î é CE ¾ • “, Æ Ž À s • “, a ¶ Y, ·, é ê Š, É ‘ u, ©, è, Ü, · B

f Af Z f “ fuf Š CE ¾ CE è, Å < L q, ³, è, é Š O • “ f R [f h, í C \$ L filename f R f “ f p f C f % Ž w — β, É, æ, Á, Ä Pascal f t f j f b f g, Ü, ½, í f v f f O f % f €, Æ f Š f “ f N, ³, è, Ü, · B

DLL, ©, ç, ì Š O • “ f < [f ` f “, ì f C f “ f [f g, É, Å, ç, Ä, ì Ú ×, í C u DLL, É Š i “ [·, μ, Ä, ·, é f < [f ` f “, ì f Af N f Z f X v, đ Ž Q Æ, μ, Ä, ¾, ¾, ç B

—á

{ ŽŸ,ì 2 □s,Å,Í, ŠO•",ìfAfZf“fufŠĚ¾Ěêftf@fCf<,©,çf<□[f`f“,ðfCf“f|□[fg,μ,Ä,ç,Û,·. } }

function GetMode: Word; **external**;

procedure SetMode(Mode: Word); **external**; {\$L CURSOR.OBJ}

{ ŽŸ,ì□s,Å,Í, DLL ,©,çŠÖ□“,ðfCf“f|□[fg,μ,Ä,ç,Û,·. } }

function GlobalAlloc(Flags: Word; Bytes: Longint): THandle; **external**

'KERNEL.DLL' index 15;

ŽQÆ

DLL

ŠÖ"

Žè'±,«

File

ŽQ□Æ =á =\-ñŒê

□\•¶



□à-¾

file Œ^, íüó, É•À, ñ, ¾ff[f^, ìfv[fPf“fx, Å□□-³, ê, Ü, □B-\-ñŒê **of**, ðŽg, Á, Ä **file**, ð“Á'è, ìŒ^, ÉŠ,, è“-

, Ä, Å, «, Ü, □Bftf@fCf<, ìftf@fCf<Œ^, Ü, ½, ìfìufWfFfNfgŒ^ ÈŠO, ì, Ç, ìŒ^, Å, à□□-³, Å, «, Ü, □B

of, ÆfRf“fì[fìf“fgŒ^, ðÈ-ª, µ, ½ê#□Œ^, È, µftf@fCf<, É, È, è, Ü, □B

▪ 'è<`ì, Ý, ì **file** Œ^ Text, ìs'P^Ê, É•Ò□-³, ê, ½^óü%oÅ“\, È ASCII

•¶Žš, ðšÜ, ðftf@fCf<, ð^Ó-i, ., é

-á

(* ftj@fCf<CE^,ìéCE¾ *)

type

Person = **record**

 FirstName: string[15];

 LastName : string[25];

 Address : string[35];

end;

PersonFile = **file of** Person;

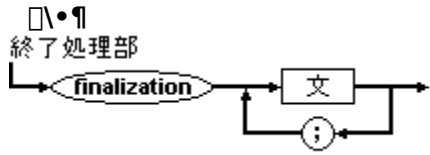
NumberFile = **file of** Integer;

SwapFile = **file;**

ŽQÆ
Of

finalization

ŽQ□Æ ≡\-ňĀĒê



□à-¾

□I-¹□^—□•", ílfvfVf#f", Å, ,è□Cftfjfbfg,É□%Šú%»•",^a, ,é□ê□#,É,^¾,-Žg,!,Ü,·□B□I-¹□^—□•",í
 -\-ňĀĒê **finalization** ,Æ□Cftfjfbfg,ð□I-¹,·,é•¶,lfŠfXfg,Å□□-,^¾,ê,Ü,·□B□I-¹□^—□,í□%Šú
 %»•,É'í%ž,·,é,à,ì,Å□C□%Šú%»•",ì't,Åftfjfbfg,^aŽæ"^¾,μ,^½fŠf\□[fx (f□f,fŠ□Cftf@fCf<,É,Ç)
 ,í^ê"É,É□I-¹□^—□•",Å%ð•ú,^¾,ê,Ü,·□B

ftfjfbfg,ì□I-¹□^—□•",í□%Šú
 %»•,Æ<t,ì□#□~ ,ÅŽÀ□s,^¾,ê,Ü,·□B,^½,Æ,|,î□CfAfvfŠfP□[fvf#f",Åftfjfbfg A□CB□CC ,ð,±,ì□#□~ ,Å□
 %Šú%»•,μ,^½□ê□#,í□CC□CB□CA ,ì□#,É□I-¹□^—□,^a□s,í,ê,Ü,·□B

,ç,Á,^½,ňftfjfbfg,ì□%Šú%»•fR□[fh,^aŽÀ□s,ðŠjŽn,·,é,Æ□C,»,é,É'í%ž,·,é□I-¹□^—
 □•",áfAfvfŠfP□[fvf#f",lfVfffbfgf_fEf"Žž,É•K,ŽÀ□s,^¾,ê,Ü,·□B,μ,^½,^a,Á,Ä□C□I-¹□^—□•",í□%Šú
 %»•,^a•sŠ@'S,^¾,Á,^½ff□[f^,ð□^—□,Å,«,È,-,é,î,È,è,Ü,¹,ň□B,»,ì—□—R,í□C—
 áŠO,^a¶□□-,^¾,ê,^½□ê□#,É□C□%Šú%»•fR□[fh,^aŠ@'S,É,íŽÀ□s,^¾,ê,È,ç%Å"□«,^a, ,é,©,ç,Á,·□B

ŽQÆ

interface

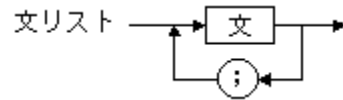
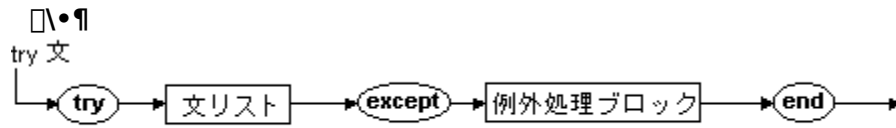
implementation

initialization

ftjfbfg

Finally

try 文



try..finally

try..finally 文

try..finally 文

try..finally 文

try..finally 文

try..finally 文

try..finally 文

try..finally 文

ŽQÆ

Except

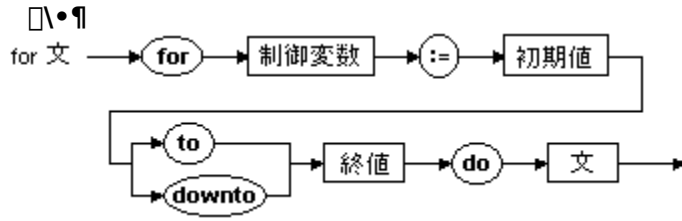
—áŠO^—

Try

fŠf[fXŠ,,è“-,Ä,ì•ÚÆì

For ... To, For ... Downto

ŽQ□Æ =á =\-ñŒê



制御変数 → 変数名 →

初期値 → 式 →

終値 → 式 →

□à-¾

for •¶, í"í"í"à, ì%Šú"l, ©, ç□Å□"l, Ü, Å, ìŠe"l, ², Æ, É 1 %ñ,, Å **do**
 , ìŒä, ì•¶, ðŽÀ□s, μ, Ü, □Bf<□[fv, ð%½%ñŽÀ□s, , é, © 'O, à, Á, Ä□³Šm, É, í, ©, é□ê□#, É **for**
 f<□[fv, ðŽg, ¼, Æ•Ö—~, Å, □B

□\$Œä•ï□", í□í, É□%Šú"l, ©, çŽn, Ü, è, Ü, □B

to f<□[fv, ², Æ, É□\$Œä•ï□", ð 1 ,, Åfç"fnfŠf□f"fg, μ, Ü, □B□%Šú"l, í□Å□"l, æ, è, à□-, ³, -, È,, Å, í, È, è, Ü, ¹, ñ□B

downto f<□[fv, ², Æ, É□\$Œä•ï□", ð 1 ,, ÅffnfnfŠf□f"fg, μ, Ü, □B□%Šú"l, í□Å□"l, æ, è, à'å, «,, È, -, Å, í, È, è, Ü, ¹, ñ□B

□\$Œä•ï□", É, íŽŸ, ì<K'¥, a"K—p, ³, è, Ü, □B

- \$Œä•ï□", í **for** •¶, ðŠÜ, pfuf□fbfN, ì"í"í"à, ìf□□[ffj<, È•ï□"Ž- •ÉŽq, Å, È,, Å, í, È, ç, È, ç
- #□~Œ^, Å, È,, Å, í, È, ç, È, ç

□%Šú"l, Æ□Å□"l, í□\$Œä•ï□", ì□#□~Œ^, Æ"ã"üŒÝŠ-□«, ì, , éŒ^, Å, È,, Å, í, È, è, Ü, ¹, ñ□B

for •¶, aŽÀ□s, ³, è, ½Œä□C**goto** •¶, É, æ, Á, Ä **for**

•¶, ìŽÀ□s, ÉŠ,, è□ž, Ý, a, ©, -, ç, è, È, çŒÄ, è□C□\$Œä•ï□", ì"l, í-ç'è<, É, È, è, Ü, □B

-á

```
(* for ... to, for ... downto *)  
for I := 1 to ParamCount do  
  Writeln(ParamStr(I));  
for I := 1 to 10 do  
  for J := 1 to 10 do  
    begin  
      X := 0;  
      for K := 1 to 10 do  
        X := X + Mat1[I, K] * Mat2[K, J];  
      Mat[I, J] := X;  
    end;
```

ŽQÆ

goto •¶

f<fv

¶#~CE^

fXfRfv

Forward

ŽQAE —á •W€Žw—β

•W€Žw—β, ðŽg, æ, ÆŽè'±, «, Ü, ½, ÍŠÖ", ðŽÀÜ, É, Í'è'±, , , ÉéÉÉ¾, Å, «, Ü, ·B

forward éÉ¾, ð'ñ"_, ©, çC'¼, ðŽè'±, «, âŠÖ", Í forward éÉ¾, ¾, è, ½f<[f`f", ðÉÄ, Ño, ·, ±, Æ, ¾, Å, «C'ŠÉYÄ<A, ¾%Å"\, É, È, è, Ü, ·B

forward éÉ¾, ðÉã, ÅCf<[f`f", ð'ñ"_, ðŽw'è, ·, ééÉÉ¾, ðŽ, ÅŽè'±, «, Ü, ½, ÍŠÖ", ð'è'±, µ, È, -, Ä, Í, È, è, Ü, ¹, ñB

'è'± éÉ¾, Å, ðŽè'±, «"¾", Ü, ½, ÍŠÖ""¾", ©, çfþf%o[f^fŠfXfg, ðÉ—¾, Å, «, Ü, ·B

Žè'±, «, Ü, ½, ÍŠÖ", ð'è'± éÉ¾, Æ, µ, Ä, Í **external** éÉ¾, Ü, ½, Í **assembler** éÉ¾, ¾%Å"\, Å, ·, çC·É, ð forward éÉ¾, Å, , Ä, Ä, Í, È, è, Ü, ¹, ñB

-á

```
(* forward  $\frac{3}{4}$ ,  $\frac{3}{4}$ ,  $\frac{3}{4}$ ,  $\frac{3}{4}$ , « *)  
procedure Flip(N: Integer); forward;  
procedure Flop(N: Integer);  
begin  
  WriteLn('Flop');  
  if N > 0 then Flip(N - 1);  
end;  
procedure Flip;  
begin  
  WriteLn('Flip');  
  if N > 0 then Flop(N - 1);  
end;
```

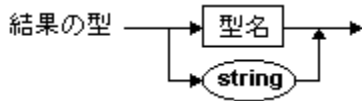
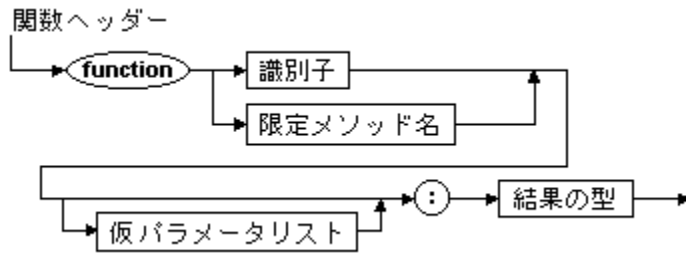
ŽQÆ

Assembler

External

Function

関数宣言



関数宣言

関数宣言 **function** 識別子 限定メソッド名 仮パラメータリスト 結果の型 ;

function 識別子 限定メソッド名 仮パラメータリスト 結果の型 ;

関数宣言は、関数ヘッダーとサブルーチンブロックで構成される。関数ヘッダーは、**function** キーワード、識別子、限定メソッド名、仮パラメータリスト、結果の型、およびセミコロンで構成される。サブルーチンブロックは、関数本体のコードを含む。

関数宣言の例: `function foo(x: int) int { ... }`

function 識別子 限定メソッド名 仮パラメータリスト 結果の型 ;

- 関数宣言は、関数ヘッダーとサブルーチンブロックで構成される。
- 関数ヘッダーは、**function** キーワード、識別子、限定メソッド名、仮パラメータリスト、結果の型、およびセミコロンで構成される。

関数宣言の例: `function foo(x: int) int { ... }`

関数宣言の例: `function foo(x: int) int { ... }`

- `forward` キーワード
- `external` キーワード

関数宣言

関数宣言は、関数ヘッダーとサブルーチンブロックで構成される。関数ヘッダーは、**function** キーワード、識別子、限定メソッド名、仮パラメータリスト、結果の型、およびセミコロンで構成される。サブルーチンブロックは、関数本体のコードを含む。

関数宣言の例: `function foo(x: int) int { ... }`

関数宣言の例: `function foo(x: int) int { ... }`

ŽQÆ

Ž®

ŠÖ"CEÄ,Ño,μ

‡~

fpf%of[f^

f|fCf"f^

ŽÀ"

•¶Žš—ň

-á

(* ŠÖ"é¾ *)

function UpCaseStr(S: **string**): **string**;

var

I: Integer;

begin

for I := 1 **to** Length(S) **do**

if (S[I] >= 'a') **and** (S[I] <= 'z') **then**

 Dec(S[I], 32);

 UpCaseStr := S;

end;

Goto

ŽQÆ —á —\-ñĈê

·\•¶

à-¾

—\-ñĈê **goto** ,í,±,ì•¶,ÅŽQÆ,·,éf%ofxf<,æ“ª,É•t,ç,Ä,ç,é•¶,Éfvf[]fOf%of€ŽÀ[s,ð“]’—
,μ,Û,·B

f%ofxf<,í **goto** •¶,Æ“~,¶fuf[]fbfN,É,È,,Ä,í,È,è,Û,¹,ñBŽè’±
,«,Û,¹/₂,ÍŠÖ”,ÌŠÖ,Ö,ÍfWfff“fv,Å,«,Û,¹,ñB

ŽQÆ
Label

-á

label 1, 2;

goto 1

.

.

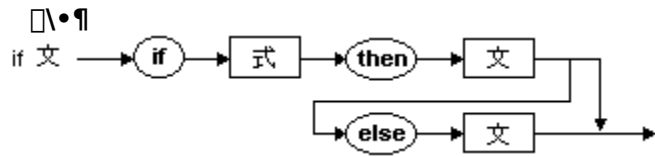
.

1: WriteLn ('Abnormal program termination');

2: WriteLn ('Normal program termination');

If ... Then ... Else

if 文 \rightarrow 式 \rightarrow then \rightarrow 文



if 文 \rightarrow 式 \rightarrow then \rightarrow 文

if **then** **else** , í•¶, ðŽÀ[s, , éðœ, ðŽw'è, µ, Û, •B

if , É'±, ~ _ž®, ³ True , È, ç, íC**then** , ìĀã, ì•¶, ³ŽÀ[s, ³, è, Û, •B

, » , x, Å, È, , è, îCŽ®, ³ False , Æ•]‰ž, ³, è **else** •" , ³¶Ÿ, , éê¶, íC**else**

, ìĀã, ì•¶, ³ŽÀ[s, ³, è, Û, •B **else** •" , ³¶Ÿ, µ, È, çê¶, íC**if** •¶, ìŽŸ, ì•¶, ÉŽÀ[s, ³^Ú, è, Û, •B

if , : **else** ðB, ì'O, ÉfZf~fRf¶" , ìŽw'è, Å, «, Û, ¹, ñB

ŽQÆ

~ — CE^

ðCE•¶

Else

-á

(* if •¶ *)

if (I < Min) **or** (I > Max) **then** I := 0;

if x < 1.5 **then**

z := x + y

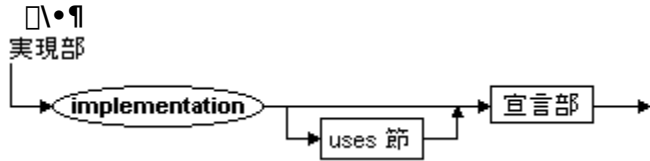
else

z := 1.5;

Implementation

ŽQŒ —\-ñĈê

ftfjfbfg,ìŽÀĈ»•",Ā,íCftfjfbfg,lfCf"f^[]ftfF[]fX•",ĀéĈ¾,¾,ê,½fpufšfbfN,ìŽè'±
 ,«,ĀŠÖ[]",ì,·,×,Ā,lfuf[]fbfN,ð'è<` ,μ,Û,·[]B,Û,½,±,±,Ā,íCfvf
 %ofCfx[]fg,ì'è[]"[]ĈĈ^[]C•í[]"[]ĈŽè'±,«[]C,·,æ,ÑŠÖ[]",àéĈ¾,μ,Û,·[]B



∅à-¾

ftfjfbfg,ì **implementation** •",ĀŽw'è,¾,ê,½éĈ¾,lfvf
 %ofCfx[]fg,ÉéĈ¾,É,È,èftfjfbfg,ì,»,"•"à"à,Ā,¾,~Žg—p%Ā"\,Ā,·[]Binterface
 •",ĀéĈ¾,¾,ê,½,·,×,Ā,ì'è[]"[]ĈĈ^[]C•í[]"[]ĈŽè'±,«[]CŠÖ[]",í **implementation** •",Ā,à
 %ĀŽ<,É,È,è,Û,·[]B

fCf"f^[]ftfF[]fX•",ĀéĈ¾,¾,ê,½Žè'±,«,ĀŠÖ[]",ìŽÀ'•,íCŽÀĈ»•""à,Ā,ç,ì,æ,«
 ,É[]#[]",Ā'è<` ,μ,Ā,à,æ,[]C,Û,½ŽÀĈ»•""à,ì,ç,±,©,ç,Ā,àŽQŒ,Ā,«,Û,·[]B

ŽÀĈ»•",Ā,í—\-ñĈê **implementation** ,ì'¼Ĉă,É uses
 []B,ðŽw'è,Ā,«,Û,·[]Bftfjfbfg,lfCf"f^[]ftfF[]fX•",É **uses** []B,ð'u,ç,½é[]#[]C,»,"ì **uses**
 []B,ĀŽw'è,¾,ê,½ftfjfbfg,ì'è<` ,«,lfjfbfg,©,ç,í•s%ĀŽ<,É,È,è,Û,·[]B

external ,Ā,μ,ĀéĈ¾,¾,ê,½Žè'±,«," ,éé[]#[]Cf[]fXftf@fCf<"à,lfjfbfg,ìĀĈă,ì end ,ì'O,É
 1 ,Ā,Û,½,í•;[]",ì \$L filename Žw—B,¾,É,,Ā,í,É,è,Û,¹,ñ[]B

ŽÀĈ»•",ìŽè'±,«"à•",ĀŠÖ[]""à•",íŽŸ,ì,ç, ,é,©,Ā,È,,Ā,í,É,è,Û,¹,ñ[]B

- fCf"f^[]ftfF[]fX,Ā,ìéĈ¾,Ā"^-è,Ā ,é
- Z,ç∅\•¶,Ā ,é

ŽQÆ

\$L filename

Interface

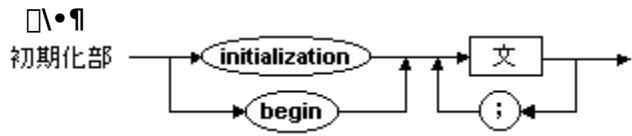
Initalization

Finalization

ffjfbfg

Initialization

ŽQAE =\-ñCEê



□à-¾

ffjfbfg, ì **initialization** •", íÈ—ª%oÂ"\, Å□C—\-ñCEê **initialization** , ÅŽn, ß□Cftfjfbfg, ð□%oŠú
%o», , , é, ½, ß, ÉŽÀ□s, , , é•¶, ìfŠfXfg, ð, » , ìCEã, ÉŽw'è, µ, Ü, ·□B

fvf□fOf%of€,ªŽg,xfjfbfg, ì□%oŠú%o»•", ìf□fCf“fvf□fOf%of€, ì **uses**
□ß, Éftfjfbfg,ª□oCE», , , é, ì,Æ“~, ¶□‡, ÉŽÀ□s,ª, è, Ü, ·□B

ŽQÆ

Finalization

ftjfbfg

'Z,ç\•¶,ìfwfbf_[]

ŽQ[]Æ

'Z,ç\•¶,ìfwfbf_[],Æ,í **implementation** •",Å[]éCE¾,¾,é,éŽè'±,«,âŠÖ[]",ì,κ,¿pf %of[][]f^,ðŽw'è,μ,È,ç,à,ì,ðŽw,μ,Û,·[]B,±,ì,æ,κ,Èfwfbf_[],ìpf%of[][]f^,í **interface**

•",Å'O,à,Å,ÄŽw'è,¾,é,é,©[]C**forward**

[]éCE¾,Û,½,íifufWffNfgCE^,ì^è•",Æ,μ,Ä[]éCE¾,¾,é,Û,·[]B

'Z,ç\•¶,ìfwfbf_[],ðŽw'è,·,é,É,í[]C—\-ñCEê (**procedure** ,Û,½,í **function**) ,É'±

,·,Äf<[]f`f"Ž~•ÉŽq,ð"ü—í,μ,Û,·[]B

ŽÀCE»•""à,ìf[][]fj<,Èf<[]f`f" (fCf"f^[]ftfF[]fX•",Å[]éCE¾,¾,é,Ä,ç,È,çf<[]f`f") ,É,ÍŠ®'S,ÈŽè'± ,«"a•",Û,½,ÍŠÖ[]""a•",ðŽw'è,μ,È,,Ä,í,È,è,Û,¹,ñ[]B

ŽQÆ

Implementation

Index

ŽQÆ —á •W€Žw—ß

index ß, Å, í, f, C, f, i, f, ~, f, b, f, N, f, Š, f, “, f, N, f, %, o, f, C, f, u, f, %, o, f, Š (DLL), ©, ç, Ž, è, ±, «, Ü, ½, Í, Š, Ö, “, đ, f, G, f, N, f, X, f, |
[f, g, ·, é, ½, ß, Ì, ð, Ž, w, è, µ, Ü, ·, B, e, x, p, o, r, t, s, ß, Å, **index** ß, đ, Ž, g, í, È, ç, ê, ð, C, f, R, f, “, f, p, f, C, f, %,
ª, ð, Š, “, “, è, “, —, Ä, Ü, ·, B

index ß, í, **exports** ß, É, Š, Ü, Ü, ê, C, i, n, d, e, x, , Æ, ç, æ, Ç, È, Æ, », è, É, ±, 1, ©, ç 32767
, Ü, Å, Ì, Š, Ö, Ì, ®, “, “, è, “, Å, \, □, —, ³, ê, Ü, ·, B

-á

```
procedure ImportByOrdinal; external 'TESTLIB' index 5;
```

ŽQÆ

f_fCfif~fbfNfŠf“fNf%ofCfuf%ofŠ

Forward

DLL ,iŽg,č•û

DLL ,iîî=

Inherited

ŽQÆ —\-ňÆê

—\-ňÆê **inherited** ,ÍŠO'α,lf\fbfh,lfufWfFfNfg^,lã^ÊlfufWfFfNfg,đŽw'è,μ,Û,·B

inherited ,lã^ÊlfufWfFfNfg,đŽ,½,È,çlfufWfFfNfg^,lf\fbfh"à,Å,ÍŽg,!,Û,¹,ňBÆp³Æ³,l^éÆ³/₄lfufWfFfNfg,^a,È,ç,©,ç,Å,·B

ŽQÆ

flufWfFfgCE^

Inline

—\-ñĈê

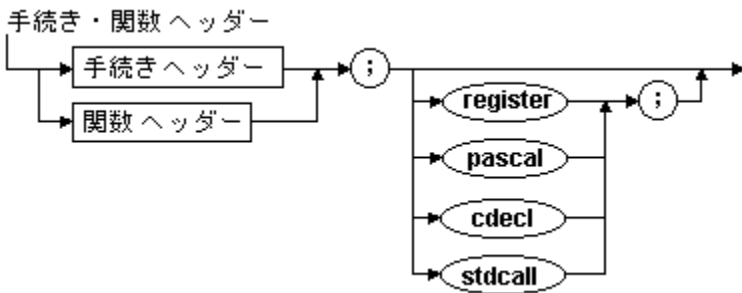
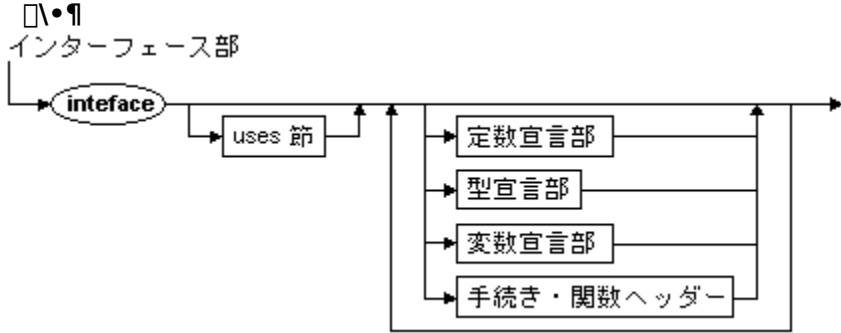
□à-¾

Ĉ»Ÿ,ìfo□[fWf†f“, ì Object Pascal ,Á,í—\-ñĈê **inline** ,íŽg,í,ê,Û,¹,ñ□B,^½,^¾,μ□«—^,ìŽg—
p,ì,^½,ß,É—\-ñ,³,ê,Ä,φ,Û,·□B

Interface

ŽQ□Æ —\-ñĈĕ

ftfjfbfg, l **interface** •", í, »), lftfjfbfg, đŽg, xfvfOf%of€ (, Ü, ½, í'¼, lftfjfbfg), É'í, μ, Ä%½, đ %oÄŽ<, É, μfAfNfZfX%oÄ" \, É, ·, é, ©, đĈĕ^, β, Ü, ·□B



□à-¾

interface •", lftfjfbfgfwfbf_□□[, ìĈĕă, É'u, ©, é, é—\-ñĈĕ **interface** , ÅŽn, Ü, è□C—\-ñĈĕ **implementation** , ì'O, Å□l, í, è, Ü, ·□B

interface •", Å, í□C'è□□Cff□[f^Ĉĕ^□C•í□□CŽè'±, «□CŠÖ□", đ□éĈĕ¾, μ, Ü, ·□B, ±, ±, Å□éĈĕ¾, ¾, é, ½, à, ì, í□C'¼, lfvfOf%of€ , Ü, ½, lftfjfbfg, ©, çŽg, !, é, æ, x, É, È, è, Ü, ·□B

interface •", É, íŽè'±, «, Ü, ½, íŠÖ□", ì"ª•", ¾, -, đ—ñ<" , μ, Ü, ·□BŽè'±, «, Ü, ½, íŠÖ□", lfuf□fbfN, í□C, »), ìĈĕă, ì **implementation** •", ÉŽw'è, μ, Ü, ·□Bforward Žw= Œ, íŽg, í, è, Ü, ¾, ñ,ª□□interface •", ìŽè'±, «, ĄŠÖ□", ì□éĈĕ¾, íŽÀŽì"l, É, í forward □éĈĕ¾, Ą" - l, ÈĈĕø%oÉ, đŽ□, ç, Ü, ·□B

fCf" f^□[ftfF□[fX•", É, í uses □β, đŽw'è, Å, «, Ü, · (uses □β, đŽw'è, ·, é□ê□#□C—\-ñĈĕ **interface** , ì'¼Ĉĕă, É **uses** , đŽw'è, μ, È, , Å, í, È, è, Ü, ¾, ñ)□B

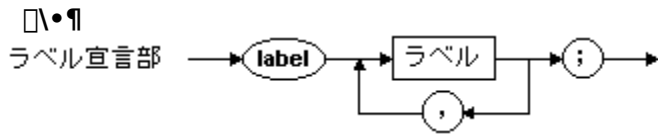
ŽQÆ

Implementation

ffjfbfg

Label

ラベル宣言部 → label → ラベル → ;



ラベル宣言部

ラベル宣言部 label ; goto

ラベル宣言部 label ; goto

ラベル宣言部 label ; goto

ŽQÆ
Goto

Library

ŽQAE =\-ňCEè

▪ \•¶

▪

□à-¾

f_fCjif~fbfNfŠf“fNf%ofCfuf%ofŠ (DLL) ,í **library** fwfbf_□[,ÅŽn,Ü,è,Ü,·□B

f%ofCfuf%ofŠfwfbf_□[,íŠg'£Žq .EXE ,ì,©,í,è,É .DLL ,ðŽ□,ÅŽÀ□s%oÅ“\

ftf@fCf<,ð¶¶□¬,·,é,æ,¶fRf“fpfCf%o,ÉŽwŽ!,μ,Ü,·□B

ŽQÆ

Exports ␣

fC“f|[]fgftjfbfg

Index ␣

Name ␣

DLL ,i[] ␣

MaxInt ,Æ MaxLongInt

MaxInt ,Æ MaxLongInt ,Í'è<`□İ,Ý,ì'è□",Å,·□BCE»□Ý,ìfo□[fWf#f" ,ì Object Pascal ,Å,Í 2 ,Å,Í" ,¶'I,Å,·□B

- MaxInt ,ÍŽg—p%oÅ"\,È□Å'â□@□□" (2,147,483,647) ,đ•\,·
- MaxLongInt ,ÍŽg—p%oÅ"\,È□Å'â LongInt (2,147,483,647) ,đ•\,·

Name

ŽQÆ •W€Žw—β

exports β,É,Í **name** β,đŽw'è,Á,«,Ü,·B**name** β,Í **name** ,Æ,ç,æÆè,Æ,»,ê,É'±,•¶Žš—
ñ'è",Ā\—,³,ê,Ü,·B

name β,đŽg,æê#CŽè'±,«,Ü,½,ÍŠÖ",Í•¶Žš—ñ'è",ĀŽw'è,³,ê,½-¼'O,đŽg,Á,ÄfGfNfXf|
|[fg,³,ê,Ü,·B

name β,đŽg,Í,È,çê#CŽè'±,«,Ü,½,ÍŠÖ",ÍŽ·ÊŽq,đŽg,Á,ÄfGfNfXf|
|[fg,³,ê,·,Ä'å•¶Žš,É·ÍŠ,³,ê,Ü,·B

ŽQÆ

DLL ,iŽg,ç•ô

Exports

Index

Nil

—\-ñĈê

—\-ñĈê **nil** ,í%½,àŽw,³,È,ĉfjĈf“f^Ĉ^”,l'è”,đŽ!,μ,Ü,·□B

nil ,í,·,x,Ä,ljĈf“f^Ĉ^”,ÆĈYŠ,Ā,·□B

Nodefault

ŽQÆ •W€Žw—β

□\•¶

▪

□à-¾

nodefault Žw—β,ívf□pfefB,ìfftfHf<fg'l,Æ,Ý,È,³,ê,é'l,ð\$CEä,μ,Ü,·□B

fvf□pfefB,ìéCE¾,Å,í□**nodefault**,íÈ—ª%oA"\\,ÈŽw'èŽq,Å,·□B,±,ìŽw'èŽq,ðŠÜ,β,È,-
,Ä,à□**nodefault** Žw'èŽq,ðŽw'è,μ,½□ê□‡,Æ“˘,¶CE<%oÊ,É,È,è,Ü,·□B

ŽQÆ
Default

Object

ŽQAE

□\•¶

□à-¾

—\-ñĈê **object** ,í Borland Pascal ,Æ Turbo Pascal ,ì^È'O,ìfo□[fWf#f“ ,ĂŽg,í,ê,Ă,ċ
,½flfufWfFfNfgf,fff<,Æ^è'v,·,éflfufWfFfNfgĈ^,đ□éĈ¾,·,é,½,ß,ÉŽg,ċ,Ü,·□B□V,μ,ċfvf□fOf%of€
,Ă,Í—\-ñĈê **class** ,Æ□V,μ,ċflfufWfFfNfgf,fff<,đŽg,π•K—v,^a, ,è,Ü,·□B—\-ñĈê **object**
,Æ<ĈflfufWfFfNfgf,fff<,đŽg,Ă,Ă□éĈ¾,μ,½flfufWfFfNfgĈ^,íNf%ofXf□f□fbfh,đŽ□,½,·□CfRf“f|
□[f|f“fg,Æ,μ,Ă,ìfvf□fpfefB,àŽ□,¿,Ü,¹,ñ□B

flfufWfFfNfgĈ^,íĈ^,ß,ċ,ê,½ĈĈ“ ,ìfRf“f|□[f|f“fg,đŽ□,Ăff□[f^□\ċ,Ă,·□B

ŠefRf“f|□[f|f“fg,íftfB□[f<fh (“Á'è,ìĈ^,ìff□[f^,đŠÜ,þ) ,Ü,½,í□f□
fbfh,Ă□CflfufWfFfNfg,É'í,μ,Ă'€□,đŽÀ□s,μ,Ü,·□B

ftfB□[f<fh,ì□éĈ¾,Ă,íftfB□[f<fh,ì-¼'O,đŽ!,·Ž-•ÉŽq,Æff□[f^Ĉ^,đŽw'è,μ,Ü,·□B

f□f□fbfh,ì□éĈ¾,Ă,íŽè'±,«□CŠÖ□□□CfRf“fXfgf%ofNf^□C,Ü,½,ífffXfgf
%ofNf^,ìfwfbf_□[,đŽw'è,μ,Ü,·□B

flfufWfFfNfgĈ^,í•É,ìflfufWfFfNfgĈ^,©,ċfRf“f|

□[f|f“fg,đĈep□,Ă,«,Ü,·□BĈep□³,³,é,éflfufWfFfNfg,í

%^o^ÉflfufWfFfNfg,Ă□Ĉep□³Ĉ³,ìflfufWfFfNfg,í□ă^ÉflfufWfFfNfg,Ă,·□B

flfufWfFfNfgĈ^,ìfhf□fCf“ ,í,»,ìflfufWfFfNfgŽ©□g,Æ,·,x,Ă,ì%^o^ÉflfufWfFfNfg,Ă□□-³,é,Ü,·□B

ŽQÆ

ftfB[f<fh,ÆflfufWfFfNfgCE^—v'f,iŽw'èŽq

flfufWfFfNfgCE^,lfXfR[fv

flfufWfFfNfgCE^

Of

ŽQÆ —á —\-ñĈê

—\-ñĈê **of**, í”z—ñC□W□#□CfNf%ofX□Cftf@fCf:Ĉ^, ìéĈ¾, ÅĈ^, ì’O, É’u, ©, ê, é, Ù, ©□Ccase
•¶, ÅŽg, í, ê, Ù, ·□B

ŽQÆ

Array

Case

File

Set

On

ŽQÆ —\-ñĀĒ

□\•¶

□à-¾

—\-ñĀĒ **on** ,í—áŠO,É'í,·,é%ž"š,đ'è<` ,μ,Ü,·□**Bon** ,íí,É—\-ñĀĒ **do** ,Æ'g,Ý□‡,í,¹,ÄŽg,¢□C,±
,ê,É,æ,è—áŠOfnf"fhf%oS'í,āĀ`□-,³,ê,Ü,·□B

try..except fuf□fbfN,ì **except** •",í"Á'è,ì—áŠO,đ□^—□,·,é,½,β,ì 1 ,Â,Ü,½,í•j□",ì **on..do**
•¶,ìfŠfXfg,Å□□-,³,ê,Ü,·□B

ŽQÆ

—áŠO^—•¶

—áŠO,Ö,ì%ž“š

Do

Except

Try

Override

—á •W□€Žw—β

override Žw—β, í%¼'zf□\fbfh, Ü, ½, í“®“lf□\fbfh, ðÄ'è<` , , é, ½, β, ÉŽg, ç, Ü, ·□B

f□\fbfh, ìéCE¾, É **override** , ðŽw'è, μ, ½□é□#□C, » , ìf□\fbfh, íCEp□³, μ, ½f□\fbfh, ìŽÀ'• , ðf□□f□□f□
%ofCfh, μ, Ü, ·□B%¼'zf□\fbfh, ìf□□f□□f□%ofCfh, Å, í□CE³, ìf□\fbfh, ìfpf
%of□□f^, ì□#□~ , ÆCE^□C, " , æ, ÑŠÖ□" , ì□é□# , í, » , ìCE<%oÉCE^ , a□³Šm, É^è'v, μ, Ä, ç
, È, ~ , ê, Î, È, è, Ü, ¹, ñ□B

%¼'zf□\fbfh, É, í VMT fx□□fX, ìfffBfXfpfbf` , Æ“®“lfffBfXfpfbf` , ì 2 Ží—

p, ìfffBfXfpfbf` , a , , é, ½, β□C%¼'zf□\fbfh, â“®“lf□\fbfh, ðf□□f□□f□%ofCfh, · , éf□\fbfh, í **virtual**
, Ü, ½, í **dynamic** , ðCEj, è•Ô, · , © , í, è, É **override** Žw—β, ðŽg, ç, Ü, ·□B

—á

ŽŸ,lfR[]fh,íCep³Žè'±,« P ,đ'uŠ',,é,½,β,É **override** ,đŽg,Á,Ä,φ,Ü,·□B

type

TAnObject = **class**

procedure P; **virtual**;

end;

TAnotherObject = **class**(TAnObject)

procedure P; **override**;

end;

Packed

ŽQÆ =\-ñÆê

à-¾

\'ç%»Æ^éÆ¾,ÅŽg,í,ê,é-\-ñÆê **packed** ,íff[f^<L%¯,ð^³k,·,é,æ,æfRf“fjpfCf%
,ÉŽwŽ!,μ,Ü,·B^³k,·,é,ÆC,±,ìÆ^,ì•ï”,ìfRf“fj[fif“fg,Ö,ìfAfNfZfX,²x,,È,é,Æ,ç,æ-Ê,ª, ,è,Ü,·
B

ŽQÆ

Ń'¢%o»CE^

Pascal

ŽQAE —\-ňCEê

à-¾

pascal Žw—ß,íCŽè'±,«,Ü,½,ÍŠÖ",^afpf%^f[f^,ìŽó,-"n,μ,É Pascal ,ìĀ,Ño,μ<K-ň,ðŽg,x
,±,Æ,ðŽw'è,μ,Ü,·B

Pascal Ā,Ño,μ<K-ň,Ā,íCfpf%^f[f^,í¶,©,ç%^oE,ì¶,Ā"n,³,êCfXf^fbfNã,ìpf
%^f[f^,ìŽè'±,«,Ü,½,ÍŠÖ",^aŽæ,èœ,«,Ü,·B

Pascal Ā,Ño,μ<K-ň,íCC/C++ , ,é,ç,í¼,ìĀĀĀĀ,Ā',©,ê,½f_fCfif~fbfNfŠf"fNf%^fCfuf
%^fŠ (DLL) ,©,çGfNfXf[fg,·,éf<[f'f",ðĀ,Ño,·,½,ß,É,íĀ,à•Ö—~ ,Ā,·B

ŽQÆ

Ā.Ño,μK-ñ

cdecl

register

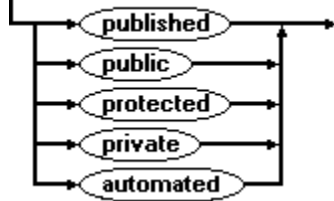
stdcall

Private

ŽQAE •W€Žw—β

□\•¶

可視性指定子



□à-¾

private Žw—β, ífufWfFfNfg“à, ÅRf“f|□[f|“fg□éCE¾•”, ðŽw’è, ·, é, ½, β, ÉŽg, ç, Ü, ·□B

- f, fWf...□[f<“à, Å, í□**private**, ÈfRf“f|□[f|“fgŽ~•ÉŽq, í **public**, ÈfRf“f|□[f|“fgŽ~•ÉŽq, Å“~, ¶, æ, x, É“®□ì, ·, é
- f, fWf...□[f<ŠO, Å, í□**private**, ÈfRf“f|□[f|“fgŽ~•ÉŽq, í•s-¾, É, È, èfAfNfZfX•s“\, Å, , é, » , è, ¼, è, ¾ŠeŽ©, ì **private** fRf“f|□[f|“fg, ð’¼, ìf, fWf...□[f<, É’m, ç, ¹, È,, Å, à□CEÝ, ç, ì **private** fRf“f|□[f|“fg, ÈfAfNfZfX, Å, «, é, æ, x, É, ·, é, ½, β□CSÖ~A, ·, éfufWfFfNfgCE^, ð“~, ¶f, fWf...□[f< (, Ü, ½, ìftfjfbfg), É’u, ç, Ä,, ¾, ¾, ç□B

private, Å, µ, Ä□éCE¾, µ, ½fRf“f|

□[f|“fgŽ~•ÉŽq, ìfXfR□[fv, ífufWfFfNfgCE^□éCE¾, ðŠÜ, bf, fWf...□[f<“à, É□\$CEÀ, ¾, è, Ü, ·□B

ŽQÆ

fufWfFfNfg

Protected

Public

fXfR[fv,ìK'¥

fufWfFfNfgCE^,ìfXfR[fv

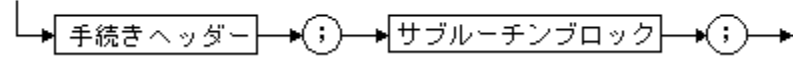
ffjfbfg

Procedure

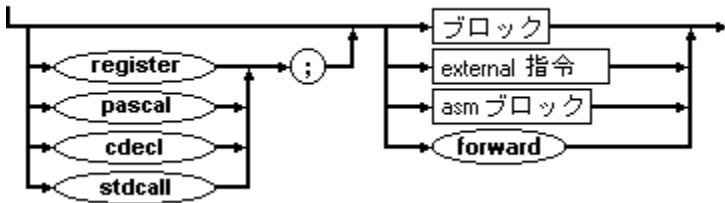
Žè±,« ,đŽg,⌘,Æf□□Cf“fvf□□Of%of€fuf□□bfN“à,É•Ê,lfuf□□bfN,đflfXfg,^{3,1},é,±,Æ,^a,Å,« ,Ü,·□BŠe

□\•¶

手続き宣言



サブルーチンブロック



□à-¾

Žè±,« ,đŽg,⌘,Æf□□Cf“fvf□□Of%of€fuf□□bfN“à,É•Ê,lfuf□□bfN,đflfXfg,^{3,1},é,±,Æ,^a,Å,« ,Ü,·□BŠe
procedure □éCÉ¾,É,lfwbf□□[,^aŽw'è,³,é,»,ìCĚă,É•¶,lfuf□□bfN,^a±,« ,Ü,·□B

procedure fwbf□□[,íŽè'±,« ,íŽ'•ÊŽq,Æ%¼fpf%□□[f^ ("C^Ó) ,đŽw'è,μ,Ü,·□B

procedure ,íŽè'±,« ,¶,ÅfAfNfefBfu,É,È,è,Ü,·□BŽè'±,« ,¶,Å,íŽè'±,« ,íŽ'•ÊŽq,Æ□CŽÀfpf
 %of□□[f^ ,^a ,é,í,»,é,đŽw'è,μ,Ü,·□B

procedure fwbf□□[,ìCĚă,ÉŽŸ,ì,à,ì,đŽw'è,μ,Ü,·□B

- f□□[ffj<flfufWffNfg,đ□éCÉ¾,·,é□éCÉ¾•"
- **begin** ,Æ **end** ,Å^í,Ü,é,½•¶□BŽè'±,« ,^aCĚĂ,Ń□o,³,é,½,Æ,«ŽÀ□s,·,é"à—e,đŽw'è,·,é

f□f,: Žè'±,« ,íŽ'•ÊŽq,đ,»,íŽè'±,« ,lfuf□□bfN“à,íŽè'±,« ,¶,ÅŽg,⌘,Æ□CŽè'±
 ,« ,íŽÀ□s't,ÉŽ©•^aŽ©□g,đCĚĂ,Ń□o,μ,Ü,·□B,±,ìC<%É,í-³CĚÀf<□[fv,É,È,è,Ü,·□B

□éCÉ¾•",â•¶•",ì,©,í,è,É□CŽè'±,« ,□éCÉ¾,ÅŽŸ,íŽw—β,đŽw'è,Å,« ,Ü,·□B

- assembler
- external
- forward

-á

{ procedure [É]E^{3/4} }

procedure NumString(N: Integer; var S: string);

var

V: Integer;

begin

V := Abs(N);

S := '';

repeat

S := Chr(N **mod** 10 + Ord('0')) + S;

N := N **div** 10;

until N = 0;

if N < 0 **then**

S := '-' + S;

end;

ŽQÆ

šÖ”

fpf%of[f^

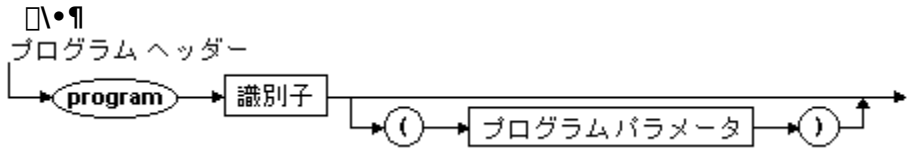
žè'±,«•¶

žè'±,«Ĉ^'è”

ĈÄ,Ño,μ<K-ñ

Program

ŽQ□Æ ≡\-ñŒÊ



□à-¾

≡\-ñŒÊ **program** ,Ífvf□fOf%of€ ,ì□æ“ª,É’u,©,ê□Cfvf□fOf%of€ ,ì-¼’O,ðŽw’è,μ,Û,·□B

ŽQÆ

Uses β

f%ofxf<

'è"

Æ^

•i"

Žè'±,«

ŠÖ"

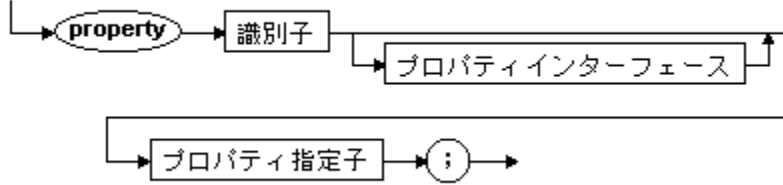
•¶

Property

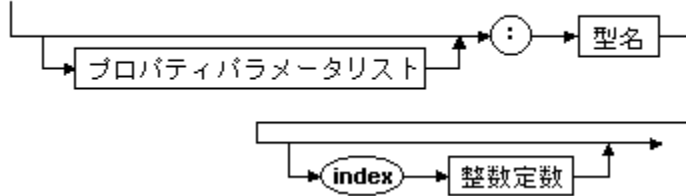
ŽQAE

□\•¶

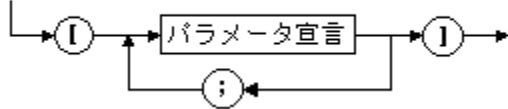
プロパティ定義



プロパティインターフェース



プロパティパラメータリスト



□à-¾

—\-ñCEê **property** ,Ífvf□fpfefB,đ□éCE¾,·,é,½,β,ÉŽg,ç,Ü,·□BfNf%ofX,Å,Ífvf□fpfefB'è<`,í,»,ÍfNf %ofX,ÍfÍfufWfFfNfg,É'Í,μ,Ä- ¼'0•t,«'®□«,đ□éCE¾,μ□C,»,ì'®□«,ì"Ç,Ý□o,μ,Æ□',«ž,Ý,ÉŠÖ~A•t,¯,éfAfnfvfþf",đ□éCE¾,μ,Ü,· □B

ŽQÆ

Read

Write

Stored

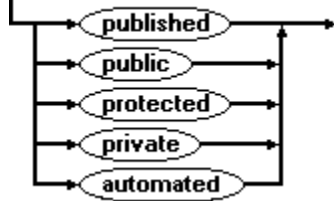
f|fufWfFfNfgCE^

Protected

ŽQ□Æ •W□€Žw—β

□\•¶

可視性指定子



□à-¾

protected Žw—β, ífufWfFfNfgĈ□éĈ¾, ÅŽg, ç, Ü, ·□B

protected ,Æ, μ, Ä□éĈ¾, μ, ½fRf“f|□[flf“fg, í, ±, ê, ð□éĈ¾, μ, ½Ĉ^, ì
%oo^ÊfufWfFfNfg, É‘í, μ, Ä, ¾, ~fAfNfZfX%oÅ“\, É, È, è, Ü, ·□B

fRf“f|□[flf“fg, ð **protected** ,Æ, μ, Ä□éĈ¾, ·, é, ±, Æ, É, æ, Á, Ä **public** fRf“f|□[flf“fg, Æ **private**
fRf“f|□[flf“fg, ì—“_ ,ªĈ<, Ñ•t, ~, ç, ê, Ü, ·□B

private fRf“f|□[flf“fg, ìê□±, Æ“—l, É□Cprotected fRf“f|
□[flf“fg, Å, ÍŽÀĈ», ìÚ□×, ðfGf“fhft□[fU□[, ©, ç%ooB, ¹, Ü, ·□B, ½, ¾, μ□C**private** fRf“f|
□[flf“fg, Æ, í^Ù, È, è□C**protected** fRf“f|□[flf“fg, Å, Í□Cfv□fOf%of}
,ªfufWfFfNfg, ©, ç□V, μ, çfufWfFfNfg, ð”h□¶, ³, ¹, é□ê□±, É□C
%oo^ÊfufWfFfNfg,ª“~, ¶ftfjfbfg“à, Å□éĈ¾, ³, ê, È, , Ä, Í, È, ç, È, ç, Æ, ç, x□s-ñ, ðŽó, ~, , , É□ĭ, Ý, Ü, ·□B

ŽQÆ

fRf“f□[f]f“fg,ì%oÂŽ<□«

Private

Public

Published

Automated

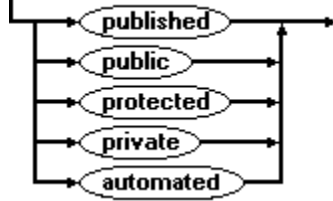
f]fufWfFfNfgCE^,]fXfR□[fv

Public

ŽQ□Æ •W□€Žw—β

□\•¶

可視性指定子



□à-¾

public Žw—β, íNf%ofXCE^□éCE¾, ÅŽg, ç, Ü, ·□B

public fRf“f|□[f|“fg•”, Å□éCE¾,³,ê,½fRf“f|

□[f|“fgŽ˘•ÊŽq,É,íXfR□[fv,ÉŠÖ,·,é“Á•Ê,È□\$CEÀ,Í, ,è,Ü,¹,ñ□B

ŽQÆ

fRf“f□□[f]f“fg,ì%oÂŽ<□«

Private

Protected

Published

Automated

f]fufWfFfNfgCE^,]fXfR□[fv

Published

ŽQÆ •W€Žw—ß

□\•¶

.

□à-¾

published Žw—ß, ílfufWfFfNfgĈ^□éĈ¾, ĀŽg, ç, Ü, ·□B

flfufWfFfNfg, ìê•", ðpfufŠfbfVf..., Æ, µ, Ä□éĈ¾, ·, é, Æ□C, »), ì•"•ª, É, Ā, ç

, Ā, ÌŽÀ□sŽžĈ^□î•ñ,ª¶□→,ª, ê□CfAfvfŠfP□[fVf#f", ÌpfufŠfbfVf...fCf"f^□[ftfF□[fX, ÉŠÜ, Ü, ê, Ü, ·□B

fAfvfŠfP□[fVf#f""à•", Ā, í□**published** •", í **public** •", Æ"̄, ¶, æ, x, É"®□ì, µ, Ü, ·□B—

B^ê, ì'Š^á"_, í¾, ÌfAfvfŠfP□[fVf#f",ª **published** fCf"f^□[ftfF□[fX, ð'É, ¶, ĀpfufŠfbfVf...

•", Ìî•ñ, ðŽæ"¾, Ā, <, é, Æ, ç, x"_, Ā, ·□B

C++Builder, ÌlfufWfFfNfgfCf"fXfyfNf^, í□CfRf"f□[flf"fghpfĈfbfg, ĀlfufWfFfNfg, ÌpfufŠfbfVf...

fCf"f^□[ftfF□[fX, ðŽg, Ā, Ä□C•Ž!, ·, évf□pfefB, ÆfCxf"fgh, ðĈ^, ß, Ü, ·□B

ŽQÆ

fRf“f□□[f]f“fg,ì%oÂŽ<□«

Private

Protected

Public

Automated

f]fufWfEfNfgCE^,]fXfR□[fv

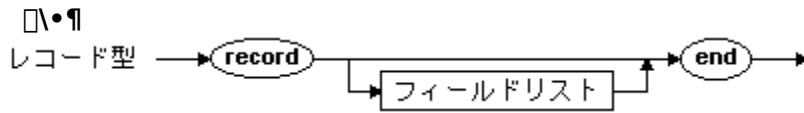
ŽQÆ
Write

-á

property Color: TColor **read** GetColor **write** SetColor;

Record

レコード型 —á —\-ñĈĕ



レコード型

record ,É,ÍfRf"j[]fj"fg,Á,Ü,èftfB[]f<fh,ªŠÜ,Ü,ê[]CšeftfB[]f<fh,Í^Ù,È,éĈ^,Á[]¬,Á,«,,Ü,·[]B
ŠeftfB[]f<fhfŠfXfg,Á,íŽ^-ÉŽq,ðfj"j},Á<æ[]Ø,Á,ÄŽw'è,µ[]CfRf[]",ÆĈ^,ð'±,~,ÄŽw'è,µ,Ü,·[]B
fĈfR[]fĈĈ^[]éĈ¾,Á,ÍftfB[]f<fh,í-¼'O,ðŽw'è,µftfB[]f<fhĈ^,ðŠ,,è"-,Ä,È,,Á,Í,È,è,Ü,¹,ñ[]B
fĈfR[]fĈĈ^[]·[]},ì%Á·í·",Íf[]f,š-í^æ,ð·;[]",ÍftfB[]f<fhfŠfXfg,É"z·ª,µ[]C·;[]",ì·û-
@,Á[]î·ñ,ÉfAfNfZfX,·,é,½,ß,ì,à,ì,Á,·[]BŠeftfB[]f<fhfŠfXfg,Íf[]f,š"à,ì""è-í^æ,Éf[]fo[]fĈfC,·,é
%Á·Íf^fo,Á,·[]BŠe%Á·Íf^fo,í'è[]",É,æ,Á,Á<æ·É,³,ê[]C,ç,Á,Á,à,·,x,Ä,ì
%Á·Íf^fo,ì,·,x,Ä,ÍftfB[]f<fh,ÉfAfNfZfX,Á,«,,Ü,·[]B

fÍfVfVf" ,ìŽ^-ÉŽq,Á, ,éf^foftfB[]f<fhŽ^-ÉŽq,í[]CfĈfR[]fĈ,ì'Ç
%ÁĈÉ'èftfB[]f<fh[]C,Á,Ü,èf^foftfB[]f<fh,ìŽ^-ÉŽq,Á,·[]BfVf[]fof%of€,í,Ç,ì
%Á·Íf^fo,ªĈ»[]YfAfNfefBfu,©,ðŽ!,·,½,ß,Éf^foftfB[]f<fh,ì'l,ðŽg,ç,Ü,·[]B

fĈfR[]fĈ,Ö,ÍfAfNfZfX

fĈfR[]fĈ'S'ì,ÉfAfNfZfX,µ,½,èšeftfB[]f<fhĈÁ·É,ÉfAfNfZfX,µ,½,è,Á,«,,Ü,·[]BĈÁ[]X,ÍftfB[]f<fh,
©,ç[]î·ñ,ðŽæ,è[]o,·,É,ÍfĈfR[]fĈ-¼[]CfsfŠfÍf[]CftfB[]f<fhŽ^-ÉŽq,ð"ü-í,µ,Ü,·[]BŽŸ,É-
á,ðŽ!,µ,Ü,·[]B

TDateRec.Year

fĈfR[]fĈ,ÉfTfufĈfR[]fĈ,ªŠÜ,Ü,ê,é[]ê[]#,í[]CĈÉÀ'èŽq,ðŽg,Á,ÄfAfNfZfX,Á,«,,Ü,·[]B

-á

{ fCEfR[]fhCE^,ì'è<' }

type

TClass = (Num, Dat, Str);

TDate = **record**

D, M, Y: Integer;

end;

Facts = **record**

Name: **string**[10];

case Kind: TClass **of**

Num: (N: Real);

Dat: (D: TDate);

Str: (S: **string**[8]);

end;

ŽQÆ

ftfB[f<fh,ÆflfufWfFfNfgĈ—v'f,ižw'èŽq

fĈfR[fhĈ^'è"

fĈfR[fh,ifXfR[fv

with •¶

register

ŽQÆ •W€Žw—β

à-¾

register Žw—β, íCŽè'±, «, âŠÖ" ,Áfpf%of[f^, ð"n, ·, Ì, É register ĄÄ, Ño, µ<K-ñ, ðŽg, ±, ,Æ, ðŽw'è, µ, Ü, ·BObject Pascal , Ì, ±, Ìfo[fWf†f" ,Á, ÍCregister , ðfftfHf<fg, ÌĄÄ, Ño, µ<K-ñ, Á, ·B

register ĄÄ, Ño, µ<K-ñ, Á, Ìfpf%of[f^, í¶, ©, ç%oE, Ö"n, ³, êCSÖ" , ðfXf^fbfN, ©, çpf%of[f^, ðíœ, µ, Ü, ·B

register <K-ñ, Á, í 3 , Á, Ü, Á, Ì CPU fĄfWfXf^, ðŽg, Á, Áfpf%of[f^, ð"n, ³, ê, Ü, ·, ðC, » , Ì'¼, Ì<K-ñ, Á, ÌfXf^fbfNã, É, , é, ·, ×, Á, Ìfpf%of[f^, ðí, É"n, ³, ê, Ü, ·Bregister <K-ñ, ÌfXf^fbfNftfĄ[f€ , Ìì¶, ð%ñ"ð, ·, éê¶, ð'½, ç, Ì, Á, à, Á, Æ, àĄø—! " Ì, ÈĄÄ, Ño, µ<K-ñ, Á, ·B

ŽQÆ

Ā.Ño,μK-ñ

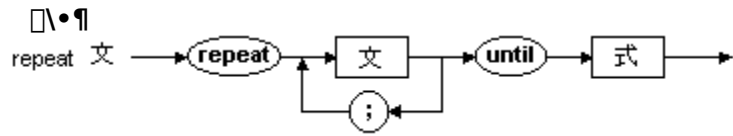
cdecl

pascal

stdcall

Repeat...Until

ŽQÆ —á —\-ñÆê



□à-¾

repeat ,Æ **until** ,ìšÔ,ì•¶,í **until** •¶,ì~ —□Ž®,ª True ,Æ•]‰ž,³,ê,é,Ü,Å~A'±
,μ,ÄŽÄ□s,³,ê,Ü,·□B

,±,ìf<□[fv,ðŽg,¤,ÆŠefV□[fPf“fX,ðŽÀ□s,μ,½Æã,É~ —□Ž®,ª•]‰ž
ž,³,ê,é,½,β□CfV□[fPf“fX,ªÄ'á,Å,à 1 ‰ñ,íŽÀ□s,³,ê,é,±,Æ,ª•Ü□Ø,³,ê,Ü,·□B

-á

```
{ repeat •¶ }  
  repeat Ch := GetChar until Ch <> ' '  
  repeat  
    Write('Enter value: ');  
    ReadLn(I);  
  until (I >= 0) and (I <= 9);
```

ŽQÆ
f<fv

Resident

• Windows

• Windows **resident**, `exports`, `ÁŽg,ç,Ü`

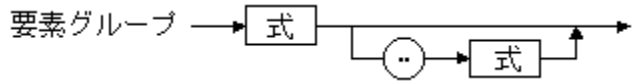
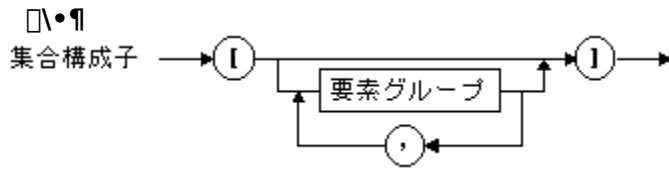
resident, `g,ç,Ü`, `cf_cif~fbnfšf“fnf%ofCuf%ofš (DLL)`, `fh,ç,è,½,Æ,«fgfNfXf|`
`fgî•ň,çf,š“à,Éí““ ,μ,Ü`

resident `flfvfVf#f“ ,ðŽw'è,ç,é,Æ Windows`, `DLL fgf“fgfš,ð-¼'O,ðŽg,Á,ÄŽQÆ,ç,é,Æ,«,žžšÖ,ç'Zk,ç,è,Ü`

DLL, `g,ç,Ü`, `fnf%ofCfAf“fgfvfOof%of€`, `“Á'è,lfGf“fgfš,ð-¼'O,ðŽg,Á,ÄfCf“f|`
`fg,ç,é,è,ç,C-Windows resident ,ðŽg,Á,Ä,» ,è,ç,lfGf“fgfš,ðfGfNfXf|fg,ç,é•K—`
`v,ç,è,Ü`

Set

$\{ \}$ \rightarrow $\{ \}$ \rightarrow $\{ \}$



$\{ \}$

\rightarrow $\{ \}$ **set** , í 256 ĆĀ-ĉ-ž, ì'í, ðžĭ, Ā"̄, ħĭĭ~ĆĤ, ©, ĉ, È, éfıfufWfFfNfg, ìĭWĭĭ, ð'è<` , μ, Ü, ·ĭB

Šî- {ĆĤ, ìĭăĆĀ, Ā%°ĆĀ, ìĭĭĭ"í, í 0 , ©, ĉ 255 , ì"í'í, Ā, È, , Ā, í, È, è, Ü, ı, ħĭB

ĭWĭĭĆĤ, ì'í, ðžw'è, , éĭWĭĭĭRf"fxfgf%ofNfĤ, ìĭĆž@, ð []

, Ā^í, ħ, Ā<Lĭq, μ, Ü, ·ĭB, » , ê, ¼, ê, ìž@ , ìĭWĭĭ, ì'í, ð•\, μ, Ü, ·ĭB

[] , ì•\<L, í<ó, ìĭWĭĭ, ð^Ó-ı, ĭĭĭĭ, ·, ×, Ā, ìĭWĭĭĆĤ, ĀĆĤŸŠ, Ā, ·ĭB

-á

```
{ [W[+CE^ ]
```

```
  type
```

```
    Day = (Sun, Mon, Tue, Wed, Thu, Fri, Sat);
```

```
    CharSet = set of Char;
```

```
    Digits = set of 0..9;
```

```
    Days = set of Day;
```

```
{ [W[+Rf“fXfgf%oofNf^ ]
```

```
  ['0'..'9', 'A'..'Z', 'a'..'z', '_']
```

```
  [1, 5, I + 1 .. J - 1]
```

```
  [Mon..Fri]
```

ŽQÆ

Of

WÆ^

WÆ^'è"

stdcall

ŽQÆ •W€Žw—ß

à-¾

stdcall Žw—ß,íCŽè'±,«,âŠÖ",Åfpf%of[f^,ð"n,·,ì,É Windows ,ì•W€CEÄ,Ño,μ<K-ñ,ðŽg,±,Æ,ðŽw'è,μ,Û,·B

stdcall <K-ñ,Å,í **cdecl** <K-ñ,Æ"—l,Éfpf%of[f^,í %oE,©,ç¶,Ö"n,³,ê,Û,·,ªCSÖ",ªfXf^fbfN,©,çfpf%of[f^,ðíœ,·,é"_,ª cdecl <K-ñ,Æ,í^Û,È,è,Û,·B

stdcall CEÄ,Ño,μ<K-ñ,í Windows API f<[f`f",ðCEÄ,Ño,·,½,ß,ÉŽg,í,ê,Û,·B

ŽQÆ

Ā.Ño,μK-ñ

cdecl

pascal

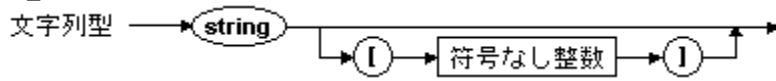
register

String

ŽQ□Æ ≡\-ñŒê

□\•¶

文字列型



□à-¾

≡\-ñŒê **string** ,í•¶Žš-ñŒê^,ì•ï□",ð□éŒ¾,•,é,½,ß,ÉŽg,¢,Ü,•□B

ŽQÆ

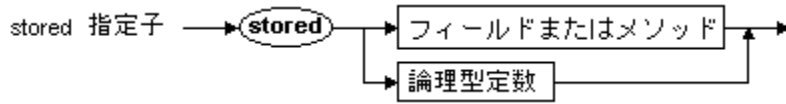
fCf"ffbfNfX

•ŕŽš—ňE^

Stored

• W € Ž w — β

□ \ • ¶



□ à - ¾

stored Ž w — β, í v f □ f p f e f B, ð • Û ' ¶, ·, é, ©, Ç, ¼, ©, ð □ § C E ä, μ, Û, · □ B

f v f □ f p f e f B ' è < ` , É **stored** Ž w — β, ð Š Û, β, é □ ê □ † □ C Ž Ÿ, ì, ç, , , é, ©, ð ' ±, -, Ä Ž w ' è, μ, È, , Ä, Í, È, è, Û, ¹, ñ □ B

- ~ _ — □ ' è □ " (True, Û, ½, Í False)
- ~ _ — □ C E ^, ì f t f B □ [f < f h, ì Ž ^ • È Ž q
- ~ _ — □ C E ^, ì ' Ì, ð • Ô, · f p f % o f □ □ [f ^, È, μ, ì Š Ö □ " f □ f v f b f h, ì Ž ^ • È Ž q

f v f □ f p f e f B ' è < ` , É **stored** Ž w ' è Ž q, ð Š Û, β, È, ç □ ê □ † □ C C E < % o È, Í **stored** True Ž w ' è Ž q, ð Š Û, β, ½ □ ê □ †, Æ " ^, ¶, È, È, è, Û, · □ B

Threadvar

ŽQÆ —\-ňÆê

—\-ňÆê **threadvar** ,í□CfXfÆfbfhf□□[ffj<•ï□” ,đ□éÆ¾,·,é,½,ß,ÉŽg,ç,Ü,·□B**threadvar** ,ì□\
•¶,í—\-ňÆê var ,Æ“” ,¶,Å,·□B

ŽQÆ

Var

Try

ŽQAE —á —\-ñĀê

—\-ñĀê **try** ,Ífvf[]fefNfgfuf[]fbfN,ì[]Ā[]%o,ì"•ª,đf}[][fN,·,é,½,β,ÉŽg,ç,Ü,·[]Bfvf[]fefNfgfuf[]fbfN,É,Í 2 ,Ā,ìŽí—p,ª, ,è,Ü,·[]B

- **try..except** fuf[]fbfN
- **try..finally** fuf[]fbfN

[]\•[]
⋮

try...except fuf[]fbfN

—áŠO,đ[]^—[],·,é fuf[]fbfN,Í **try..except** fuf[]fbfN,Ā,·[]B

fuf[]fbfN,ì **try** " ,ì'†,Ā,í[]C—áŠO,ª"[][],μ,È,çĀĀ,è•[],í'Ē[]í,ì[]#[]~,ĀŽĀ[]s,ª,è[]C—áŠO,ª"-
[][],·,é,ĀŽĀ[]s,ª **except** " ,ÉfWfff"fv,μ,Ü,·[]B—áŠO,ª"[][],μ,È,ç[]ê[]#[]C**except** " ,â **else**
" ,đŽg,í, ,É fuf[]fbfN,ª[]|—¹,μ,Ü,·[]B

except " ,í"Ā'è,ì—áŠO,Ā,» ,è,É'í,·,é%ož"š,đ<L[]q,μ,½fšfXfg,Ā[]C,» ,è,¼,è **on..do**
" ,Ā<L[]q,ª,è,Ü,·[]B **Bon..do** " ,ì,ç,è,àĀ»[]Y,ì—áŠO,ÉŠY"—,μ,È,ç[]ê[]#[]C**else** " ,É, ,éfftfHf<fg,ì
—áŠOfnf"fhf%o,ªŽĀ[]s,ª,è,Ü,·[]B1 ,Ā,ìfnf"fhf%o ("Ā'è,ìfnf"fhf%o,Ü,½,ìfftfHf<fgfnf"fhf%o) ,ª—
áŠO,đ[]^—[],·,é,Ā[]Cfuf[]fbfN,í[]|—¹,μ,Ü,·[]B

—áŠOĀĕ,Í fuf[]fbfN"à,ĀŽĀ[]s,í[]ĀŠJ,ª,è,Ü,¹,ñ[]B' O,ì—á,Ā[]CStatement1 ,Ā—áŠO,ª"-
[][],μ,½[]ê[]#[]CStatement2 ,íŽĀ[]s,ª,è,Ü,¹,ñ[]B

try..finally fuf[]fbfN

fAfvfšfP[][fVf#f" ,ªš,,,è"—,Ā,½fšf[][fX,đšmŽĀ,É%ođ•ú,·,é,½,β,É[]C**try..finally**
fuf[]fbfN,đŽg,Ā,Āfšf[][fXš,,,è"—,Ā,đ•ÚĀĕì,Ā,« ,Ü,·[]B

try..finally fuf[]fbfN,ì **finally** " ,ì•[],í[]C—áŠO,ª"[][],μ,½[]ê[]# ,Ā,à•K, ,ŽĀ[]s,ª,è,Ü,·[]B

try..finally fuf[]fbfN,ì•[],í—áŠO,ª"[][],μ,È,çĀĀ,è[]³[]í,ÉŽĀ[]s,ª,è[]C—áŠO,ª"[][],·,é,Ā **finally**
" ,ì•[],ªŽĀ[]s,ª,è,Ü,·[]B **try..finally** fuf[]fbfN,ì,» ,èŽ©'í,í"Ā'è,ì—áŠO,đ[]^—[],·,é,à,ì,Ā,í,È,ç
 ,ì,Ā'[]^Ó,μ,Ā,,ª/4,ª,ç[]B

—á

ŽŸ,lfR[]fh,í•ÚCEì,³,é,½fŠf\[]fX,ðŽ!,μ,Ü,·[]Bfuf[]fbfN,ì **finally** •”,Åftf@fCf<,ð•Â,¶,é,±
,Æ,É,æ,Á,Ä[]C—áŠO,ª”[]¶,μ,½[]é[]‡,Á,àfAfvfŠfP[]fVf‡f”,ª•K, ,ftf@fCf<,ð•Â,¶,é,æ,‡,É,È,Á,Ä,ç
,Ü,·[]B

var

F: **File**;

begin

Assign(F, 'SOMEFILE.EXT');

Reset(F);

try

{ ftf@fCf< F ,ÉfAfNfZfX,·,é•¶ }

finally

Close(F);

end;

end;

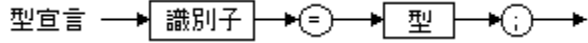
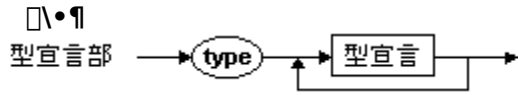
ŽQÆ

—áŠO^—

fŠ\ [fXŠ,,è"-,Ä,ì•ŮŒì

Type

ŽQÆ —\-ñŒê



à-¾

type éŒ¾, íŒ^, ðŽ!, ·Ž·ÊŽq, ðŽw'è, μ, Û, ·B·i", ì **type** , í, » , ì·i", ðŽ, Â, ±, Æ, ì, Â, «, é'ì, ìW, ÆC, » , ì·i", É'í, μ, ÄŽÀs%oÂ"\, É'€i, ð'è<, μ, Û, ·B

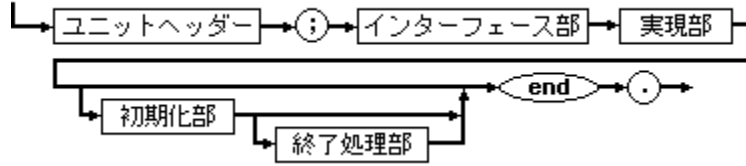
ŽQÆ

CE^éCE^{3/4}

Unit

ŽQAE -\-ñCEè

□\•¶
ユニット



□à-¾

ftfjfbfg,íf,fWf...□[f<fvf□fOf%of~f“fO,ìŠî-{-,Á,·□Bftfjfbfg,đŽg,Á,Äf%ofCfuf
%ofŠ,đ□□-,μ,½,è□C'á,<,Èfvf□fOf%of€€,đ~□“l,ÉŠÖ~A,·,éf,fWf...□[f<,É•ªŠ,,,μ,½,è,μ,Ü,·□B

ftfjfbfg,ìŠe•” ,đŽŸ,ÉŽl,μ,Ü,·□B

- **unit** fwfbf_□[
- fCf“f^□[ftfF□[fX•”
- ŽACE»•”
- □%oŠÚ%o»•”
- □l-¹□^—□•”

ftfjfbfgfwfbf_□[

unit fwfbf_□[,íftfjfbfg,ì-¼'O,đŽw'è,μ,Ü,·□B,±,ì-¼'O,í uses

□β,Áftfjfbfg,đŽQAE,·,é,Æ,<,ÉŽg,ç,Ü,·□B



-¼'O,íftfj□[fN,Á,È,,Ä,í,È,è,Ü,¹,ñ□B“~,¶-¼'O,đŽ□,Â 2 ,Á,íftfjfbfg,đ“~Žž,ÉŽg,±,±,Æ,í,Á,<,Ü,¹,ñ□B

ŽQÆ

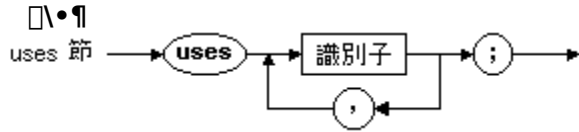
ftjfbfg.ìzŠÂŽQÆ

ftjfbfg.ìŠÔÚŽQÆ

Uses

—á —\-ñĀĒ

uses □β,Á,lfvf□fOf%of€,āŽg—p,·,éftfjfbfg,đŽw'è,μ,Ü,·□B



□à-¾

uses □β,ìŠeŽ-•ĒŽq,íĀ»□Ý,lfvf□fOf%of€,Ü,½,lfvfjfbfg,afAfNfZfX,·,éŠÖ□",Ü,½,íŽè'±,«,đŠÜ,pfjfbfg,đŽw'è,μ,Ü,·□B

System ftjfbfg,í□í,ÉŽ©"®"l,ÉŽg—p,³,è,Ü,·□B System ftjfbfg,í□Cftf@fCf<"ü□o—í□C•¶Žš—ñ□^—□□C•,"®□-□" " %%%ŽŽ□C"®"lf□f,fŠŠ,,è"-,Á,Æ,ç,Á,½'áfCfxf<,lf %of"f^fCf€f<□lf`f",đŽÁ'•,μ,Ä,ç,Ü,·□B

System ftjfbfg,Æ,í•Ē,É□CObject Pascal ,Á,í□CŽ©"®"l,É,íŽg—p,³,è,Ē,ç'½□",ì•W□€ftjfbfg,đŽÁ'•,μ,Ä,ç,Ü,·□B,±,è,ç,lfvfjfbfg,đŽg,πê□#,í uses □β,ÉŽw'è,μ,Ē,·,è,í,Ē,è,Ü,¹,ñ□B

uses □β,ÉŽw'è,³,è,½ftjfbfg,ì□#□~,É,æ,Á,Ä□Cftjfbfg,ì□%Šú%»»,ì□#□~,āĀ^,Ü,è,Ü,·□B

fRf"fpfCf<□İ,Ý,lfvfjfbfg,đ'T,μ□o,·,½,β,É□CfRf"fpfCf%o,í **uses** □β,ÁŽw'è,³,è,½ftjfbfg-¼,Éftf@fCf<Šg'ÉŽq .DCU ,đ•t%oÁ,μ,Ü,·□B

fRf"fpfCf%o,lfjfcf"fjffBfcfNfgfŠ,É, ,éftfjfbfg,Æ□C□mfvf□fWfFfNfgfIfvfVf#f"□nf_fCfAf□fOf{fb fNfX,ì□mfffBfcfNfgfŠ/
□đĀ□nfy□lfW,ì□mĀĀöfpx(S)□nfŠfXfgf{fbfNfX,ÁŽw'è,³,è,½ffBfcfNfgfŠ,É, ,éftfjfbfg,đĀĀö,μ,Ü,·□B

-á

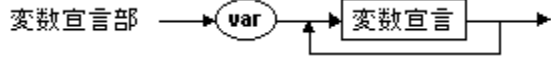
program MyProgram;

uses SysUtils;

Var

ŽQÆ —á —\-ñĈê

∅\•¶



∅à-¾

•i" (var) ∅éĈ¾,íŽ-•ĈŽq,ÆĈĈ,đ,»,)ĈĈ^,ì'í,đŠi"[%Ō\,Èf,f,ſŠ"à,ì^Ĉ'ü,ÆŠÖ~A•t,~,Ü,·∅B

absolute ∅β,í∅â'í∅f∅f,ſŠfAfhfĈfX,đŽw'è,·,é,½,β,ĈŽg,ç,Ü,·∅B

—\-ñĈê var ,đŽg,Á,Ä•i"fpf%of∅∅f^,đ∅éĈ¾,·,é,±,Æ,à,Á,«,Ü,·∅B

-á

{ •ï"é¼ }

var

X, Y, Z: real;
I, J, K: Integer;
Done, Error: Boolean;
Vector: **array**[1..10] **of** real;
Name: **string**[15];
InFile, OutFile: Text;
Letters: **set of** 'A'..'Z';

ŽQÆ

fOf□□[fof<•i□”,Æf□□[ff<•i□”

fXfR□[fv

•i□”□éÆ¾

Virtual

ŽQŒ •W€Žw—ß

à-¾

virtual Žw—ß, í%¼'zfvfbfh, ðé¾, ·, é, ½, ß, ÉŽg, ç, Ü, ·B

virtual fŒ

fbfh, ífCfCgfofCf“ffBf“fo, ÆCEÄ, î, è, éfvfZfX, É, æ, Á, ÄŽÀsŽž, ÉfR[fh, ÉfŠf“fN, ³, ê, Ü, ·B

fŒfbfh, ð **virtual** , Æ, µ, Äé¾, ·, é, ÆC“ , ¶-¼'O, ðŽ, ÄfŒ

fbfh, ðfufWfFfNfg^, ÌŠK'w“à, Å•É, Ì•û-@, ÅŽÀCE», Å, «, é, æ, æ, É, È, è, Ü, ·B

fŒfbfh, ð%¼'z, É, ·, é, É, ÍCfufWfFfNfg^, ÌfŒfbfhé¾, ÌCEã, ÉfZf~fRf“ , ðŽw'è, µC—\-

ñCEê **virtual** , ð'±, , ÄŽw'è, µ, Ü, ·B

ŽQÆ

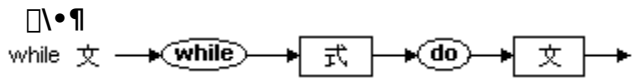
flfufWfEfNfg

Self

%o¼'zf\fbfh

While

while do while



while

while 文, 式, do, 文

do 式, while 文

while 文, do 式, while 文

while 文, do 式, while 文

ŽQÆ

•j#•¶

Do (—\~ñŒê)

For (—\~ñŒê)

f<¶fv

Repeat (—\~ñŒê)

-á

```
{ while •¶ }  
  while Ch = ' ' do Ch := GetChar;
```


ŽQÆ
fĈfRfh

-á

type

 TDate = **record**

 Day : Integer;

 Month: Integer;

 Year : Integer;

end;

var OrderDate: TDate;

with OrderDate **do**

if Month = 12 **then**

begin

 Month := 1;

 Year := Year + 1

end

else

 Month := Month + 1;

Write

ŽQAE =á

□\•¶

write 指定子 → **write** → フィールドまたはメソッド →

▪

□à-¾

write Žw—β,Ífvf□fpfefBfAfNfZfXŽw'èŽq,Å□C,±
,ê,ðŽg,Á,Äfvf□fpfefB,l'l,ð□Ý'è,·,éf<□[f`f",ðŽw'è,Å,«,Ü,·□B

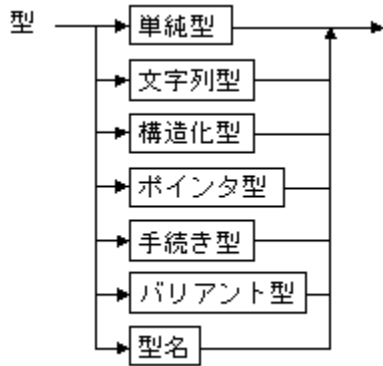
ŽQÆ
Read

CE^□éCE¾

ŽQ□Æ CE¾CEê'è<`

•i□",đ□éCE¾,·,é□ê□#□CE^,đŽw'è,μ,È,-
 ,Ä,Í,É,è,Ü,¹,ñ□BCE^,í'è<`□í,Ý,ìCE^,©ft□[fU□[í'è<`CE^,ì,ç,.,ê,©,Ä,·□Bft□[fU□[í'è<`),ìCE^,ífv□fOj
 %ofÉ,Ü,½,íftfjfbfg,ìCE^éCE¾•",Ä□éCE¾,μ,Ü,·□B

•i□",ìCE^,í,»),i□i□",ª•ÚŽ□,Ä,«,é'l,ì□W□#,Æ•i□",É'í,μ,ÄŽÀ□s%oÄ"\,È'€□ì,đ'è<`,μ,Ü,·□B
 CE^□éCE¾,ìfXfR□[fv,í,»,ìCE^,đ□éCE¾,μ,½fuf□fbfN"à,É,È,è,Ü,·□B
 CE^Ž`•ÉŽq,ìfXfR□[fv,É,í□Cf"fcf"f^CE^,đ—áŠO,Æ,μ,Ä□C,»,ìŽ`•ÉŽqŽ©'ì,ÍŠÜ,Ü,è,Ü,¹,ñ□B



CE^,É,Í 6 ,Ä,ìŽâ,ÈfNf%ofX,ª, ,è,Ü,·□B

1. 'P□fCE^,í□#□~•t,³,ê,½'l,ì□W□#,đ'è<`,μ,Ü,·□B
2. •qŽš—ñCE^,í"®"l,È',³'®□«,ÆCEÄ'èftfcfY'®□«,đŽ□,Ä•qŽš,ìfv□[fpf"fx,đ'è<`,μ,Ü,·□B
3. □\`ç%o»CE^,í•i□",ì'l,đ•ÚŽ□,Ä,«,é□\`ç,đ'è<`,μ,Ü,·□B
4. f|fcf"f^CE^,íŽw'è,³,ê,½CE^,ì•i□",đf|fcf"fg,·,é'l,ì□W□#,đ'è<`,μ,Ü,·□B
5. Žè'±,«CE^,ìŽè'±,«,ÆŠÖ□",đf|fufWfFfNfg,Æ,μ,Ä^μ,π,½,β,ÉŽg,ç,Ü,·□B
6. fofŠfAf"fgCE^,í•i□",ª^Ü,È,éCE^,ì'l,đŽ□,Ä,±,Æ,đ'z'è,μ,Ü,·□B

ŽQÆ

fXfR[fv

CE^,iCEÝŠ·«

Ši- {CE^, AE"Ä-pCE^

CE^

Object Pascal ,l'è<`ij, Y,)CE^, í^È%oo,) 2 Ží-p, É•a-p, 3, è, Ü, ·B

- Ši- {CE^
- "Ä-pCE^

Ši- {CE^, l'í^í, AECE`Ž®, í CPU ,AEfIfyfCE[[fefBf"fOfVfXfef€, É^È'¶, 1, , COobject Pascal
,)ŽÄ'•, a^Ü, È, Ä, Ä, à•í, í, è, Ü, 1, ñB

"Ä-pCE^, l'í^í, AECE`Ž®, í CPU ,AEfIfyfCE[[fefBf"fOfVfXfef€, É^È'¶, µ, Ü, ·B

CE»Y`CŠi- {CE^, AE"Ä-pCE^, δ<æ•É, ·, é'è<`ij, Y,)CE^, í^È%oo,) 3 Ží-p, a, , è, Ü, ·B

- ¶@¶"CE^
- •¶ŽšCE^
- •¶Žš-ñCE^

, Ü, ©,), ·, x, Ä,)CE^, Ä, íC'è<`ij, Y,)CE^, Ši- {CE^, AE, Y, È, µ, Ä, , 3/4, 3, ¶B

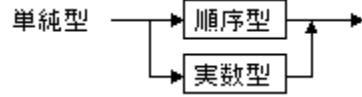
'Ê¶í, l'"Ä-pCE^, É, æ, èCCPU ,AEfIfyfCE[[fefBf"fOfVfXfef€, É, AE, Ä, Ä"Ä"K, È^ -CEø-
, a"3/4, ç, é, é, 1/2, BCCfAfvfŠfP[[fvf¶f", Ä, í, Ä, «, é, 3/4, -"Ä-pCE^, ŠŽg, x, æ, x, É, µ, Ü, ·BŠi-
{CE^, íCZÄÜ, l'í^í, âŠi"[CE`Ž®, afAfvfŠfP[[fvf¶f", Ä¶d-v, È-â'è, AE, È, é¶è¶, 3/4, -Žg, ¶, Ü, ·B

'P f C ^

C ^

'P f C ^, í ð ñ ~ • t, ¯, ³, ê, ½, 'l, ì ð W ð ð, ð 'è < ` , µ, Û, · ð B 'P f C ^, É, Í 2 , Á, Ì Š î - { f N f % o f X, ¢, , è, Û, · ð B

- ð ð ~ C ^
- Ž A ð " C ^



Ž A ð " C ^ Ž • Ê Ž q, í • W ð € Ž • Ê Ž q Real ð C Single ð C Double ð C Extended ð C Comp , ì, ¢, , , è, ©, Á, · ð B

'P f C ^, ì " ä Š r

'P f C ^, ð " ä Š r, ·, é ð ê ð ð C f l f y f % o f " f h, Í C É Ý Š ·, ì C ^, Á, È, , Á, Í, È, è, Û, ¹, ñ ð B, ½, ¾, µ ð C ^ è • ù, ì f l f y f % o f " f h, ¢ Ž A ð " C ^, ì ð ê ð ð C, à, ¤ è • ù, Í ð @ ð " C ^, Á, à, ©, Û, ¢, Û, ¹, ñ ð B

ŽQÆ

—áŠO^—

Ā^,ìĀÝŠ·«

•î”,ìĀ^fLfffXfg

’l,ìĀ^fLfffXfg

ŽQÆ

Ā, ĬĀŸŠ·Ā«

‘Ĭ, ĬĀ^fLfffXfg

•Ĭ”, ĬĀ^fLfffXfg

ŠĬ- {Ā, Ā”Ä—pĀ^

~_~CE^

ŽQAE ¶~CE^

'è`ï,Ý,ì~_~CE^,í 4 Ží—p, ,è,Ü,·B~_~CE^,í False ,Ü,½,í True ,Æ·]‰
;,³,ê,é•ï",ðéCE¾,μ,Ü,·B

CE^ **f¶f,fš**

Boolean	1 fofCfg
ByteBool	1 fofCfg
WordBool	2 fofCfg (1 f¶¶[fh)
LongBool	4 fofCfg (2 f¶¶[fh)

¶Å,à^ê"Ê"l,Ê~_~Ž®,ìŽg,¢•ù,íŠÖCEW‰‰ŽŽŽq,âðCE¶¶,Æ,Æ,à,ÉŽg,¤•û-@,Å,·B~_~
CE^,í—ñ<"CE^,Å, ,é,½,βCŽŸ,ìŠÖCEW,^a¶—š,μ,Ü,·B

- False < True
- Ord(False) = 0
- Ord(True) = 1
- Succ(False) = True
- Pred(True) = False

Boolean ,íÊíŽg,í,ê,éCE^,ÅŽg,¶f¶f,fš—Ê,àÅ,Å,·BByteBool¶CWordBool¶CLongBool
,í¼,ìCE¾CEê,â Windows ŠÅ<<,Æ,ìCEŸŠ·¶«,ð'ñ<Ÿ,μ,Ü,·B

Boolean CE^,ì•ï",^al 0 (False) ,Æ 1 (True) ,μ,©^μ,ì,Ê,¢
,ì,É'í,μ¶CByteBool¶CWordBool¶CLongBool ,í 0 ,^a False ,Å"ñf[f¶,ì'l,^a,·,×,Ä True ,Æ,¢
,¶¶~'l,ð^μ,ì,Ü,·BBoolean 'l,^a—Šú,³,ê,éfRf"fefLfXfg,Å ByteBool¶CWordBool¶CLongBool
'l,^aŽg,í,ê,½¶ê¶CfRf"fpfCf‰,í"ñf[f¶,ì,·,×,Ä,ì'l,ð True
,É•iš·,·,éfR¶[fh,ðŽ©"®"l,É¶¶¶—,μ,Ü,·B

ŽQÆ

~ — Ž®

~ — %%%ŽŽq

ðÆ•¶

ŠÖEW%%ŽŽq

Æ^, ìÆÝŠ•«

• ¶ŽšŒ^

ŽQŒ ¶Œ^

Object Pascal ,ì•¶ŽšŒ^,Á,í 2 ,Á,ìŠî-Œ^,Œ 1 ,Á,ì"Ä—pŒ^,Œ'è<` ,³,ê,Ä,ç,Û,·ŒB
^È%º,ì 2 Ží—p,ìŠî-Œ^,Œ ,è,Û,·ŒB

AnsiChar Šg'£ ASCII •¶ŽšfZfbfg,ÉŒ],Á,ÄŒŒ~•t,¯,³,ê,½fofCfjTfCfY,ì•¶ŽšŒQ

WideChar fŒŒ[fhfTfCfY,ì•¶ŽšŒQŒB

Char ,Œ"Ä—p•¶ŽšŒ^,Á,·ŒB

Œ»ŒŒ,ì Object Pascal ,ìŒ^—ŒŒn,Á,í Char ,í Šî-Œ^,ì AnsiChar ,É'í%ž,µ,Û,·,ŒŒCCPU
,âfjfyfŒŒ[fefBf"fofVfXfef€ ,Œ^Û,È,éŒ^—ŒŒn,Á,í Char ,ð WideChar ,Œ,µ,Ä'è<` ,Á,« ,Û,·ŒB—
¼•û,ìfTfCfY,ì•¶Žš,ð^µ,ŒK—v,Œ ,éfRŒ[fh,ðŒŒŒ,·,éŒŒŒŒ,íŒC•¶ŽšfTfCfY,ð•\
,·fnŒ[fhfRŒ[fh,ì'èŒ",Á,í,È,•WŒ€ŠÖŒ",ì SizeOf ,ðŽg,ç,Û,·ŒB

Ch ,Œ•¶ŽšŒ^'l,ì,Œ,«ŒCOrd(Ch) ,Œ,ç,ŒŠÖŒ"ŒÄ,ŒŒŒo,µ,í Ch ,ìŒŒ~'l,ð•Ô,µ,Û,·ŒB

' ,³,Œ 1 ,ì•¶Žš—Œ'èŒ",í'èŒ"•¶Žš'l,Á•\,¹,Û,·ŒBChr ŠÖŒ",íŒC'í
%ºž,·,éŒŒŒ~'l,ðŽŒ,Á•¶Žš,ÉŒŒŒŒ"l,ð•İŠ•,Á,« ,Û,·ŒB

ŽQÆ

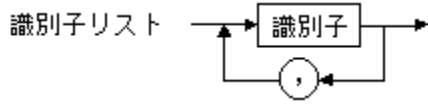
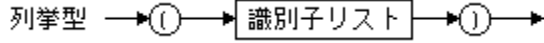
CE^, ÌCEÝŠ·«

Šî- {CE^, Æ"Ä—pCE^

—ñ<“CE^

ŽQAE —á □#~CE^

—ñ<“CE^,íŽ•ÊŽqfŠfXfg,ì—v’f,É~A±,μ,½’l,đŠ,,è“-,Ä,Ü,·□B□Å□%o,ì—v’f,ì’l,í 0 ,É,È,è□C2 "Ô-
 Ú,ì—v’f,í 1 ,Æ,ç,æ<ï□#,É’±,«,Ü,·□B



fRf“fpfCf%o,í—ñ<“CE^,ì-¼’O,đŽ~•ÊŽqfŠfXfg’S’ì,ìCE^,Æ,μ,Ä”FŽ~,μ,Ü,·□B

Ž~•ÊŽq,ì□#□~,í,» ,ìŽ~•ÊŽq,ª□éCE¾,³,ê,½Ž~•ÊŽqfŠfXfg“à,ì^É’u,É,æ,Ä,ÄCE^,Ü,è,Ü,·□B

Succ ŠÖ□”,Æ Pred ŠÖ□”,đŽg,æ,ÆŽ~•ÊŽqfŠfXfg,ì—v’fŠÔ,đ’O•û,Ü,½,íCEă•û,É□zŠÄ,Å,«,Ü,·□B

Ord ŠÖ□”,đ—ñ<“CE^,ì’l,É“K—p,·,é□ê□#□C,» ,ì’l,ª“~ ,¶—

ñ<“CE^,ì’¼,ì’l,Æ”äŠr,μ,Ä,Ç,ì^É’u,É’u,©,ê,é,©,đŽ!,·□®□”,ª•Ô,³,ê,Ü,·□B

ŽQÆ

~ — □CE^

CE^, ìCEÝŠ·□«

CE^ □éCE^{3/4}

—ñ<“œ^,ì—á

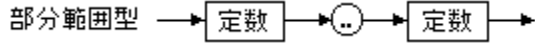
type

Suit = (Club, Diamond, Heart, Spade);

•"•a"í^íCE^

—á □#□~CE^

•"•a"í^íCE^,ízfXfgCE^,ÆCEÄ,í,ê,é□#□~CE^,ì^ê•",ì"í^í,Ä,·□B•"•a"í^íCE^,ì'è<,Ä,í•"•a"í^í"à,ì□
Ä□-ì,Æ□Ä'á'ì,ðŽw'è,μ,Û,·□B



2 ,Ä,ì'è□",í"~,¶□#□~CE^,Ä,È,,Ä,í,È,è,Û,¹,ñ□B

•"•a"í^íCE^,ì•ï□",ízfXfgCE^,ì,·,×,Ä,ìfvf□pfefB,ðŽ□,ì,Û,·,ª□CŽÄ□sŽž,ì'ì,íŽw'è,³,ê,¹/₂"í^í"à,É,È,
,,Ä,í,È,è,Û,¹,ñ□B

fRf"fpfCf%o,íjfbfR,ÄŽn,Û,éCE^'è<,ð—ñ<"CE^,Æ,μ,Ä'è<,·,é,¹/₂,β□C'è□"Ž® ,ð<L□q,·,é,Æ,« ,É□
•¶□ã,ì,·,ç,Û,ç,³,^a 1 ,Ä□¶,¶,Û,·□B,±,ì-â'è,ð%oðCE^,·,é•ù-@,í 2 ,Ä,·,è,Û,·□B

- □Ä□%o,ì•"•a"í^íŽ® ,ªjfbfR,ÄŽn,Û,ç,È,ç,æ,π•Ò□-,μ'¹/₄,·
- Ž®,ì'ì,Æ"™,μ,ç'è□",ð□Y'è,μ□C,» ,ì'è□",ðCE^'è<,ÄŽg,π

\$R fRf"fpfCf%oŽw—β,í•"•a"í^íCE^,ì"í^í`fFfbfN,ð□\$CEä,μ,Û,·□B

•"•a"ííĈ^,ì—á

•"•a"ííĈ^,ì—á,đŽŸ,ÉŽ!,μ,Û,·□B

0..99

-128..127

Club..Heart

ŽŸ,ìfR□[fh,ìfjfbfR,ÁŽn,Û,é'è"Ž®,ì-â'è,đ%ođĈ^,·,é,½,ß,ì 1 ,Â,ì•û-@,đŽ!,μ,Ä,ç,Û,·□B

type

Scale = 2 * (X - Y) .. (X + Y) * 2;

ŽÀ"CE^

ŽQAE CE^

ŽÀ"CE^,íŽÀ",ì"••ªW±,ÅCCEÀ'è,³,ê,½CE...",ì•,"®¬" _•\<L,Å•\CE»,Å,«,Ü,·B
 ŽÀ"CE^,É,í 6 ,Å,ìŽí—P,ª, ,è,Ü,·B,±,ê,ç,í"í^íC'l,ì, "xCfTfCfY,ª,»,ê,¼,ê^Ù,È,è,Ü,·B

CE^	"íí	—LCEø CE..."	fTfCfY (fofCfg")
Real	[]}2.9e-39 .. 1.7e38	11-12	6
Single	[]}1.5e-45 .. 3.4e38	7-8	4
Double	[]}5.0e-324 .. 1.7e308	15-16	8
Extended	[]}3.4e-4932 .. 1.1e4932	19-20	10
Comp	(-2 ,ì 63 ±æ) + 1 .. (2 ,ì 63 ±æ) - 1	19-20	8
Currency	-922337203685477.5808.. 922337203685477.5807		19-20 8

Comp (Computational) CE^,í (-2 ,ì 63 ±æ) + 1 ,©,ç (2 ,ì 63 ±æ) - 1
 ,Ü,Å,ì®"l,¾,¯,ð•ÚŽ,Å,«,Ü,·B-ñ -9.2e18 ,©,ç 9.2e18 ,É'í%ž,µ,Ü,·B

Currency CE^,í<àŠz,ìCEvŽZ,É"K,µ,½CEÅ'è¬" _ff[f^CE^,Å,·B,±,ê,ífXfP[f<•t,«,ì 64
 frfbfg®",Æ,µ,ÄŠí"[,³,êC%º 4 CE...,ª¬" _^É%º,ì 4 CE...,ð•\,;à,ì,Æ,µ,Äµ,í,è,Ü,·B

f|fCf“f^Ĉ^

ŽQ□Ā —á Ĉ^

f|fCf“f^Ĉ^,íŠi-{Ĉ^,ì•i□”,đf|fCf“fg,·,é'l,Ā,·□B|
fCf“f^Ĉ^,ì•i□”,É,ì•i□”,ìf□f,fŠfAfhfĈfX,^a•ŮŽ□,³é,Ů,·□B

ポインタ型 → 基底型 →

基底型 → 型名 →

Ši- {Ĉ^, ^a-ĉ□éĈ^{3/4}, ÌŽ⁻•ĚŽq, Ìĉé□#□Cf|
fCf“f^Ĉ^,Ā⁻,ĤĈ^□éĈ^{3/4}•”,Ā,» ,ÌŽ⁻•ĚŽq,đ□éĈ^{3/4},μ,È,,Ā,Í,È,è,Ů,¹,ñ□B
f|fCf“f^•i□”,É,ÌŽŸ,ÌŽè'±,« ,Ů,½,ÍŠÖ□”,đŽg,Ā,Ā'l,đ'ă“ü,Ā,« ,Ů,·□B

Žè'±,«/ŠÖ□” “@□ì

New	fAfvfŠfP□[fVf#f“fq□[fv,É“@“l•i□”,ì,½,β,ì□V,μ,ĉf□f,fŠ—l^æ,đŠ,,è“- ,Ā□C,»,ì—l^æ,ìfAfhfĈfX,đf fCf“f^•i□”,ÉŠi”[,·,é
@ %o%oŽŽŽq	,·,Ā,ÉŽ ⁻ •ĚŽq,đŽ□,Ā,Ā,ĉ,é•i□”,đŠŮ,β,Ā□CŠù'Ĥ,ì•i□”,©Žè'± ,« ,©ŠÖ□”,ìfGf“fgfŠf fCf“fg,đ•ŮŽ□,μ,Ā,ĉ,é□f,fŠ—l^æ,đf fCf“f^•i□”, ^a Žw,μŽì,·,æ,x,É,·,é
GetMem	Žw'è, ³ é,½fTfCfY,ì□V,μ,ĉ“@“l•i□”,đ□ì□¬,μ□C,»,ìfuf□fbfN,ìfAfhfĈfX,đf fCf“f^•i□”,É'u,

—\-ñĈé nil ,ìf|fCf“f^l,đ•\,·è□”,Ā□C%½,àf|fCf“fg,μ,Ā,ĉ,È,ĉ,±,Ā,đ^Ó-i,μ,Ů,·□B

f|fCf“f^,ì”ăŠr

%o%oŽŽŽq,ì = ,Ā <> ,íĈÉŸŠ,ìf|fCf“f^Ĉ^f|fyf%oof“fh,É'í,μ,ĀŽg,ì,Ů,·□B2 ,Ā,ìf|
fCf“f^,ì” ,ìf|fufWfFfNfg,đf|fCf“fg,·,é□é□#,ì,Ÿ“™ ,μ,ĉ,Ā,Ÿ,È,³é,Ů,·□B

ĈÉŸ•□« ,É,Ā,ĉ,Ā,ì'□^Ó

C++ Builder ,Ā,ì□Cf|fCf“f^Ĉ^,ì□éĈ^{3/4}“à,Ā-ĉ□éĈ^{3/4},ÌŽ⁻•ĚŽq,đŽg—p,Ā,« ,é,ì,ì□CŽŸ,ì,æ,x
,È□ó<μ,ì,Ā,« ,¾, ,Ā,·□B

type

```
PointerType = ^UndefinedType;  
,±,±,Ā UndefinedType ,ì□C“ ,ĤĈ^□éĈ3/4fuf□fbfN“à,ìĈă•Ů,Ā'è<` ,3é,Ů,·□B
```

ŽQÆ

f|fCf“f^Āè”

f|fCf“f^,Æ”®“l•i”

Ā^,ĀĀŠ•«

Pointer Ā^

PChar Ā^

‘l,Ā^fLffXfg

ŽQÆ

f|fCf“f^Ĉ

f|fCf“f^,Æ”®“l•i”

Ĉ^,ìĈÝŠ•«

PChar Ĉ^

•i”,ìĈ^fLfffXfg

• Žšf|fCf“f^CE^

ŽQAE

Object Pascal ,ì•Žšf|fCf“f^CE^,Á,í 2 ,Á,ìŠî- {CE^,Æ 1 ,Á,ì”Ä—pCE^,ª’è<` ,³,ê,Ä,ç,Û,·B

•Žšf|fCf“f^CE^,í•ŽšCE^,Ö,ìf|fCf“f^,É,·,¬,Û,¹,ñ,ªCObject Pascal ,í•Žšf|fCf“f^CE^,ðŽg,Á,Äf|fCf,Ä,í,é•Žš—ñ,ð^—,Ä,« ,é,æ,ª,É,·,é,½,ß,ÉC,ç,,Ä,©,ìŠg’£\•K’¥,ðfTf|f|fg,µ,Ä,ç,Û,·B

^È%oo,ì 2 Ží—p,ìŠî- {•Žšf|fCf“f^CE^,ª, ,è,Û,·B

PAnsiChar AnsiChar CE^,ì•Žš,Á\—,³,ê,éfkf<,Á,í,é•Žš—ñ,Ö,ìf|fCf“f^

PWideChar WideChar CE^,ì•Žš,Á\—,³,ê,éfkf<,Á,í,é•Žš—ñ,Ö,ìf|fCf“f^

^È%oo,ì”Ä—p•Žšf|fCf“f^CE^,ª, ,è,Û,·B

PChar Char CE^,ì•Žš,Á\—,³,ê,éfkf<,Á,í,é•Žš—ñ,Ö,ìf|fCf“f^

System ftfjfbfg,ìf|fCf“f^•ŽšCE^,ðŽÿ,ì,æ,ª,ÉÉCE¾,µ,Ä,ç,Û,·B

type

```
PAnsiChar = ^AnsiChar;
```

```
PWideChar = ^WideChar;
```

```
PChar = PAnsiChar;
```

Šî- {•Žšf|fCf“f^CE^,íŠî- {•ŽšCE^,Ö,ì (,Û,½,í,» ,ì,æ,ª,É•Žš,Á\—,³,ê,éfkf<,Á,í,é•Žš—ñ,Ö,ì) f|fCf“f^,Á, ,èC”Ä—p•Žšf|fCf“f^CE^,í”Ä—p•ŽšCE^,Ö,ìf|fCf“f^,Á,·B

ŽQÆ

•ŕŽšf|fCf“f^%%o%ŽŽŽq

f|fCf“f^Œ^

ŠÖŒW%%o%ŽŽŽq

Œ^,ìŒÝŠ·«

Pointer Œ^

```
f|fCf"f^E^,l-á
{ f|fCf"f^E^[]éE¾ }
type
  BytePtr = ^Byte;
  WordPtr = ^Word;
  IdentPtr = ^IdentRec;
  IdentRec = record
    Ident: string[15];
    RefCount: Word;
    Next: IdentPtr;
end;
```

•W€f|fCf“f^

ŽQÆ

Pascal ,Å\‘ç%»ĀĀ,âff[f^ĀĀ,đ’è<` , ,é,Æ,«É,ÍĀC,» ,lff[f^ĀĀ,đŽw,·f|fCf“f^,à’è<` ,μ,Ä,“ , - ,±,Æ,đ, Š©,β,μ,Û,·BfŠf“fNfgfŠfXfg,â“@“l,ÉŠ,,,è“- ,Ä,ç,ê,éfĀĀfR[fh,È,Ç,Īă<%ofvfĪfOf %of~f“fO,Å,ĪĀC·ĪĪ” ,» ,ì,à,ì,Ä,Í,È,·ĪĪ” ,Ö,Īf|fCf“f^,đŽg,κ,±,Æ,^a·K—v,Æ,³,ê,éĪĪê-Ē,^a½,³,ñ, ,è,Û, ·ĪĪ

·ĪĪ” ,đŽg,κ,Æ,« ,ÉĪĪCfRf“fpfCf%o,Í,» ,ĪĀĀ,ĪĪ%oŠú%o» ,ÆĪĪ—¹ĪĪ—ĪĪ,É·K— v,ĒfRĪĪfh,đŽ©“@“l,ÉĪĪĪĪ—,μ,Û,·ĪĪBAnsiString ,â Variant ,È,Ç,Ī”@“lĪ\‘ç‘Ī,đŽw,·f| fCf“f^,ĪŠ,,,è“- ,Ä,Æ%ođ·ú,đĪs,κfRĪĪfh,Å,ĪĪC“Á·Ē,ÈĪĪ%oŠú%o» ,ÆĪĪ—¹ĪĪ—ĪĪ,^a·K—v,É,È,è,Û,·ĪĪ ŽŸ,Ī·\,É,±,ì,æ,κ,Ēf|fCf“f^,đŽĪ,μ,Û,·ĪĪ

f fCf“f^	f fCf“f^ , ^a Žw,·f fufWfFfNfg
PAnsiString	AnsiString ·ĪĪ”
PByteArray	TByteArray ĀĀ,ĪĪĪĪ”ĪĪB“@“l,ÉŠ,,,è“- ,Ä,ç,ê,½fĪĪf,ŠfufĪĪfbfN,đ”z— ñ,Æ,μ,ÄfAfNfZfX,· ,é,½,β,ĪĀĀfLfffXfg,ÅŽg—p, ³ ,ê,é
PCurrency	Currency ĀĀ·ĪĪ”
PExtended	Extended ĀĀ·ĪĪ”
PTextBuf	TextBuf ĀĀ·ĪĪ”ĪĪBTextBuf ,ĪfĪfLfXfgftf@fCf·fĀĀfRĪĪfh TTextRef ,ÅŽg— p, ³ ,ê,é“à·”fofbftf@
PVarRec	TVarRec ĀĀ·ĪĪ”
PVariant	Variant. ĀĀ·ĪĪ”
PWordArray	TWordArray ĀĀ·ĪĪ”ĪĪB“@“l,ÉŠ,,,è“- ,Ä,ç,ê,½fĪĪf,ŠfufĪĪfbfN,đfĪĪĪfhfTfCfY’ĪĪi2 fofCfg·,ĪĪt,È,μĪĪ,Ī”z—ñ,Æ,μ,ÄfAfNfZfX,· ,é,½,β,ĪĀĀfLfffXfg,ÅŽg—p, ³ ,ê,é

ŽQÆ

•řžšf|fCf“f^%%o%žžq

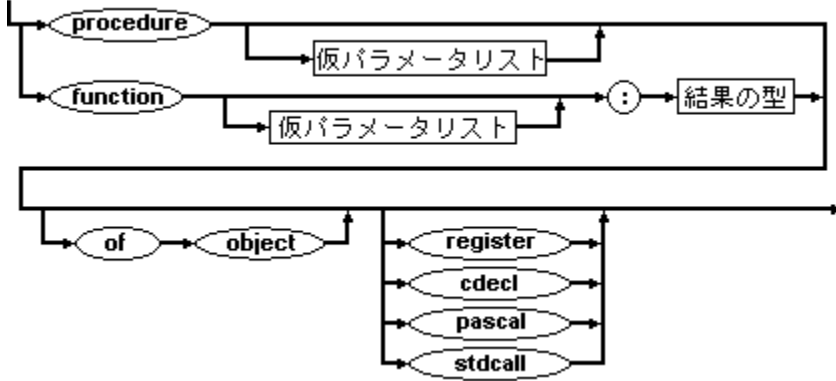
Žè'±,«Ĉ^

ŽQ□Ĉ —á Ĉ^

Žè'±,«Ĉ^,đŽg,±,Ĉ□CŽè'±,«,âšÖ□",đ□C•i□",É'ă"ü,μ,½,è□Cfpf
%of□□[f^,Ĉ,μ,Ā"n,¹,éŽĀ'í,Ĉ,μ,Ā^μ,±,Ĉ,^a,Ā,«,Ü,·□B

Žè'±,«Ĉ^,i□éĈ^{3/4},Ā,ífpf%of□□[f^,đŽw'è,μ□CSÖ□",i□é□#,íĈ<%Ĉ^,àŽw'è,μ,Ü,·□B

手続き型



Žè'±,«Ĉ^,đ□éĈ^{3/4},·,é□\•ŋ,í□CfL□[f□□[fh procedure ,Ü,½,í function
,iĈă,ÉŽ•ÉŽq,đŽw'è,μ,Ĉ,±,Ĉ^ÈŠO,íŽè'±,«,Ü,½,íšÖ□",ífwfbf_□[,Ĉ^"·,ŋ,Ā,·□BŽè'±
,«Ĉ^,i□éĈ^{3/4},É,íflfvfVf#f",Ĉ,μ,ĀĈĀ,Ŋ□o,μ<K-ñ,đŽw'è,·,é,±
,Ĉ,à,Ā,«,Ü,·□BffftfHf<fg,iĈĀ,Ŋ□o,μ<K-ñ,í register ,Ā,·□B

Žè'±,«Ĉ^,É,íŽŸ,ì 2 ,Ā,íjffefSfŠ,^a ,è,Ü,·□B

- f□□□[fof<Žè'±,«f|fCf"f^
- f□\fbfhf|fCf"f^

Žè'±,«Ĉ^,ì'í,đ•Ō,·šÖ□",i□éĈ^{3/4},Ā,«,Ü,¹,ñ□B,½,^{3/4},μ□CPointer Ĉ^,íšÖ□"Ĉ<%Ĉ^,đŽg,Ā,ĀŽè'±
,«,Ü,½,íšÖ□",ífwfbfĈfX,đ•Ō,μ□C,»iĈăŽè'±,«Ĉ^,ÉĈ^flfffXfg,Ā,«,Ü,·□B
šÖ□"Ĉ<%Ĉ^,íŽŸ,ì,ç,·,è,©,iĈ^,Ā,Ĉ,Ā,í,Ĉ,è,Ü,¹,ñ□B

- •ŋŽš-ñ
- ŽĀ□"
- □@□"
- char
- ~_□
- f|fCf"f^
- f†□[fU□[è<,ì-ñ<"

Žè'±,«Ĉ^,iĈŸŠ·□«

Žè'±,«Ĉ^,^aĈŸŠ·Ā,·,é,½,B,É,íŽŸ,i□đĈ□,É□],í,Ĉ,,Ā,í,Ĉ,è,Ü,¹,ñ□B

- 2 ,Ā,iĈ^,í"·,ŋĈĀ,Ŋ□o,μ<K-ñ,đŽg,±
 - 2 ,Ā,iĈ^,í"·,ŋĈĀ□",ífpf%of□□[f^,đŽ□,Ā
 - 'í%ž,·,é^Ĉ'u,Ĉ,·,éfpf%of□□[f^,^a"·,ŋĈ^,Ā,·,é
 - šÖ□",iĈ<%Ĉ^,^a"·,ŋ,Ā,·,é
- 'l nil ,í,·,±,Ā,ìŽè'±,«Ĉ^,ĈĈŸŠ·Ā,·□B

f□f,: Žè'±,«Ĉ^,iĈŸŠ·□«,đ"»'è,·,é□é□#□Cfpf%of□□[f^-¼,i□d-v,Ā,í,·,è,Ü,¹,ñ□B

f□□□[fof<Žè'±,«f|fCf"f^Ĉ^,Ĉf□\fbfhf|fCf"f^Ĉ^,í'šĈŸ,É"ñĈŸŠ·Ā,·□B

ŽQÆ

žè'±,«Ĉè'è"

žè'±,«'!

Ĉ^f|fCf"f^

•i",ìĈ^fLfffXfg

Žè'±,«Ē^,ì—á

type

```
Proc = procedure;  
SwapProc = procedure(var X, Y: Integer);  
StrProc = procedure(S: string);  
MathFunc = function(X: Double): Double;  
DeviceFunc = function(var F: Text): Integer;  
MaxFunc = function(A, B: Double; F: MathFunc): Double;
```

var

```
P: SwapProc;  
F: MathFunc;
```

procedure Swap(var A, B: Integer);

var

```
Temp: Integer;
```

begin

```
Temp := A;  
A := B;  
B := Temp;
```

end;

function Tan(Angle: Double);

begin

```
Tan := Sin(Angle) / Cos(Angle);
```

end;

```
{ •ĭ□ P ,Æ F ,ÉŽŸ,ì'l,đ'ă"ü,μ,Ü,· }
```

```
P := Swap;
```

```
F := Tan;
```

```
{ P ,Æ F ,đŽg,Á,½ŽŸ,ìĒÄ,Ń□o,μ,í—LĒø,Ā,· }
```

```
P(I, J); { Swap(I, J) ,Æ"™%oo¿,Ā,· }
```

```
X := F(X); { X := Tan(X) ,Æ"™%oo¿,Ā,· }
```

fOf□□[fof<Žè'±,«f|fCf“f^

ŽQ□Æ =á

fOf□□[fof<Žè'±,«f|fCf“f^,í **of object** □β,È,μ,Å□éCE^{3/4,3},è,½Žè'±,«CE^,Å,·□BfOf□□[fof<Žè'±,«f|fCf“f^,íOf□□[fof<,ÈŽè'±,«,Ü,½,ÍŠÖ□”,đŽQ□Æ,Å,«□CfOf□□[fof<,ÈŽè'±,«,Ü,½,ÍŠÖ□”,íAfhfæfX,đŠi”[.,é|fCf“f^,Æ,μ,ÄfR□[fh%o»³,ê,Ü,·□B

ŽQÆ

Žè'±,«Ĉ^

—á

type

TProcedure = **procedure**;

TStrProc = **procedure**(const S: **string**);

TMathFunc = **function**(X: Double): Double;

Žè'±,«'l

ŽQ□Æ —á

Žè'±,«Ĉ^•i□",É,ÍŽè'±,«'l,đ'ă"ü,Ā,«,Ü,·□B

Žè'±,«'l,ÍŽŸ,ì,ç,,é,©,Ā,·□B

- 'l nil
- Žè'±,«Ĉ^,ì•i□"ŽQ□Æ
- Žè'±,«,Ü,½,ÍŠÖ□",ÍŽ^-ÉŽq
- f□\fbfhŽw'èŽq

Žè'±,«,Ü,½,ÍŠÖ□",đŽè'±,«'l,Æ,μ,Ä□éĈ¾,·,é,Æ□Ĉ'è□"□éĈ¾,Æ,Ý,È,³,è,Ü,·□B

'l,^a nil ,ìŽè'±,«•i□",đŽè'±,«,•¶,Ü,½,ÍŠÖ□"ĈÄ,Ń□o,μ,ĀŽg,κ,ÆĈ<%oÊ,ÍfGf%o□[É,È,è,Ü,·□Bnil
,ÍŽè'±,«•i□",É'l,^aă"ü,³,è,Ā,ç,È,ç,±,Æ,đ^Ó-;μ,Ü,·□Bnil ,ìŽè'±,«•i□",^aŠÖ—^,·,éŽè'±
,«,•¶,Ü,½,ÍŠÖ□"ĈÄ,Ń□o,μ,đŽg,κ□é□‡,í□CŽŸ,ÍfefXfg,^a•K—v,Ā,·□B@ %o%oŽŽŽq,Í P
,^aĈÄ,Ń□o,³,é,é,ì,Ā,Í,È,fefXfg,³,é,é,±,Æ,đŽ,μ,Ü,·□B

if @P <> nil then P(I, J);

ŽŸ,ìĈ^,ìŽè'±,«,ÆŠÖ□",ÍŽè'±,«'l,Æ,μ,ĀŽg,ì,Ü,¹,ñ□B

- •W□€
- flfXfg
- f□\fbfh
- fCf"f%ofCf"

•W□€Žè'±,«,Æ•W□€ŠÖ□",í'¼□□,ÍŽg,ì,Ü,¹,ñ,^a□Ĉ'î□^•û-@,^a, ,è,Ü,·□B•W□€Žè'±

,«,Ü,½,ÍŠÖ□",đŽè'±,«'l,Æ,μ,ĀŽg,κ,É,í□C□V,μ,çŠÖ□",Ü,½,ÍŽè'±

,«,đ□éĈ¾,μ□C,»,Íf□fCf"f{fffB,Ā•W□€Žè'±,«,Ü,½,ÍŠÖ□",đĈÄ,Ń□o,³,È,,Ā,Í,È,è,Ü,¹,ñ□B

ŽQÆ

Žè'±,«Ĉ^

Ĉ^,ìĈÝŠ·□«

Ž®,Ā,ìŽè'±,«Ĉ^,ìŽg,č•û

• **¶Žš—ňĀ^**

ŽQAE —á Ā^

C++Builder ,í 2 Ží—p,)•¶Žš—ňĀ^ ,đTf][fg,μ,Ä,č,Ü,·B

- 'Z,č•¶Žš—ňĀ^
- '·,č•¶Žš—ňĀ^

2 ,Ä,)•¶Žš—ňĀ^ ,íC'ăü,âž®,Ä—Ÿ,μ,Äžg—p,·,é,±,Æ,ª,Ä,«CfRf“fpfCf%o,í•K—v,È•¶Žš—ňĀ^ ,)•İŠ·,đs,xfR[fh,đž©“®“l,É¶Ÿ—,μ,Ü,·B

'Z,č•¶Žš—ňĀ^ ,íCÄ'â'· 1¶`255 fofCfg,íÄ“l,ÉŠ,,,è“—,Ä,ç,é,é•¶Žš—ň,đ·\,μC,» ,)“®“l,È'·,ª,í 0¶`Ä'â'·,É,È,è,Ü,·B

'·,č•¶Žš—ňĀ^ ,í“®“l,ÉŠ,,,è“—,Ä,ç,é,é•¶Žš—ň,đ·\,μC,» ,)Ä'â'· ,ížg—p%oÄ“\ ,Éf¶f,š,É,æ,Ä,Ä,ì,Ÿ\$Ā,ª,è,Ü,·B

f¶f: fRf“fpfCf%oŽw—ß **\$H** ,đžg,Ä,ÄC—\—ňĀê **string** ,ª'Z,č•¶Žš—ň,Æ'·,č•¶Žš—ň,ì,ç,ì,ç,đ·\,·,©,đ\$Ā,Ä,« ,Ü,·BfftfHf<fg,ìó'Ó,í {**\$H+**} ,ÄC**string** ,í'·,č•¶Žš—ň,đ·\,μC**string** fL[f¶[fh,í'è<`í,ŸŽ`•Éžq AnsiString ,Æ“` ,Ÿ^Ó— ;,đž¶,ì,Ü,·B{**\$H-**} ,ìó'Ó,Ä,í **string** ,íÄ'â'· 255 fofCfg,ì'Z,č•¶Žš—ň,đ·\ ,μCfL[f¶[fh **string** ,í'è<`í,ŸŽ`•Éžq ShortString ,Æ“` ,Ÿ^Ó— ;,đž¶,ì,Ü,·B

•¶Žš—ň“à,Ä,íC2 ,Ä,ì~A'±,·,é'P^ø—p•,,,í 1 ,Ä,ì'P^ø—p•,,,đ·\,μ,Ü,·B

-á

```
{ •ŕŽš-ňĚ^,l'è<` }
```

const

```
LineLen = 79;
```

type

```
Name = string[25];
```

```
Line = string[LineLen];
```

ŽQÆ

string (-\-ñĚê)

•¶Žš-ñ%%o%oŽŽŽq

•¶Žš-ñĚ^'è□"

Ě^,ìĚÝš·□«

'Z,č•ŕŽš—ňĀ^

žQŕĀ •ŕŽš—ňĀ^

'Z,č•ŕŽš—ňĀ^,ìéĀ¾,í 1`255 •ŕŽš,ìĀ'á',đŽw'è,μ,Û,·ŕB'Z,č•ŕŽš—
ňĀ^,ì•Ī" ,É,ĪC" @ "l,È',³,ª 0`éĀ¾,³,è,½Ā'á',ì•ŕŽš—ň,đŠi"[Ā,«,Û,·ŕB

▪

'è< Ī,Ý,ĪĀ^ ShortString ,ĪĀ'á',ª 255 •ŕŽš,ì'Z,č•ŕŽš—ňĀ^,đ•\,μ,Û,·ŕB

'Z,č•ŕŽš—ňĀ^•Ī" ,ªĪè—L,·,é<L%o^-æ,ìfofCfġ" ,ì'Z,č•ŕŽš—ňĀ^,ìĀ'á',É 1 ,đ
%oĀ,ì,½,à,ì,Ā,·ŕB

'Z,č•ŕŽš—ňĀ^•Ī" ,É•ŕŽš—ň'l,đ'ã"ü,·,éĪĪ#ĪC,» ,ì'Z,č•ŕŽš—

ňĀ^•Ī" ,ìéĀ¾,³,è,½Ā'á',æ,è•ŕŽš—ň'l,ª',·,è,ĪC,» ,ì•ŕŽš—ň'l,ĪØ,èŽì,Ā,ç,è,Û,·ŕB

'Z,č•ŕŽš—ňĀ^•Ī" ,É,ì"YŽšŽ@,đ 1 ,Ā,¾,·t,·ç,è,Û,·ŕB"YŽšŽ@,ì'l,ĪC0`N (N ,ì'Z,č•ŕŽš—
ň,ìéĀ¾,³,è,½Ā'á',) ,ì"í,É,È,·,è,Ī,È,è,Û,¹,ňŕB'Z,č•ŕŽš—

ň,É"YŽš,đ•t,·,ĀfAfNfZfX,³,è,é•ŕŽš,ĪĀ^,ì Char ,Ā,·ŕB•ŕŽš—ň,ìĀĪ%o,ì•ŕŽš,ì"YŽš,ì 1

,Ā,·ŕB"YŽš 0 ,ì—v'f,Ī,» ,ì•ŕŽš—ň,ì" @ "l,È',³,đ•ÛŽ,μ,Û,·ŕB'Z,č•ŕŽš—ň,ìĪĪ#ĪCLength(S) ,ì

Ord(S[0]) ,Ā"·,ŕ,Ā,·ŕB'Z,č•ŕŽš—ň,ì 0 "Ō-Û,ì—v'f,É'l,đ'ã"ü,·,é,Ā•ŕŽš—

ň,ì" @ "l,È',³,ª,ì,è,Û,·,ªĪCfRf"fpfCf%o,Ī,» ,ì'l,ª•ŕŽš—ň,ìéĀ¾,³,è,½Ā'á',æ,èĪ-,³,ç,©,ç,ª

,©,đ'², x,Û,¹,ňŕB'Z,č•ŕŽš—ň,ÉĀ»ĪÝ,ì" @ "l,È',³,đ',Ī"YŽš,ª•t,·,ç,è,Ā,ç,é%oĀ"\Ī« ,à, ,è,Û,·ŕB,»

,ĪĪĪ# ,É"ç,ÝĪo,³,è,é•ŕŽš,ì'l,ì-ç'è< ,Ā ,èĪCĀ»ĪÝ,ì',³,đ',Ī,½•ŕŽš'É'u,Ō'ã"ü,μ,Ā,àĪC'Z,č•ŕŽš—

ňĀ^•Ī" ,ìŽĀĪÛ,ì'l,É%oè<ĵ,Ī ,è,Û,¹,ňŕB

'Z,č•ŕŽš—ňĀ^•Ī" ,É,ì•WĪ€ŠŌ" ,ì Low ,Ā High ,ªŽg,ì,Û,·ŕB,» ,ìĪĪ#ĪCLow

,ìfĪf,đ•Ō,μĪCHigh ,ì'Z,č•ŕŽš—ň,ìéĀ¾,³,è,½Ā'á',đ•Ō,μ,Û,·ŕB

ŽQÆ

•ŕŽš—ňĚ^

‘,č•ŕŽš—ňĚ^

string (—\—ňĚê)

•,ç•ŕŽš—ň,Æfƒƒ,Ā□l,í,é•ŕŽš—ň

•ŕŽš—ň,ì,½,β,É,ÉŠ,,è“-Ā,ç,è,½f□f,šfuf□bfN,É,□C--"ö,ÉŽ©"®"l,Éfƒƒ•ŕŽš,â'Ç%Ā,³,è,Û,
(fƒƒ•ŕŽš,í•ŕŽš—ň,ì^è•",Ā,í,É,□C•ŕŽš—ň,ì□ĀĈĚã,ì•ŕŽš,ìĈĚã,ÉŽ©"®"l,ÉŠi"l,³,è,Û,•)□B,±
,ìŽ©"®fƒƒƒ^□f~f□□fƒ,ì,½,β□C',ç•ŕŽš—ň'í,í'¼□Ú□CPChar
'l,ŌĈ^fLfffXfg,Ā,«,Û,•□B,»,ì,æ,κ,ĚĈ^fLfffXfg,ì□\•ŕ,í PChar(S) ,Ā,• (S ,í',ç•ŕŽš—
ňŽ©)□BPChar ĈĈ^fLfffXfg,í',ç•ŕŽš—ň'í,ì□Ā□%o,ì•ŕŽš,Ō,ìfƒƒƒƒ^f^,ð•Ō,μ□C•ŕŽš—
ňŽ©,â'ó,ì□Ě□±,Ā,à□Cƒƒƒ,Ā□l,í,é•ŕŽš—ň,Ō,ìfƒƒƒƒ^f^,ð•K,•Ō,μ,Û,•□B

ŽŸ,ì—á,ì□Cƒƒƒ,Ā□l,í,é•ŕŽš—ňfƒƒ%o□□f^,ðšú'ò,•,éšŌ□",Ō PChar
ĈĈ^fLfffXfg,ðŽg,Ā,Ā',ç•ŕŽš—ň'í,ð"n,•ú-@,ðŽ!,μ,Ā,ç,Û,•□BCaption ,Æ Message ,í',ç•ŕŽš—
ňĈĈ^•Ī□",Ā□CMessageBox ,í Windows ftfjfbfg,Ā'è< ,³,è,Ā,ç,é Win32 API ŠŌ□",Ā,•□B

```
Caption := 'Hello world';
Message := 'This is a test of long strings';
MessageBox(0, PChar(Message), PChar(Caption), MB_OK);
```

Pointer(S) ,Æ,ç,κ□\•ŕ (S ,í',ç•ŕŽš—ňŽ©) ,ðŽg,Ā,Ā',ç•ŕŽš—ň,ðĈĈ^,È,μf|
fƒƒ^f^,ŌĈĈ^fLfffXfg,•,é,±,Æ,à,Ā,«,Û,•□BPointer ĈĈ^fLfffXfg,í',ç•ŕŽš—ň'í,ì□Ā□%o
,ì•ŕŽš,ìfAfhƒĈƒX,ð•Ō,μ,Û,•□BPChar ĈĈ^fLfffXfg,Æ,í'Û,È,è□CPointer ĈĈ^fLfffXfg,í•ŕŽš—
ňŽ©,â'ó,ì□Ě□±,É,í nil ,ð•Ō,μ,Û,•□B

PChar ,Û,½,í Pointer ,ìĈĈ^fLfffXfg,â•Ō,•fƒƒƒ^f^,ìžð-
½,ìĈĈ^fLfffXfg,ì^ð□",É,æ,Ā,ĀĈĈ^,Û,è,Û,•□B^ð□",â',ç•ŕŽš—ň,ìž©,Ā, ,é□Ě□±□Cf|
fƒƒ^f^,ìĈĈ^fLfffXfg,âŽĀ□s,³,è,é•ŕ,ì't,Ā,¾,~—LĈĈø,Ā,•□B,μ,½,â,Ā,Ā□C,»,ì,æ,κ
,ĚĈĈ^fLfffXfg,ìŽĀŽž"l,Éfƒƒ%o□□f^f^Ž©,ì't,Ā,μ,©Žg,ì,Û,¹,ñ□B^ð□",â',ç•ŕŽš—ň,ì•Ī□",Ā, ,é□Ě□
±□Cf|fƒƒ^f^,ì,»,ì•Ī□",Ō□V,μ,ç'í,â'ã"ü,³,è,é,□□C,»,ì•Ī□",âfXfR□fV,©,ç□o,é,Û,Ā—LĈĈø,Ā,•□B

^è"É,É□CPChar ,Û,½,í Pointer ,ìĈĈ^fLfffXfg,â•Ō,μ,½f|
fƒƒ^f^,É,æ,Ā,ĀŽQ□Æ,•,éƒƒƒ,Ā□l,í,é•ŕŽš—ň,í"Ç,Ÿ□o,μ□Ě—p,Æ□l,ì,Ā,¾,¾,ç□B

PChar ,Û,½,í Pointer ,ìĈĈ^fLfffXfg,â•Ō,μ,½f|fƒƒ^f^,ðŽg,κ,Æ□C'í%ož,•,é',ç•ŕŽš—
ň,ð•Ī□X,•,é,±,Æ,â%Ā"Ā,Ā,•,â□C,»,ì,æ,κ,Ě•Ī□X,í"Ā'è,ì□óμ,Ā,μ,©^Ā'S,Ā,í, ,è,Û,¹,ñ□B,½,Æ,ì,ì□C
PChar(S) ,Û,½,í Pointer(S) ,Æ,ç
,κĈĈ^Ž©,ìĈĈ^fLfffXfg,â, ,é□Ě□±□C,»,ìĈĈ^fLfffXfg,ìĈĈ^%Ě,ĀŽQ□Æ,μ,½fƒƒƒ,Ā□l,í,é•ŕŽš—
ň,ì□C^È%o,ì,•,x,Ā,ì□ðĈĈ,â-ž,½,³,è,½□Ě□±,É,¾,~"Ī□X,Ā,«,Û,•□B

- S ,â',ç•ŕŽš—ň,ì•Ī□",Ā, ,é (Ž©,Ā,È,ç)
 - S ,ì'í,â'ó,Ā,È,ç□B,Ā,Û,è□CS ,Éf|f□,æ,è'â,«ç',³,ì•ŕŽš—ň,â"ü,Ā,Ā,ç,È, ,è,Ī,È,ç,È,ç
 - S ,ì'í,âfj□□fN,Ā, ,é□B,Ā,Û,è□C',ç•ŕŽš—ň'í,ìžQ□Æfjƒƒ^f^,â 1
- ,Ā, ,é□BSetLength□CSetString□CUniqueString ,ìŠe•W□€Žè±,«,ðĈĈĀ,ñ□o,μ,½ĈĈĚ□C',ç•ŕŽš—
ňĈĈ^•Ī□",ì'í,ìfj□□fN,É,È,è□C,»,ì•ŕŽš—ň•Ī□",ð•ŕŽš—
ňŽ©,ì't,ĀŽQ□Æ,μ,È,çĈĈĀ,è□C•K, ,fj□□fN,È,Û,ÛŽc,Ā,Ā,ç,é
- S ,â□CĈĈ^fLfffXfg,³,è,½ĈĈĚ,É•Ī□X,³,è,Ā, ,ç, ,□CfXfR□fV,©,ç□o,Ā,à,ç,È,ç
 - Ī□X,³,è,½,•,x,Ā,ì•ŕŽš,â•ŕŽš—ň,ì',³^È"à,É, ,é□B,Ā,Û,è□C•Ō,³,è,½ PChar
- 'l,É"Yžš,ð•t, ,½□Ě□±□C"Yžš,ì'í,â 0□ Length(S)-1 ,Ā,È, ,è,ì,È,ç,È,ç

ŽQÆ

•ŕŽš—ňĚ^

'Z,č•ŕŽš—ňĚ^

string (—\—ňĚê)

fkf<,Åŕl,í,é•ŕŽš—ň

ŽQÆ

'.,ç•¶Žš—ñĀ^

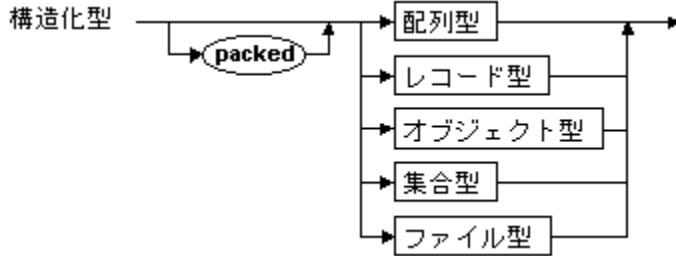
'Z,ç•¶Žš—ñĀ^

string (-\-ñĀê)

□\`¢%o»CE^

ŽQ□Æ CE^

□\`¢%o»CE^, í 2 ,Á^È□ã,ì'l,ð•ÚŽ□,μ,Ü,·□B□\`¢%o»CE^,ì—v'f,íCEÁ•É,É,Á,à□C,Ü,Æ,ß,Ä,Á,à□^—
□,Á,«,Ü,·□B—v'f,» ,ì,à,ì,ð□\`¢%o»CE^,É,·,é,±,Æ,à,Á,«,Ü,·□B□\`¢%o»CE^,ìfXfg□\`¢
,ì□",É□\$CEÁ,í, ,è,Ü,¹,ñ□B



C++Builder ,É,í^È%o°,ì□\`¢%o»CE^,ª, ,è,Ü,·□B

- "z—ñCE^
- ftf@fCf<CE^
- fNf%ofXCE^
- fNf%ofXŽQ□ÆCE^
- fCEfR□[fhCE^
- □W□±CE^

□\`¢%o»CE^,ìfXfg,μ,½fCEfxf<,ðŽ□,Á,±,Æ,ª,Á,«,Ü,·□B

fNf%ofXCE^,ÆfNf%ofXŽQ□ÆCE^,í□CObject Pascal ,Á,ìfufWfFfNfgŽwCEüvf□fOf
%of~f"fo,ìŠî'b,Æ,È,è,Ü,·□B

□\`¢%o»CE^,ì□éCE¾,É, ,é—\—ñCEê **packed** ,í□C,±,ìCE^,ì•ï□",ì—
v'f,Ö,ìfAfNfZfX,ìCEyCE^, ,ð<]□μ,É,μ,Á,àff□[f^—ì^æ,ð^³□k,·,é,æ,π,ÉfRf"fpfCf%o
,ÉŽwŽ,ì,μ,Ü,·□BffftfHf<fg,Á,í□C□\`¢%o»CE^,ì—v'f,í□C□, '→,ÉfAfNfZfX,Á,«,é,æ,π
,Éf□□[fh<«ŠE,Ü,½,ìf_fuf<f□□[fh<«ŠE,É"z'u,³,è,Ü,·□B□\`¢%o»CE^,ì□éCE¾,É **packed** ,ð'Ç
%oÁ,·,é,Æ□C,» ,ìCE^,Á,ìf□□[fh,Ü,½,ìf_fuf<f□□[fh,ìfAf%ofCf"f□"fg,ªf□[fo□[f%ofCfh,³,è,Ü,·□B

ŽQÆ

Ŧ'ç%o»Ĉ^'èŦ''

Ĉ^,ìĈÝš·Ŧ«

"z-ñ,ì-á

"z-ñ $\in\mathbb{C}^{3/4}$,ì-á,đŽ!,μ,Û,·B

array[1..100] **of** Real { ŽÀ"CE^,ì 100 CEÂ,ì-v'f,đ•ÛŽ,Â,«,é"z-ñ,đ $\in\mathbb{C}^{3/4}$,μ,Û,· }

ŽQÆ

array (-\ñĀê)

"z-ñĀ^'è"

"YŽš

fƒ<,Å,í,é•ŕŽš-ñ

f[fvf""z-ñfpf%of[f^

Ā^,ìĀÝš·«

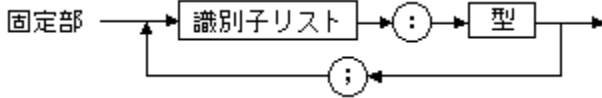
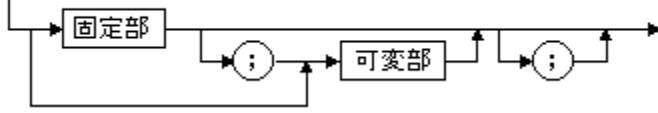
•ï"ŽQÆ

fCfR[fhC^

ŽQAE —á □\¢%o»CE^

fCfR[fhC^,łftfB[f<fh,łW,Ü,è,ÅCŠeftfB[f<fh,ł'Ù,È,éC^,Å, ,A,Ä,à,©,Ü,¢,Ü,¹,ňB

フィールドリスト



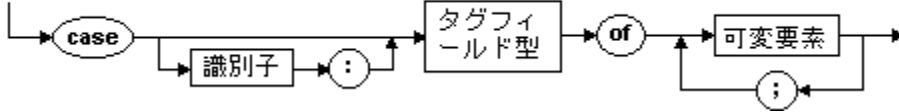
fCfR[fhC^,łéC³¼,Å,łftfB[f<fh-¼,ÆftfB[f<fhC^,đŠ,,è“-,Ä,È,,Ä,ł,È,è,Ü,¹,ňB

fCfR[fhC^,łCÄ'è•”,łCÄ'èftfB[f<fh,łfŠfXfg,đŽw'è,μC,»,è,¼,è,łftfB[f<fh,É,łŽ•Éžq,ÆC^,āŽw'è,³,è,Ü,·BŠeftfB[f<fh,ÉSÜ,Ü,è,éł•ň,łł,É“~,ł•û-@,ÅŽæ,èło,³,è,Ü,·B

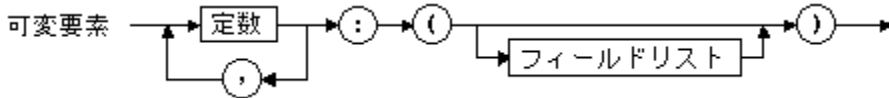
fCfR[fhC^,ł%oÄ•ĩ•”,ł•j□”,łftfB[f<fhfŠfXfg,Éfłf,łŠ<óŠÔ,đ•a”z,μC,±,è,É,æ,è•j□”,ł•û-@,Åł•ň,ÉfAfNfZfX,Å,«,Ü,·B

ŠeftfB[f<fhfŠfXfg,łfłf,łŠ“à,ł”~,ł<óŠÔ,Éfł□f□fCfC,·,é%oÄ•ĩ—v'f,Å,·B,»,è,¼,è,ł%oÄ•ĩ—v'f,ł'è□”,É,æ,Å,Ä<æ•É,³,è□C,·,x,Ä,ł%oÄ•ĩ—v'f,ł,·,x,Ä,łftfB[f<fh,É,¢,Å,Å,àfAfNfZfX,Å,«,Ü,·B

可変部



タグフィールド型 → 順序型名 →



Še%oÄ•ĩ—v'f,łÅ'á 1 ,Å,ł'è□”,É,æ,Å,ÄŽ•É,³,è,Ü,·B,·,x,Ä,ł'è□”,łftf□fN,Å,È,-,Ä,ł,È,¢,·□C^fOfftfB[f<fhC^,ÆCÉYŠ,ł□#□C^,Å,È,,Ä,ł,È,è,Ü,¹,ňB

□È—ā%oÄ”\,Éf^fOfftfB[f<fhŽ•Éžq,ł□CfCfR[fh,ł'Ç
%oÄCÄ'èftfB[f<fh□C,·,É,ł,ž^fOfftfB[f<fh,łŽ•Éžq,Å,·Bfvf□Of%ofÉ
,łf^fOfftfB[f<fh,ł'ł,đŽg,Å,ÅfAfNfefBfu,È%oÄ•ĩ—v'f,đŽł,μ,Ü,·B

f^fOfftfB[f<fh,ā,È,¢łéł#□Cfv□Of%ofÉ,ł•É,łŠł□É,É,æ,Å,Ä%oÄ•ĩ•”,đ'ł'đ,μ,Ü,·B

fłf,: fCfR[fh,ł%oÄ•ĩ•”,łftfB[f<fh,É,ł□C'·,¢•łŽš—
ňC^,~,æ,NfofŠfAf“fgC^,łŽg,ł,Ü,¹,ňB”~—ł,ÉfCfR[fh,ł
%oÄ•ĩ•”,łftfB[f<fh,É,ł□C'·,¢•łŽš—ňC^,Ü,½,łfofŠfAf“fgC^,đŠÜ,ł□\¢
%o»CE^,łŽg,ł,Ü,¹,ňB

fCfR[fh,Ö,lfAfNfZfX

fCfR[fh'S'ì,ÉfAfNfZfX,μ,½,èCŠeftfB[f<fhĈÂ•Ê,ÉfAfNfZfX,μ,½,è,Â,«,Ü,·BĈÂX,ìftfB[f<f
h,ÉfAfNfZfX,·,é,É,ÍCfCfR[fh-¼CfsfŠfifhCftfB[f<fhŽ·ÊŽq,ð“ü—
Í,μ,Ü,·B,½,Æ,î,îŽŸ,ì,æ,α,É“ü—Í,μ,Ü,·B

TDateRec.Year

fCfR[fh'S'ì,ÉfAfNfZfX,·,é,É,ÍC**with** •¶,ðŽg,ç,Ü,·B

ŽQÆ

fĈfR[fh.]fXfR[fv

Ĉ^,)ĈÝŠ·«

with •¶

fœfR[]fhœ^,ì-á

type

TDateRec = **record**

Year: Integer;

Month: 1..12;

Day: 1..31;

end;

type

TPerson = **record**

FirstName, LastName: **string**[40];

BirthDate: TDateTime;

case Citizen: Boolean **of**

True: (BirthPlace: **string**[40]);

False: (Country: **string**[20];

EntryPort: **string**[20];

EntryDate: TDateTime;

ExitDate: TDateTime);

end;

fNf%ofXCE^

ŽQ□Æ —á □\‘¢%o»CE^

fNf%ofXCE^,íCE^,β,ç,ê,½CEÁ□”,ìfRf“f□[fif“fg,©,ç,È,é□\‘¢,Á,·□B

fRf“f□[fif“fg,Æ,μ,Ä%oÁ“\,ÈfNf%ofX,íŽÿ,ì,à,ì,Á,·□B

- ftfB□[f<fh
- f□\fbfh
- fvf□pfefB

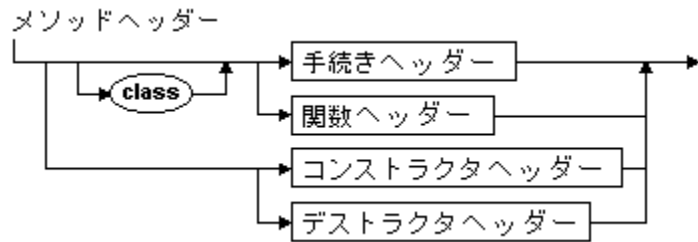
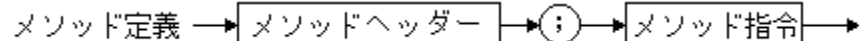
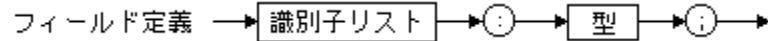
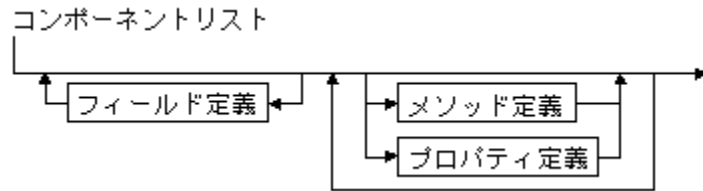
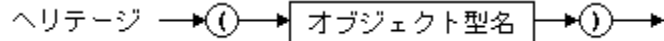
‘¼,ìCE^,Æ^Ù,È,è□CfNf%ofXCE^,ìfvf□fOf%of€,Ü,½,ìftfjfbfg,ì□Á,àŠO‘x

,ìfXfR□[fv,ìCE^□éCE¾•”,Ä,¾,~□éCE¾,Ä,«,Ü,·□B,μ,½,¾,Ä,Ä□CfNf%ofXCE^,ì•ì□□éCE¾•”,âŽè±

,«□CSÖ□□Cf□fbfhfuf□fbfN“à,Ä,ì□éCE¾,Ä,«,Ü,¹,ñ□B

fNf%ofXCE^,ì—\—ñCEê **class**, ðŽg,Á,Ä□éCE¾,¾,è□CfNf%ofX,ì“à—e,ð`è<,μ,Ü,·□BfNf

%ofX,ì□ufìfufWfFfNfgCE^□v,Æ,àCEÄ,ì,è,Ü,·□B2 ,Ä,ì—pCEê,ì‘ŠCEÝ,É‘u,«Š,ì%oÁ“\,Á,·□B




```
end;
TRectangle C^,l,l,TRectangle[]CTFigure[]CTObject C^,l,l",É'ä"ü,Å,«[]Cfvf[]fOf
%of€ŽÀ[]s,lšÓ[]CTFigure C^,l,l",l nil
,É,É,é,©[]CTFigure[]CTRectangle[]CTRoundRect[]CTEllipse ,lfCf"fXf^f"fX,Ü,½,l TFigure ,l'¼,l
%o^ÊfNf%ofX,lfcf"fXf^f"fX,Ö,lžQ[]Æ,É,É,è,Ü,·[]B
```

ŽQÆ

class (—\-ñĈĖê)

fRf“f|□[flf“fg,̀)fXfR□[fv

fRf“f|□[flf“fg,̀)%oÂŽ<□«

flfufWfFfNfg,̀)fCf“fXf^f“fX%o»

f□f|bfh

Field Class Definition

Field Class Definition

```
TField = class
private
  X, Y, Len: Integer;
  FName: String;
public
  constructor Copy(F: TField);
  constructor Create(FX, FY, FLen: Integer; FName: String);
  destructor destroy; override;
  procedure Display; virtual;
  procedure Edit; dynamic;
protected
  function GetStr: String; virtual;
  function PutStr(S: String): Boolean; virtual;
private
  procedure DisplayStr(X, Y: Integer; S: String);
public
  property Name: String read GetStr write FName;
end;

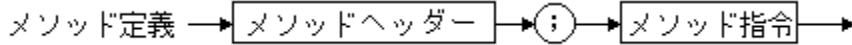
TStrField = class(TField)
private
  Value: PString;
public
  constructor Create(FX, FY, FLen: Integer; FName: String);
  destructor Destroy; override;
protected
  function GetStr: String; override;
  function PutStr(S: String): Boolean; override;
end;

TNumField = class(TField)
private
  Value, Min, Max: Longint;
public
  constructor Create(FX, FY, FLen: Integer; FName: String;
    FMin, FMax: Longint);
  function GetStr: String; override;
  function PutStr(S: String): Boolean; override;
  function Get: Longint;
  procedure Put(N: Longint);
end;
```

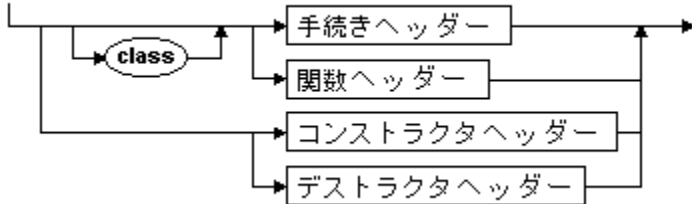
メソッド定義

メソッド定義の構文

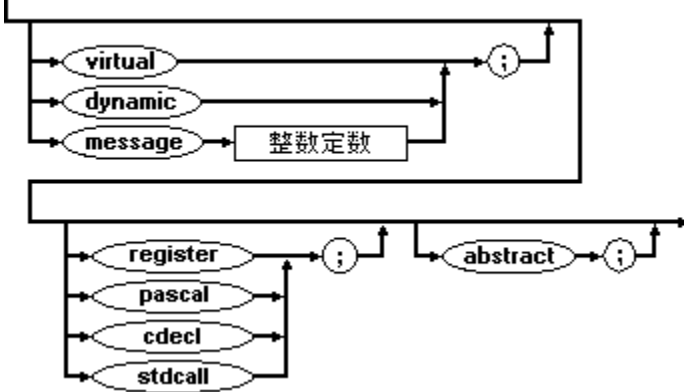
メソッド定義の構文要素



メソッドヘッダー



メソッド指令



メソッド定義の構文要素

メソッド定義の構文要素

メソッド定義の構文要素

メソッド定義の構文要素

```

procedure ObjectType.Method(Param1, Param2: Integer);
begin
  ...
end; (* メソッド定義 *)
  
```

メソッド定義の構文要素

%¼'zf\fbfhVirtualmethods

fNf%ofXf\fbfh

fRf" fXfgf%ofNf^,ÆfffXfgf%ofNf^,ÍfJufWfFfNfg,ììì¬,Æ"pŠü,ð§CEä,·,é"ÁŽê,Èf\fbfh,Å,·B
f\fbfh"à,Å,íCŠÖ"CEÄ,Ńo,μ,Ü,½,ÍŽè'±,«•¶,ÅCEÀ'èf\fbfhŽw'èŽq,ðŽg,Á,Ä"Á'è,ìf\fbfh,ð<N"®,Å,«,Ü,·B,±,ìŽí,ìCEÄ,Ńo,μ,íCEÀ'èf\fbfh,ì<N"®,ÆCEÄ,î,ê,Ü,·B

ŽQÆ

fRf“fXfgf%oofNf^,ÆffXfgf%oofNf^

f□\fbfh,ì<N“®

f□\fbfh,ì□éÆ¾

f\ufWfFfNfgÆ^

ÆÀ'èf□\fbfh,ì<N“®

Self

fbfh, iZÀE»

—á

flfufWfFfNfgCE^, l'†, Á, lf\fbfh, l'éCE¾, l, » lf\fbfh, l forward éCE¾, É'S"-
, μ, Ü, ·B flfufWfFfNfgCE^ éCE¾, lCEãC"-, ¶f, fWf... [f<"à, ÅC'è< éCE¾, É, æ, Á, Äf\fbfh, ðŽÀE», μ, È, , Á, í, È, è, Ü, ¹, ñB

Žè'±, «f\fbfh, âŠÖ" f\fbfh, l'ê#C'è< éCE¾, l'Éí, lŽè'±
, «éCE¾, Ü, ½, lŠÖ" éCE¾, lCE`Ž®, ð, Æ, è, Ü, ·, °CCE©o, μ, ÉŽw'è, ·, éŽè'±
, «Ž·ÉŽq, Ü, ½, lŠÖ" Ž·ÉŽq, °CA'èf\fbfhŽ·ÉŽq, Å, , é" _ , ^Ü, È, è, Ü, ·B

fRf" fXfgf%ofNf^, ÆfffXfgf%ofNf^, l'ê#C'è< éCE¾, lŽè'±, «f\fbfh
fbfh éCE¾, lCE`Ž®, ð, Æ, è, Ü, ·, °C—\—ñCE **procedure** , l, ©, í, è, É **constructor** , Ü, ½, l
destructor , ðŽg, x" _ , ^Ü, È, è, Ü, ·B

f\fbfh, l'è< éCE¾, Å, lf\vfVf#f", ÅfNf%ofXCE^, lf\fbfhCE©o, μ, l%¼fpf
%of[f^fšXfg, ðCEJ, è·Ö, μŽw'è, Å, «, Ü, ·B'è< éCE¾, lf\fbfhCE©o, μ, lfpf
%of[f^, l'ê#C'è< C—¼O, °Šm, É^è'v, μCŠÖ" CE<%oÉ, lCE^, °, , è, í, » , è, à^è'v, μ, È, -
, Å, í, È, è, Ü, ¹, ñB

f\fbfh, l'è< éCE¾, Å, lCfNf%ofXCE^, l%¼fpf%of[f^, É'í%ž, ·, é, à, l, Æ, μ, ÅCŽ·ÉŽq, ° **Self**
, l^Å-Ü, lfpf%of[f^, °K, , ¶Y, μ, Ü, ·B f\fbfhfuf\fbfN" à, ÅC**Self** , lf\fbfh
fbfh, ð<N" ®, μ, ½fCf" fXf^f" fX, ð·\, μ, Ü, ·B

flfufWfFfNfgCE^, lfRf" f\flf" fgŽ·ÉŽq, lfXfR[fv, lfNf%ofXCE^, lf\fbfh, ðŽÀE», ·, é, ·, x, Ä, lŽè'±
, «CŠÖ" CfRf" fXfgf%ofNf^ C, Ü, ½, lfffXfgf%ofNf^ fuf\fbfN, É<y, Ñ, Ü, ·B

f\fbfhfuf\fbfN" à, Å, lCÄ éCE¾, °, éf\fo[f%ofCfh, °, è, ½fRf" f\flf" fgŽ·ÉŽq, É'í, μ—\—ñCE è
inherited , ðŽg, Á, ÄfAfNfZfX, Å, «, Ü, ·B Ž·ÉŽq, É **inherited** , lfvfCEftfBfbfNfX, °t, ç, Ä, ç
, éê#CŽ·ÉŽq, lCEYö, l, » , lf\fbfh
fbfh, lfifufWfFfNfgCE^, l, ·, ©ã^É, lfifufWfFfNfg, ©, çŽn, Ü, è, Ü, ·B

—á

ŽŸ, ì, æ, ¼, È, f, f, u, f, W, f, F, f, N, f, g, Ç, È, ^, é, Ç, ¾, ð, 'z', è, µ, Ü, ·, □, B

type

TFramedLabel = **class**(TLabel)

protected

procedure Paint; **override**;

end;

Paint f, □, f, □, f, b, f, h, í, Ç, È, ä, ì, 'è, <, □, é, Ç, ¾, Å, Ž, À, Ç, È, µ, È, ,, Ä, Í, È, è, Ü, ¹, ñ, □, B, ½, Æ, |, î, Ž, Ÿ, ì, æ, ¼, È, µ, Ü, ·, □, B

procedure TFramedLabel.Paint;

begin

inherited Paint;

with Canvas **do**

begin

Brush.Color := clWindowText;

Brush.Style := bsSolid;

FrameRect(ClientRect);

end;

end;

¼'zffbfh

ŽQÆ —á

¼'zffbfh,íŽÀsŽž,ÉfRf“fpfCf%,É,æ,Á,Ä%ðCE^,³,ê,Ü,·B,±
,lfvfZfX,ÍfCfCgfofCf“fffBf“fo,ÆCEÄ,í,ê,Ü,·BffftfHf<fg,Á,ÍCfRf“fXfgf%Nf^f
bfh^ÉŠO,ì,·,x,Ä,Íffbfh,ªÄ“l,Ä,·,ªCffbfhÉCE¾,É **virtual** Žw—ß,ðŠÜ,ß,é,±
,Æ,É,æ,Á,Äffbfh,ð%¼'z,ÉŽw'è,Ä,«,Ü,·B

¼'zffbfh,ªCEÄ,Ño,³,ê,é,ÆCffbfhCEÄ,Ño,μ,ÅŽg,í,ê,½Nf
%fX,Ü,½,ÍffufWfFfNfg,ìŽÀÜ,ì (ŽÀsŽž,ì) CE^,É,æ,Á,ÄC,Ç,Íff
bfhŽÀCE»,ð<N“®,·,é,©,ªCE^,Ü,è,Ü,·B

¼'zffbfh,ÍfÍ[f%ofCfh

ffufWfFfNfgCE^,Íã^ÉffufWfFfNfg,©,çCEp³,·,éffbfh,Í,Ç,é,Á,àÍ[f%ofCfh (Ä'è<`)
,Ä,«,Ü,·BÍ[f%ofCfhffbfh,ÍfXfRÍfv,Í'è<`CE³ffufWfFfNfg,ì,·,x,Ä,ì
%º^ÉffufWfFfNfg,É<y,Ó,©CffbfhŽ·ÉŽq,ðÄ'è<`,·,é,Ü,Ä,É,È,è,Ü,·B

¼'zffbfh,ÍfÍ[f%ofCfh,Ípf%ff^,ì#~CCCE^C-
¼'O,ª³Šm,É^è'v,μCŠÖ“CE<%É,ìCE^,ª“Í,·,éé#í,»,ìCE^,àè'v,μ,È,-
,Ä,Í,È,è,Ü,¹,ñBÍ[f%ofCfh,É,Í **virtual** Žw—ß,ì,©,í,è,É **override**,ðŽw'è,μ,È,-
,Ä,Í,È,è,Ü,¹,ñB

fÍ: ¼'zffbfh,ðÍ[f%ofCfh,·,é—B^è,ì•û-@,Í **override** Žw—ß,ðŽg,ª•û-@,Á,·B
%º^ÉNf%fX,ÍffbfhÉCE¾,Ä“-,ÍffbfhŽ·ÉŽq,ðCEp³ff
bfh,Æ,μ,ÄŽw'è,μ**Coverride** Žw—ß,ðŽw'è,μ,È,çé#Cμ,çff
bfhÉCE¾,É,æ,èCEp³ÉCE¾,Í%oB,³,ê,Ü,·,ªCffÍ[f%ofCfh,Í,³,ê,Ü,¹,ñB

—á

ŽŸ, ì 2 ,Á, ì%º^ÉfNf%ºfX, í TFigure , ©, çCEp³, µ, ½ Draw f[]\fbfh, ðfi[]fo[]f%ºfCfh, µ, Ü, ·[]B

type

```
TRectangle = class(TFigure)
  procedure Draw; override;
  :
end;
TEllipse = class(TFigure)
  procedure Draw; override;
  :
end;
```

ŽŸ, ìfR[]fh, íŽÀ[]sŽŽ, ÉŽÀ[]Ù, ìCE^, º•í%º» , , éfNf%ºfXCE^•í[]", ðŽg, Á, Ä%º¼'zf[]\fbfh, ðCEÄ, Ñ[]o, ·
—lŽq, ðŽ!, µ, Ä, ç, Ü, ·[]B

var

```
Figure: TFigure;
```

begin

```
Figure := TRectangle.Create;
Figure.Draw;                               { TRectangle.Draw ,ðCEÄ,Ñ[]o,µ,Ü,· }
Figure.Destroy;
Figure := TEllipse.Create;
Figure.Draw;                               { TEllipse.Draw ,ðCEÄ,Ñ[]o,µ,Ü,· }
Figure.Destroy;
```

end;

ŽQÆ

f\fbfh

f[fo[f%ofCfhŽw—β

virtual (•W[€Žw—β)

flfufWfFfNfg,lfCf“fXf^f“fX%o»

ŽQ□Æ

flfufWfFfNfgCE^,lfCf“fXf^f“fX,lfifufWfFfNfgCE^,É,æ,Á,Ä'è<^,³,ê,½fCEfCfAfEfg,đŽg,Á,Ä“@“l,É Š,,,è“-,Ä,ç,ê,½f□f,fŠfuf□fbfN,Ä,□B

flfufWfFfNfgCE^,lfCf“fXf^f“fX,í^ê”É,ÉflfufWfFfNfg,Æ,àCEÄ,î,ê,Ü,□BflfufWfFfNfgCE^,lŠeflfuf WfFfNfg,í,».,lfifufWfFfNfgCE^,Ä□éCE¾,³,ê,½ftfB□[f<fh,lfRfs□[,đ“ÆŽ©,ÉŽ□,¿,Ü,□,□Cf□f fbfh,ÉŠÖ,μ,Ä,í,□,×,Ä,ª“~ ,¶,à,ì,đ<α—L,μ,Ü,□B

flfufWfFfNfgCE^,l“i□”,É,í,».,lfifufWfFfNfgCE^,lfifufWfFfNfg,Ö,lŽQ□Æ,ªŠÜ,Ü,ê,Ü,□B“i□”,É,lfifu fWfFfNfg,».,l,à,ì,íŠÜ,Ü,ê,□CflfufWfFfNfg,É,í,μ,ÄŠ,,,è“- ,Ä,ç,ê,½f□f,fŠfuf□fbfN,Ö,lf| fCf“f^,Æ,μ,Ä<@“\,μ,Ü,□BflfCf“f^“i□”,Æ“~ —

l,É□C“i□”,lfifufWfFfNfgCE^“i□”,ª“~ ,¶lfifufWfFfNfg,đŽQ□Æ,Ä,«□C,Ü,½CE»□YflfufWfFfNfg,đŽQ□ Æ,μ,Ä,ç,È,ç,±,Æ,đŽ!,“l nil ,đŽ□,Ä,±,Æ,ª,Ä,«,Ü,□B

f□f:

fl
fCf“f^“i□”,Æ,í^ù,È,è□CŽQ□Æ□æflfufWfFfNfg,ÖfAfNfZfX,□,é,½,β,ÉflfufWfFfNfgCE^“i □”,đ<tŽQ□Æ,□,é•K—v,í,□,è,Ü,¹,ñ□B,Ä,Ü,è□C“@“l,ÉŠ,,,è“- ,Ä,ç,ê,½fCEfR□[fh,iftfB□[f<fh,ÉfAfNfZfX,□,é,É,í□CPtr^ .Field ,Æ<L□q,μ,È,- ,Ä,í,È,è,Ü,¹,ñ,ª□CflfufWfFfNfg,lfRf“f|□[flf“fg,ÉfAfNfZfX,□,é,Æ,«,É,í ^ %o%oŽŽŽq,ª^Ä- Ü“l,ÉŠÜ,Ü,ê,é,½,β□C□\•¶,íP,É Instance.Field ,É,È,è,Ü,□B

ŽQÆ

fRf" fXfgf%o fNf^,ÆffXfgf%o fNf^

f fbfh

%o¼'z f fbfh

メソッド指定子

メソッド指定子

メソッド指定子の構文は、`メソッド名` または `変数参照` のいずれかである。



メソッド指定子は、`変数参照` または `メソッド名` のいずれかである。

メソッド指定子の構文は、`変数参照` または `メソッド名` のいずれかである。

with 子句は、`変数参照` または `メソッド名` のいずれかである。

メソッド指定子の構文は、`変数参照` または `メソッド名` のいずれかである。

ŽQÆ

ŠÖ"CEÄ,Ño,μ

f\fbfh,ìéCE¾

fp%of[f^

Žè'±,«•¶

CEÀ'èf\fbfh,ì<N"®

with •¶

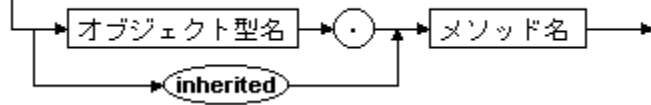
CEÀ'èf[]fbfh,ì<N"®

ŽQ[]Æ —á

CEÀ'èf[]fbfh,ì<N"® ,Á,íCEÀ'èŽq,đŽg,Á,Ä"Á'è,ìf[]fbfh,đCEÄ,Ñ[]o,μ,Ü,·[]BŽÿ,ì't,Á,±,ìCEÄ,Ñ[]o,μ,ª,Ä,«,Ü,·[]B

- f[]fbfh
- SÖ[]"CEÄ,Ñ[]o,μ
- Žè'±,«,·[]

限定メソッド指定子



CEÀ'èf[]fbfhŽw'èŽq,ìf[]fufWfFfNfgCE^,í[]CŠO·"f[]fbfh,ìf[]fufWfFfNfgCE^,Ü,½,í,»,ì[]ã^Êf[]fufWfFfNfg,Æ"- ,[] ,Á,È,Ä,í,È,è,Ü,¹,ñ[]B

—\-ñCEè inherited ,đŽg,Á,ÄŠO·"f[]fbfh,ìf[]fufWfFfNfgCE^,ì[]ã^Êf[]fufWfFfNfg,đŽw'è,Á,«,Ü,·[]B[]ã^Êf[]fufWfFfNfg,đŽ[],½,È,çf[]fufWfFfNfgCE^,ìf[]fbfh,Ä **inherited** ,đŽg,±,±,Æ,í,Ä,«,Ü,¹,ñ[]B

CEÀ'èf[]fbfh,ì<N"®,ì^Ã-Ü,ì Self f[]f%[]f[]f^,í[]CCEÄ,Ñ[]o,μ,đŠÜ,pf[]fbfh,ì Self ,É,È,è,Ü,·[]B

CEÀ'èf[]fbfh,ì<N"®,í[]í,É[]Ã"í,É,È,è[]C[]í,ÉŽw'è,³,ê,½f[]fbfh,đCEÄ,Ñ[]o,μ,Ü,·[]B

f[]f[]fo[]f%[]f[]f^,³,ê,½f[]fbfh,đ<N"®,·,é,É,í[]Cf[]f[]fo[]f%[]f[]f^f[]fbfh"à,ÄCEÀ'èf[]fbfh<N"®,đŽg,ç,Ü,·[]B

f[]f[]fo[]f%[]f[]f^,³,ê,½f[]fbfh,đ<N"®,·,é,É,í[]Cf[]f[]fo[]f%[]f[]f^f[]fbfh"à,ÄCEÀ'èf[]fbfh<N"®,đŽg,ç,Ü,·[]B

ŽQÆ

ŠÖ"CEÄ,Ño,μ

f\Fbfh,ìéCE^{3/4}

f\ufWfFfNfgCE^

Žè'±,«•¶

CEÀ'èf\fbfh,ì<N"®,ì—á

ŽŸ,ìfR[]fh,íCEÀ'èf\fbfh<N"®,đŽ!,μ,Ä,ç,Û,·□B,±,ìCEÀ'èf\fbfh<N"®,í\fbfh,đf[]fo[]f
%ofCfh,μ□Cf[]fo[]f%ofCfh,·,éf\fbfh,ìfR[]fh,đÄ—~—p,μ,Û,·□B

constructor TShape.Create(AOwner: TComponent);

begin

inherited Create(AOwner);

 Width := 65;

 Height := 65;

 FPen := TPen.Create;

 FPen.OnChange := StyleChanged;

 FBrush := TBrush.Create;

 FBrush.OnChange := StyleChanged;

end;

fRf“f|□[flf“fg,ì%oÂŽ<□«

fNf%ofXCE^

fRf“f|□[flf“fgŽˆ•ÊŽq,ì%oÂŽ<□«,ÍŽˆ•ÊŽq,âéCE¾,¾,ê,½fRf“f|□[flf“fg•”,ì
%oÂŽ<’®□«,É,æ,Á,Ä\$CEä,¾,ê,Û,·□B%oÂŽ<’®□«,É,í 5 ,Ä,ÌŽí—p,ª, ,è,Û,·□B

- fpfufŠfbVf...
- fpfufŠbfN
- fvf□fefNfg
- fvf%ofCfx□[fg
- f|□[fgf□□[fvf#f“

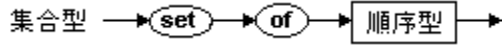
flfufWfFfNfgCE^CE©□o,μ,ì¼CEä,lfRf“f|□[flf“fgfŠfXfg,ÂéCE¾,¾,ê,½fRf“f|
□[flf“fgŽˆ•ÊŽq,í□CflfufWfFfNfgCE^,ª {**\$M+**} □ó’Ô,ÅfRf“fpfCf<,¾,ê,½□é□#□C,Û,½,í {**\$M+**}
□ó’Ô,ÅfRf“fpfCf<,¾,ê,½fNf%ofX,©,ç”h□¶,·,é□é□#□CfpfufŠfbVf...,ì
%oÂŽ<’®□«,đŽ□,¿,Û,·□B,»ê^ÊŠO,ì□é□#□C,»ê,ç,lfRf“f|□[flf“fgŽˆ•ÊŽq,ífpfufŠbfN,ì
%oÂŽ<’®□«,đŽ□,¿,Û,·□B

ŽQÆ

W+CE^

ŽQAE CE^

W+CE^, í, ÷, ¶, ¶~CE^, ìfufWfFfNfg, ìW+Å, ·B W+CE^, ðéCE¾, ·, é, É, Í—\—ñÊê **set of**, É'±, ·, ÄŠî—{CE^, ðŽw'è, µ, Ü, ·B



W+CE^, ì'ì, ì'í, ì'Á'è, ì¶~CE^ (Šî—{CE^), ì, ×, «W+Å, É, È, è, Ü, ·B W+CE^, ì%Å"\, È'ì, ìŠî—{CE^, ì%Å"\, È'ì, ì•"•¶W+Å, É, È, è, Ü, ·B

W+CE^, ì•í, ì<ó, Ü, ½, ìW+Å, ì, ·, ×, Ä, ì'ì, ð•ÜŽ, Ä, «, Ü, ·B, ·, ×, Ä, ìW+CE^, ì'ì [] , ð•ÜŽ, Ä, «C, ±, ì'ì, ì<óW+Å, ÆCEÄ, ì, è, Ü, ·B

Šî—{CE^, ì%Å"\, È'ì, ì¶, ì 256 CE^È%º, Ä, È, Ä, ì, È, ç, ·CŠî—{CE^, ìÅ'â, ÆÅ¬, ì¶~'ì, ì 0 , ©, ç 255 , ì'í'ì"à, Ä, È, Ä, ì, È, è, Ü, ¹, ñB

W+Å, ì"äŠr

A ,Æ B ,¶W+Åfìfyf%of"fh, ìê¶C, ±, è, ç, ì"äŠr, É, æ, èŽŸ, ìCE<%ºÊ, ¶¶¬, ³, è, Ü, ·B

- A = B , ì A , Æ B , ¶, Ü, Ä, ½, " , ¶f¶"fo¶[, ðŽ, Äê¶, ¾, · True , É, È, èC, » , è^ÈŠO, ìê¶, ì A <> B , Ä, , é
- A <= B , ì A , ì, ·, ×, Ä, ìf¶"fo¶[, ¶ B , ìf¶"fo¶[, Ä, à , , éê¶, É, ¾, · True , É, È, é
- A >= B , ì B , ì, ·, ×, Ä, ìf¶"fo¶[, ¶ A , ìf¶"fo¶[, Ä, à , , éê¶, É, ¾, · True , É, È, é

W+Åf¶"fo¶[fVfbfv, ìfefXfg

ŠÖCEW%º%ŽŽžq, ì in , ì¶~CE^fìfyf%of"fh, ì'ì, ¶W+CE^fìfyf%of"fh, ìf¶"fo¶[, Ä, , éê¶, É True , ð•Ô, µ, Ü, ·B, » , è^ÈŠO, ìê¶, ì False , ð•Ô, µ, Ü, ·B

ŽQÆ

‡~Ā^

ŠÖĒW%%ŽŽq

set (—\-ñĀê)

W‡%%ŽŽq

W‡Ā^'è"

Ā^,ìĀÝŠ·«

ftf@fCf<,iŽí—P

ŽQAE CE^

ftf@fCf<CE^,íüó,É•À,ñ,¼—v'f,lfV[fPf“fX,ÂCŠe—v'f,íŽŸ,ìCE^,ðœ,“C^Ó,ìCE^,Â\ □→,Â,«,Ü,·□B

- ftf@fCf<CE^
- ftf@fCf<CE^,ìRf“f[fj“fg,ðŽ,Â\‘ç%»CE^
- flufWfFfNfgCE^

ftf@fCf<CE^é¼,Â,í—v'f”,íY’è,μ,Ü,¹,ñ□B

ftf@fCf<é¼,©,ç of ,ìCEè,ÆCE^,ðÈ—ª,μ,½é#□Cftf@fCf<,íCE^,È,μftf@fCf<,É,È,è,Ü,·□B

•W€ftf@fCf<CE^,ì Text (,“,æ,Ñ TextFile) ,í’s^Ê,Â•Ò□→,³,ê,½•¶Žš,ðŠÜ,Pftf@fCf<,ð•\ ,μ,Ü,·□B

ŽQÆ

file (-\nĎĚ)

Ď^,ĎĚŮ·Ď«

ŽŦÆ

'ã"ü,ìŦÝŠ-Ŧ«

'ä"ü,ìĀÝŠ·□«

ŽQ□Æ

'ä"ü•ŕ,â'lfpf%of□□[f^,ìŽó,-"n,μ,È,Ç,Å□C'l,ð%½,©,É'ä"ü,·,é,Æ,«,É,í'ä"ü,ìĀÝŠ·□«,ª—
v□,³,ê,Û,·□B

flfufWfFfNfgĀ^,í,·,x,Ä,ìĀ^ÊflfufWfFfNfgĀ^,Æ'ä"ü,ìĀÝŠ·□«,ðŽ□,ì,Û,·□B

ŽŸ,ì,ç,·,ê,©,ª True ,ìĀê#□CT2 Ā^,ì'l,í T1 Ā^,Æ'ä"ü,ìĀÝŠ·□«,ª ,è,Û,· (,·,È,í,ì T1 := T2 ,ª<-
%oÅ,³,ê,Û,·)□B

- T1 ,Æ T2 ,ª"~^è,ìĀ^,Å□C,Ç,ì,ç,àftf@fCf<Ā^,Å,í,È,□C□\`ç
%o»fĀfxf<"à,Éftf@fCf<Ā^fRf"f□[f]f"fg,ðŽ□,Å□\`ç%o»Ā^,Å,à,È,ç
 - T1 ,Æ T2 ,ªĀÝŠ·,ìĀ#~Ā^,Å□CT2 Ā^,ì'l,ª T1 ,ì'l,ì"í"í"à,Å, ,é
 - T1 ,Æ T2 ,ªŽÀ□"Ā^,Å□CT2 ,ì'l,ª T1 ,ì'l,ì"í"í"à,Å, ,é
 - T1 ,ªŽÀ□"Ā^,Å□CT2 ,ª□@□"Ā^,Å, ,é
 - T1 ,Æ T2 ,ª•ŕŽš—ñĀ^,Å, ,é
 - T1 ,ª•ŕŽš—ñĀ^,Å□CT2 ,ª Char Ā^,Å, ,é
 - T1 ,ª•ŕŽš—ñĀ^,Å□CT2 ,ªfpfbfN•ŕŽš—ñĀ^,Å, ,é
 - T1 ,ª'·,ç•ŕŽš—ñĀ^,Å□CT2 ,ª PChar Ā^,Å, ,é
 - T1 ,Æ T2 ,ªĀÝŠ·□«,ì, ,éfpfbfN•ŕŽš—ñĀ^,Å, ,é
 - T1 ,Æ T2 ,ªĀÝŠ·□«,ì, ,é□W□#Ā^,Å□CT2 Ā^,ì'l,ì,·,x,Ä,ìf□f"fo□[,ª T1 ,ì'l,ì"í"í"à,Å, ,é
 - T1 ,Æ T2 ,ªĀÝŠ·□«,ì, ,éf|fCf"f^Ā^,Å, ,é
 - T1 ,ªfNf%ofXĀ^,Å□CT2 ,ª T1 ,©,ç"h□ŕ,μ,½fNf%ofXĀ^,Å, ,é
 - T1 ,ªfNf%ofXŽQ□ÆĀ^,Å□CT2 ,ª T1 ,©,ç"h□ŕ,μ,½fNf%ofXŽQ□ÆĀ^,Å, ,é
 - T1 ,ª PChar Ā^,Å T2 ,ª•ŕŽš—ñ'è□"Ā, ,é
 - T1 ,ª PChar ,Å T2 ,ª **array**[0..X] of Char ,ìĀ`Ž® ,ìfCf"fffbfNfX,ªf[f□,©,çŽn,Û,é•ŕŽš"z—
ñ,Å, ,é ({X±} ,É,æ,èŠg'f□\•ŕ,ª—LĀø,È□ê# ,ì,Y)
 - T1 ,Æ T2 ,ªĀÝŠ·□«,ì, ,éŽè'±,«Ā^,Å, ,é
 - T1 ,ªŽè'±,«Ā^,Å□CT2 ,ª T1 ,Æ"~ ,ŕĀ<%oĒĀ^,Æ"~ ,ŕ□",ìfpf%of□□[f^,ðŽ□,ì□Cfpf
%of□□[f^Ā^ŠÔ,Å 1 'í 1 ,ì"~^è□«,ðŽ□,ÅŽè'±,«Û,½,íŠÔ□",Å, ,é
 - T1 ,ªfofŠfAf"fgĀ^,Å□CT2 ,ª□@□"Ā^Ā^CŽÀ□"Ā^Ā^C•ŕŽš—ñĀ^□C~_—□Ā^,ì,ç
,·,ê,©,Å, ,é
 - T1 ,ª□@□"Ā^□CŽÀ□"Ā^Ā^C•ŕŽš—ñĀ^□C~_—□Ā^,ì,ç,·,ê,©,Å□CT2
,ªfofŠfAf"fgĀ^,Å, ,é
- 'ä"ü,ìĀÝŠ·□«,ª•K—v,È□ê-È,Å^ÈĀ,ìfŠfXfg,ì,Ç,ìĀ€-Ú,à True ,Å,È,ç□ê#□CfRf"fpfCf<ŽžGf
%o□[,ª"ŕ,μ,Û,·□B

ŽQÆ
CE^,ICEÝŠ·«

fNf%oXZQAECE^

ŽQAE —á flfufWfFfNfgCE^

fNf%oXZQAECE^,Á,íCfNf%oX,É'í,μ,Ä'¼Ú,í'€,žÄs,Ä,«,Ü,·B,±,è,íNf%oX,íCf"fxf^f"fx,É'í,μ,Ä,í'€,žÄs%oÄ"\,ÉfNf%oXCE^,Æ,í'íAE"l,Ä,·BfNf%oXZQAECE^,íCf^fNf%oX,Ü,½,íCf^fNf%oXCE^,Æ,àCEÄ,í,è,Ü,·B

- fNf%oXZQAECE^,í'è%o,íCf,É-ð—\$,¿,Ü,·B
- ŽÄÚ,íCf^,æRf"fpfCf<Žž,ÉCE^,Ü,Ä,Ä,ç,È,çfLfufWfFfNfg,ðíC-,·,é,½,β,É%o¼'zfRf"fxfgf%oNf^,Æ^èC,ÉŽg,æCf
- ŽÄÚ,íCf^,æRf"fpfCf<Žž,ÉCE^,Ü,Ä,Ä,ç,È,çfNf%oX,É'í,μ,Ä'€,žÄs,·,é,½,β,ÉfNf%oXf\fbfh,Æ^èC,ÉŽg,æCf
- is %o%oZZZq,í%oE'æ,íCf"fh,Æ,μ,ÄCfRf"fpfCf<Žž,ÉCE^,Ü,Ä,Ä,ç,É,çCE^,Ä"@"ICf^f`ffbfN,žÄs,·,éCf
- as %o%oZZZq,í%oE'æ,íCf"fh,Æ,μ,ÄCfRf"fpfCf<Žž,ÉCE^,Ü,Ä,Ä,ç,É,çCE^,Éf`ffbfN•t,«CE^fLfffXfg,žÄs,·,éCf

fNf%oXZQAECE^,íCfÉ¾,í—\-ñCE class of ,ÉfNf%oXCE^Ž•Éžq,ð'±,·,Ä\íC-,μ,Ü,·BŽÿ,É—á,žž,í,μ,Ü,·B

```

type
  TComponent = class(TPersistent)
  :
  end;
  TComponentClass = class of TComponent;
  TControl = class(TComponent)
  :
  end;
  TControlClass = class of TControl;
var
  ComponentClass: TComponentClass;
  ControlClass: TControlClass;

```

,±,íC¾,Ä,íCCTComponentClass,íTComponent fNf%oX,Ü,½,íTComponent,©,ç"hC,·,é"CÓ,íNf%oX,žžQAE,Ä,«,ÉCE^,Æ,μ,Ä'è<`³,èCCTControlClass,íTCotrol fNf%oX,Ü,½,íTControl,©,ç"hC,·,é"CÓ,íNf%oX,žžQAE,Ä,«,ÉCE^,Æ,μ,Ä'è<`³,è,Ü,·B

fNf%oXCE^Ž•Éžq,í'í%ož,·,ÉfNf%oXZQAECE^,í'l,Æ,μ,Ä<@"\,μ,Ü,·B,½,Æ,í,íC,Ü,©,í—p"r^ÈŠO,ÉCTComponent Ž•Éžq,íTComponentClass CE^,í'l,Æ,μ,Ä<@"\,μCTControl Ž•Éžq,íTControlClass CE^,í'l,Æ,μ,Ä<@"\,μ,Ü,·B

fNf%oXZQAECE^,í'l,íCÓ,íC^ÉfNf%oXZQAECE^,Æ'ä"ü,íCÉÝŠ·C,è,Ü,·B,μ,½,Ä,ÄCfvfCfO%oF€,íŽÄs't,ÉfNf%oXZQAECE^·íC,íC,»,è,æ'è<`³,è,½'íC,íCfNf%oX,áC,»,íNf%oX,íCÓ,í%o^ÉfNf%oX,žžQAE,Ä,«,Ü,·Bá<L,íC¾,ÉC,æ,AECCŽÿ,ì2,Ä,í'ä"ü·C,íC

```

ComponentClass := TComponent;      { —LCEØ }
ComponentClass := TControl;        { —LCEØ }
—¼•û,Æ,à—LCEØ,Ä,·,æCŽÿ,ì2,Ä,í'ä"ü·C,íC
ControlClass := TComponent;        { -³CEØ }
ControlClass := TControl;          { —LCEØ }

```

2 "Ô-Ú,í·C,¾,·,æ—LCEØ,Ä,·BÄ%o,í·C,æGf%oC,É,È,é,íCCTComponent,æTControl,í%o^É,Ä,È,ç,½,βCTControlClass CE^,í'l,É,È,ç,É,ç,©,ç,Ä,·B

fNf%oXZQAECE^·íC,í'l nil,ð,Æ,é,±,Æ,æ,Ä,«,Ü,·Bnil,íC·íC,æCE»íCfNf%oX,žžQAE,μ,Ä,ç

,È,ç,±,Æ,đŽ!,μ,Û,·□B

fNf%ofX,í•K, (TObject , ©,ç) f□\fbfhŠÖ□” ClassType (flfufWfFfNfg,lfNf
%ofX,Ö,ìŽQ□Æ,đ•Ô,ŠÖ□”) ,đÇep□³,μ,Û,·□BClassType ,Å•Ô,³,ê,é'l,ìÇ^,í TClass ,Å□C,»,ê,í
class of TObject ,Æ,μ,Ä□éÇ¾,³,ê,Û,·□B,Å,Û,è□CClassType
,Å•Ô,³,ê,é'l,í□CÇ^flffXfg,É,æ,Á,Ä,»,ìŽg—p,ì'O,É□C,æ,è<ì'l,È
%o^Ê,ìÇ^,É,μ,È,¯,ê,í,È,ç,È,ç□ê□‡,ª, ,é,±,Æ,đ^Ó-ì,μ,Û,·□BŽŸ,É—á,đŽ!,μ,Û,·□B

if Control <> **nil** **then**
 ControlClass := TControlClass(Control.ClassType) **else**
 ControlClass := **nil**;

ŽQÆ

class (—\-ñŒé)

—á

type

```
{TComponentRef Ą^,i•i" ,đŽÀsžž,ÉY'è,μ TComponentClass ,Ü,½,Í,» ,i%oo^ÊfNf  
%ofX,đŽQĀ,Ā,«,Ü,·}
```

```
TComponentRef = class of TComponent;
```

var

```
TRef: TComponentRef;
```

```
NewComponent: TComponent;
```

...

```
TRef := TButton; {TRef ,Í TButton fNf%ofX,ì-¼'O,žg—p%oĀ"\,ÈéŠ,Ā,Í,Ç,±  
,Ā,àžg,!,é,æ,ŕ,É,È,è,Ü,·}
```

```
NewComponent := TRef.Create; {TRef ,Í,±,±,Ā,ÍV,μ,φ TButton  
,đi- ,·,é,½,β,Éžg,í,ê,Ā,φ,Ü,·}
```

...

fkf<,Á□l,í,é•¶Žš—ñ

ŽQ□Æ

C++Builder ,í□C□ufkf<,Á□l,í,é•¶Žš—ñ□v,ÆCEÄ,í,é,é•¶Žš—ñ,ìfNf%ofX,ðfTf|□[fg,μ,Ä,ç,Ü,·□Bfkf<,Á□l,í,é•¶Žš—ñ,í□CC/C++ fvf□fOf%of~f“fOCE¾CEê,“ ,æ,Ñ Windows Ž©‘ì,Ä,à□L,—p,ç,ç,ê,Ä,ç,Ü,·□BC++Builder ,ìfkf<,Á□l,í,é•¶Žš—ñ,ìfTf|□[fg,Æ SysUtils ftfjfbfg,ì•¶Žš—ñ□^—□ŠÖ□”,ð—~—p,·,ê,ì□C¾¼,ìCE¾¼CEê,â Windows API ,Æ—e^Ö,ÉfCf“f^□[ftfF□[fX,ð,Æ,é,±,Æ,ª,Ä,«,Ü,·□B

fkf<,Á□l,í,é•¶Žš—ñ,Æ,í□H

fkf<,Á□l,í,é•¶Žš—ñ,í□Cfkf<^ÈŠO,ì•¶Žš,ì•À,Ñ,ì□ÁCEä,É NULL (#0) ,ª•t,ç,½,à,ì,Ä,·□BObject Pascal ,ì•¶Žš,Æ,í^Ù,È,è□Cfkf<,Á□l,í,é•¶Žš—ñ,É,í“Æ—š,μ,½‘,³fCf“fWfP□[f^,í, ,è,Ü,¹,ñ□Bfkf<,Á□l,í,é•¶Žš—ñ,Ä,í□C□Á□%o,ì NULL ,ª•¶Žš—ñ,ì□ÁCEä,ðŽ!,μ,Ü,·□B

fkf<,Á□l,í,é•¶Žš—ñ,ìŽg,ç•û

fkf<,Á□l,í,é•¶Žš—ñ,í□Cf[f□,©,çŽn,Ü,é□®□”,ðfCf“ffbfNfX,ìCE^,Æ,·,é•¶Žš”z—ñ,Æ,μ,ÄŽŸ,ìCE`Ž®,ÄŠi”[,³,ê,Ü,·□B

array[0..X] of Char

X ,í□³,ì□®□”l,Ä,·□B

,±,ì”z—ñ,í□CfCf“ffbfNfX,ªf[f□,©,çŽn,Ü,é•¶Žš”z—ñ,Æ,μ,ÄŽQ□Æ,³,ê,Ü,·□B

fkf<,Á□l,í,é•¶Žš—ñ,íŽŸ,ì 2 ,Ä,Ä•¶Žšf|fCf“f^,ðŽg,ç,Ü,·□B

- •¶Žš—ñfŠfef%of<
- •¶Žš”z—ñ

fkf<,Á□l,í,é•¶Žš—ñ,Æ•W□€Žè‘±,«

ŽŸ,ì•W□€Žè‘±,«,ðfCf“ffbfNfX,ªf[f□,©,çŽn,Ü,é•¶Žš”z—ñ,É“K—p,Ä,«,Ü,·□B

- Read
- Readln
- Str
- Val

ŽŸ,ìŽè‘±,«,í•¶Žšf|fCf“f^,É,à“K—p,Ä,«,Ü,·□B

- AssignFile
- Rename
- Val
- Write
- Writeln

ŽQÆ

•ŕŽš—ňĀ^

•ŕŽšf|fCf“f^,ì“YŽš•t,-

fƒƒ<,Åŕl,í,é•ŕŽš—ň,ìŠÖŕ”

‘,ç•ŕŽš—ň,Æfƒƒ<,Åŕl,í,é•ŕŽš—ň,ìŕ—ŕÝ

fƒƒ<,Åŕl,í,éfŕfCfh•ŕŽš—ň

• ¶Žš|fCf“f^,Æ•¶Žš—ňfŠfef%of<

ŽQ□Æ —á fkf<,Å□l,í,é•¶Žš—ň

•¶Žš—ňfŠfef%of<,í PChar CE^,Æ‘ă“ü,ìCEÝŠ·□«^a, ,è,Ü,·□B,±,ì,±,Æ,í□C•¶Žš—ňfŠfef%of<,ð PChar CE^,ì•í□”,É‘ă“ü,Å,«^a,é,±,Æ,ð^Ó-;μ,Ü,·□B

,±,ì“ă“ü,ìCE<%oÊ□Cf|fCf“f^,í•¶Žš—ňfŠfef%of<,ìf kf<,Å□l,í,éfRfs□[,ì, ,éf□f,fŠ—ì^æ,ðŽw,·,± ,Æ,É,É,è,Ü,·□B

•¶Žš—ňfŠfef%of<,í□CŽè‘±,«CEÄ,Ñ□o,μ,ÆŠÖ□”CEÄ,Ñ□o,μ,ìŽÀfpf %of□□[f^,Æ,μ,ÄŽg,;ü,·□B,½,¾,μ□Cí%oŽ,·,é%¼4fpf%of□□[f^,ìCE^^a PChar ,ì□ê□‡,ÉCEÀ,ç,è,Ü,·□B‘ă“ü,ì□ê□‡,Æ“^-l,É□CfRf“fpfCf%o,í•¶Žš—ňfŠfef %of<,ìf kf<,Å□l,í,éfRfs□[,ð□¶□-,μ,Ü,·□B

,Ü,½□CPChar ,ìCE^•t,«‘è□”,ð•¶Žš—ň‘è□”,Å□%oŠú%o»,·,é,±,Æ,^aÅ,«^a,Ü,·□B,±,ì<@“\,í PChar CE^,ì”z—ň□CPChar ftfB□[f<fh,ðŽ□,ÂfCEfR□[fh□CPChar ftfB□[f<fh,ðŽ□,Âf|fufWfFfNfg,È,Ç,ì□\‘¢ %o»CE^,Å,à“K—p,Å,«^a,Ü,·□B

ŽQÆ

•ŀŽšf|fCf“f^,Æ•ŀŽš”z—ñ

•ŀŽšf|fCf“f^,ìfCf“ffbfNfX•t,¯

fkf<,Å□l,í,é•ŀŽš—ñ

—á

var

P: PChar;

begin

P := 'Hello world...';

end;

ŽQÆ

•ŀŽšf|fCf“f^,Æ•ŀŽš”z—ñ

•ŀŽšf|fCf“f^,ìfCf“ffbfNfX•t,¯

fkf<,Å□l,í,é•ŀŽš—ñ

—á

var

A: **array**[0..63] **of** Char;

P: PChar;

begin

P := A; {P ,í A ,ìÅ%o,ì—v'f,ðŽw,μ,Ü,·}

PrintStr(A);

PrintStr(P); {PrintStr ,í “-,¶'l,Å 2 “xĒÄ,Ño,³,ê,Ü,·}

end;

• Žšf|fCf“f^,lfCf“ffbfNfX•t,~

ŽQ□Æ —á fkf<,Á□l,í,é•Žš—ñ

fCf“ffbfNfX,f[f□,©,čŽn,Ü,é•Žš”z—ñ,í•Žšf|fCf“f^,ÆÆÝŠ•□«^a, ,é,½,β□C•Žšf|
fCf“f^,lfCf“ffbfNfX,f[f□,©,čŽn,Ü,é•Žš”z—ñ,ì,æ,α,ÉfCf“ffbfNfX•t,~ ,Á,«^a,Ü,•□B

•Žšf|fCf“f^,ÉfCf“ffbfNfX•t,~ ,; ,é□ê□#□C,» ,lfCf“ffbfNfX,É,í□C<tŽQ□Æ,; ,é’O,Éf|fCf“f^,É’Ç
%oÁ,• ,é•,□t,É,μ,lf|ftfZfbfg,ðŽw’è,μ,Ü,•□B,μ,½^a,Á,Ä□CP[0] ,í P^ ,É“™,μ,□Cf|fCf“f^ P
,Žw,•Žš,ðŽw,μ,Ü,•□BP[1] ,í P ,Žw,•Žš,ì 1 •Žš%oE,ìŽš,ðŽw,μ,Ü,•□BP[2]
,í,» ,ìŽÿ,ìŽš,ðŽw,• ,Æ,ç,Á,½<i□# ,É±,«^a,Ü,•□B“~ ,,æ,α,É P[-1] ,í P
,Žw,•Žš,ì¼’O,ìŽš,ðŽw,μ□C“~ —l,É±,«^a,Ü,•□B

fRf“fpfCf%o,í□C•Žšf|fCf“f^,lfCf“ffbfNfX•t,~ ,Á”í^í` fFbfN,ð,μ,Ü,¹ñ□B,±,é,í□C•Žšf|
fCf“f^,Žw,• fkf<,Á□l,í,é•Žš—ñ,ì□Á’á’,ðÆ^ ,β,éÆ^□í•ñ,^a—~—p,Á,«^a,È,ç
,½,β,Á,•□B,μ,½^a,Á,Ä□Cf†□[fU□[fvf□fO]f%of€ ,Á”í^í` fFbfN,ð,μ,È,,Á,í,È,è,Ü,¹ñ□B

—á

{ŽŸ, ĩfR [fh, Å, í, f k f <, Å [l, í, é • ¶ Ž š — ñ, ð ' á • ¶ Ž š, É • Ĩ Š, ., é, ½, ß, É • ¶ Ž š f |
f C f " f ^, ĩ f C f " f f f b f N f X • t, ¯, ð Ž g, ç, Ü, · [B }

function StrUpper(Str: PChar): PChar;

var

I: Word;

begin

I := 0;

while Str[I] <> #0 **do**

begin

Str[I] := UpCase(Str[I]);

Inc(I);

end;

StrUpper := Str;

end;

ŽQÆ
PChar

fkf<,Á□l,í,é•ŕŽš—ñ,ìŠÖ□”

fkf<,Á□l,í,é•ŕŽš—ñ

SysUtils ftfjfbfg,É,ífkf<,Á□l,í,é•ŕŽš—ñ,ì□^—□ŠÖ□” ,ª□”’½,, ,è,Ü,·□BŽŸ,ì\,ÉŠeŠÖ□” ,ìŠÈ’P,È□à-¾,ðŽ!,µ,Ü,·□B

ŠÖ□”	□à-¾
StrAlloc	— ^ , ,ç,è,½fTfCfY,ì•ŕŽšfofbftf@,ðfq□[fv□ã,ÉŠ,,,è“- ,Ä,é
StrBufSize	StrAlloc ,Ü,½,í StrNew ,ðŽg,Á,ÄŠ,,,è“- ,Ä,½•ŕŽšfofbftf@,ìfTfCfY,ð•Ö,·
StrCat	2 ,Ä,ì•ŕŽš—ñ,ðCE<□#,·,é
StrComp	2 ,Ä,ì•ŕŽš—ñ,ð”äŠr,·,é
StrCopy	•ŕŽš—ñ,ðfRfs□[,·,é
StrDispose	StrAlloc ,Ü,½,í StrNew ,ðŽg,Á,ÄŠ,,,è“- ,Ä,½•ŕŽšfofbftf@,ð”jŠü,·,é
StrECopy	•ŕŽš—ñ,ðfRfs□[,µ□C,» ,ì•ŕŽš—ñ,ì□l,í,è,Ö,ìf fCf”f^ ,ð•Ö,·
StrEnd	•ŕŽš—ñ,ì□l,í,è,Ö,ìf fCf”f^ ,ð•Ö,·
StrFmt	1 ,Ä,Ü,½,í•j□” ,ìl,ð•ŕŽš—ñ,ìCE`Ž® ,É,·,é
StrlComp	’â•ŕŽš,Æ□—•ŕŽš,ð<æ•É,¹, ,É 2 ,Ä,ì•ŕŽš—ñ,ð”äŠr,·,é
StrLCat	2 ,Ä,ì•ŕŽš—ñ,ðCE<□#,µ□C— ^ , ,ç,è,½□Á’â’ ,ðŽ□,Ä•ŕŽš—ñ,É,·,é
StrLComp	— ^ , ,ç,è,½□Á’â’ ,Ü,Ä 2 ,Ä,ì•ŕŽš—ñ,ð”äŠr,·,é
StrLCopy	— ^ , ,ç,è,½□Á’â’ ,Ü,Ä•ŕŽš—ñ,ðfRfs□[,·,é
StrLen	•ŕŽš—ñ,ì’ ,³,ð•Ö,·
StrLFmt	1 ,Ä,Ü,½,í•j□” ,ìl,ð□C— ^ , ,ç,è,½□Á’â’ ,ì•ŕŽš—ñ,ìCE`Ž® ,É,·,é
StrLIComp	’â•ŕŽš,Æ□—•ŕŽš,ð<æ•É,¹, ,É□C— ^ , ,ç,è,½□Á’â’ ,Ü,Ä 2 ,Ä,ì•ŕŽš—ñ,ð”äŠr,·,é
StrLower	•ŕŽš—ñ,ð□—•ŕŽš,É•İŠ,·,é
StrMove	•ŕŽš,ìfuf□fbfN,ð 1 ,Ä,ì•ŕŽš—ñ,©,ç•É,ì•ŕŽš—ñ,Ö^Ú“® ,·,é
StrNew	fq□[fv□ã,É•ŕŽš—ñ,ðŠ,,,è“- ,Ä,é
StrPCopy	Pascal •ŕŽš—ñ,ðfkf<,Á□l,í,é•ŕŽš—ñ,ÖfRfs□[,·,é
StrPLCopy	— ^ , ,ç,è,½□Á’â’ ,Ü,Ä Pascal •ŕŽš—ñ,ðfkf<,Á□l,í,é•ŕŽš—ñ,ÖfRfs□[,·,é
StrPos	— ^ , ,ç,è,½•”•ª•ŕŽš—ñ,ª•ŕŽš—ñ“à,Á□Á□%o,É□oCE»,·,é^Ê’u,Ö,ìf fCf”f^ ,ð•Ö,·
StrRScan	— ^ , ,ç,è,½•ŕŽš,ª•ŕŽš—ñ“à,Á□ÁCEä,É□oCE»,·,é^Ê’u,Ö,ìf fCf”f^ ,ð•Ö,·
StrScan	— ^ , ,ç,è,½•ŕŽš,ª•ŕŽš—ñ“à,Á□Á□%o,É□oCE»,·,é^Ê’u,Ö,ìf fCf”f^ ,ð•Ö,·
StrUpper	•ŕŽš—ñ,ð’â•ŕŽš,É•İŠ,·,é

ŽQÆ

‘,ç•¶Žš—ñCE^

fkf<,Á,í,é,éfCfh•Źš—ň

ŽQÆ fkf<,Á,í,é•Źš—ň

Windows flfyfCE[fefBf“fofVfXfef€,í^È%º,ì 3 Ží—p,ì•ŹšfZfbfg,đfTf|[]fg,μ,Ä,ç,Ü,·B

- 1 fofCfg•ŹšfZfbfg
- 2 fofCfg•ŹšfZfbfg
- Unicode •ŹšfZfbfg

1 fofCfg•Źš

1 fofCfg•ŹšfZfbfg (SBCS) ,Á,í•Źš—ň,ífofCfg,ì•À,Ñ,Á, ,èC1 fofCfg,Á 1 •Źš,đ•\,μ,Ü,·B
 ,Ü,Æ,ñ,ç,ì%ºç•ÄEü,~fo[]fWf+f“,ì Windows ,ÄŽg,æ ANSI •ŹšfZfbfg,ª 1
 fofCfg•ŹšfZfbfg,Á,·B

2 fofCfg•Źš

2 fofCfg•ŹšfZfbfg (DBCS) ,Á,à•Źš—ň,ífofCfg,ì•À,Ñ,Á,·ªC1
 fofCfg•ŹšfZfbfg,Æ^Ù,È,èC1 fofCfg,Á•\,ª,ê,é•Źš,Æ 2 fofCfg,Á•\,ª,ê,é•Źš,ª, ,è,Ü,·B
 2 fofCfg•Źš,ì 1 fofCfg—Ú,í[]æ[]sfofCfg,ÆEÄ,î,ê,Ü,·B

^ê”È,ÉC2 fofCfg•ŹšfZfbfg,ì%º^Ê 128 •Źš,í 7 frfbfg,ì ASCII
 •ŹšfZfbfg,Éf}fbfv,μC[]æ[]sfofCfg,í 128 ^È[]ã,ì[]±~’ì,đŽ[],Á,ì,ª•[]’È,Á,·B

2 fofCfg•ŹšfZfbfg,ífAfWfA,Á[]L,Žg,í,ê,Ä,“,èC,»,ê,ç,ì’n^æ,ì•ŹšfZfbfg,É,í 256
 •Źš,đ,í,é,©,É’’,ì,é•Źš,ªŠÜ,Ü,ê,Ä,ç,Ü,·B

Unicode •Źš

Unicode •ŹšfZfbfg,í 1 fofCfg•ŹšfZfbfg,ª 2 fofCfg•ŹšfZfbfg,ÆŠì-{}“ì,É^Ù,È,èC1 •Źš,ª 1
 f[]f[]h (2 fofCfg) ,Á•\,ª,ê,Ü,·BUnicode •ŹšfZfbfg,ì•Źš—ň,ìCfofCfg,Á,È,f[]f[]h,ì•À,Ñ,Á,·B

Unicode •Źš,ífofCfh•Źš,Æ,àEÄ,î,êCUnicode •Źš—ň,ì’½,,ìê[]±[]CfofCfh•Źš—
 ñ,ÆEÄ,î,ê,Ü,·B

1 •Źš,É 65536 ’È,è,ì’ì,ª[]ì,ç,ê,é Unicode ,íC<Z[]p•ª-
 ì,ì<L[]t,â[]o”Ä,ÉŽg,í,é,é“ÄŽê•Źš,àŠÜ,ßCCE»’ã,ìfRf“fsf...[]f^,ÄŽg,í,ê,Ä,ç,é[]
 çŠE’t,ì,.,x,Ä,ì•Źš,đ•\,ª,Ü,·B

Unicode •ŹšfZfbfg,ì[]Á%º,ì 256 •Źš,í ANSI •ŹšfZfbfg,Éf}fbfv,μ,Ä,ç,Ü,·B

C++ Builder •ŹšfZfbfg

C++ Builder ,í 1 fofCfg•Źš,Æ 2 fofCfg•Źš,đfTf|
 []fg,μ[]CansiChar[]CPansiChar[]CansiString ,ìŠì-{}CE^,©,ç Char[]CPChar[]Cstring ,ì”Ä—
 pCE^,Ü,Á,ì•Źš—ň,đfTf|[]fg,μ,Ä,ç,Ü,·Bf[]fCfh•Źš,í WideChar CE^,Æ PWideChar
 CE^,É,æ,Á,ÄfTf|[]fg,ª,ê,Ü,·B

string CE^,É’Š“-.,éf[]fCfh•Źš,í, ,è,Ü,ª,ñB

f[]fCfh•Źš—ň

Object Pascal ,ìfkf<,Á,í,é•Źš—ň,ì[]^—[]<@”\,í PWideChar CE^,É,à“-
 ,Á,í,Ü,è,Ü,·Bμ,½,ª,Á,ÄC•Źš—ňfŠfef%of<,í PWideChar CE^,Æ’ã”ü,ìCEÝŠ•[]ª, ,è,Ü,·
 (,½,¾,μC•Źš—ňfŠfef%of<,É,í ANSI •Źš,ì’í”à,ì[]±~’ì,đŽ[],Áf[]fCfh•Źš,¾,~,đ”ü,ê,é,±
 ,Æ,ª,Á,«,Ü,·)B”—ì,É[]C

array[0..X] of WideChar

,Æ,ç,æCE`Ž®,ìf[]f[],©,çŽn,Ü,éf[]fCfh•Źš”z—ň,í PWideChar

Œ^,Æ'ă"ü,ìŒÝŠ·«,ª, ,èCPWideChar Œ^,ì'í,É,íCf[f], ©,çŽn,Ü,éfCfCfh•ŦŽš"z—
ň,Æ,Ü,Á,½, " ,Ŧ,æ,æ,É"YŽš,đ•t, ,ç,ê,Ü,·B,³,ç,ÉC•ŦŽšf|fCf"f^%%ŽŽŽq (+ ,Æ -)
,ÍfCfCfh•ŦŽšf|fCf"f^,É,à"K—p,Á,«,Ü,·B

fŦf: fCfCfh•ŦŽšf|fCf"f^,Ö@ "f|ftfZfbfg,đ%ÁŽŽ,·,éê#C,Ü,½,ÍfCfCfh•ŦŽšf|
fCf"f^,©,ç@ "f|ftfZfbfg,đŒ, ŽŽ,·,éê#C,» ,ê,ç,ì|ftfZfbfg,ÍfCfCfh•ŦŽš'P^Ê,Á,ì<—
—f,đ•\,µ,Ü,·B,µ,½,ª,Á,ÄCf|fCf"f^,Ö%ÁŽŽ,³,ê,é,©f|
fCf"f^,©,çŒ, ŽŽ,³,ê,é'Ŧ,ÉCŽ© " @ "í,É 2 " {,É,³,ê,Ü,·B" —í,ÉCfCfCfh•ŦŽšf|
fCf"f^,đ•Ê,ÍfCfCfh•ŦŽšf|fCf"f^,©,çŒ, ŽŽ,·,éê#CŒ<%Ê,ì@ " ,ÍŽ© " @ "í,É 2
,ÁœŽŽ,³,êCfCfCfh•ŦŽš'P^Ê,Á,ì<——f,ªŦŦ,³,ê,Ü,·B

System ftfjfbfg,É,í WideCharToStringCWideCharLenToStringCStringToWideChar ,Æ,ç,æ 3
,Á,İŠÖ " ,ª, ,èCf|kç,Á,í,í,éfCfCfh•ŦŽš—ň,đ 1 fofCfg,Ü,½,í 2 fofCfg,ì'·,ç•ŦŽš—
ň,É•İŠ,Á,«,é,æ,æ,É,È,Á,Ä,ç,Ü,·B

ŽQÆ

•ŕŽšĀ^

•ŕŽš—ňĀ^

fƒĀ,Āŕ,í,é•ŕŽš—ň,ìŠŐ”

fofŠfAf“fgCE^

ŽQAE —á CE^

fofŠfAf“fgCE^,ICE^,đ“®“l,É•iX,·,é'l,đ•\
,¹,Ü,·□B,Ü,©,ICE^,i•i□”,^a,»,ICE^,ÖÄ“l,ÉfofCf“fh,³,é,é,ì,É'í,μ□CfofŠfAf“fgCE^,i•i□”,Á,ÍŽÀ□sŽž,
É,³,Ü,´,Ü,ÉCE^,i'l,đ'z'è,Á,«,Ü,·□BfofŠfAf“fgCE^,^a,à,Á,Æ,à,æ,Žg,í,é,éó<μ,Í□C%
%oŽZ'í□Ü,Æ,È,éŽÀ□Ü,ICE^,^a•i%o»,·,é,©□CfRf“fpfCf<Žž,É-ç'è<` ,i□ê□†,Á,·□B

fofŠfAf“fgCE^,đ•\,·,É,í□C'è<`□i,ÝŽ~•Éžq Variant ,đŽg,ç,Ü,·□BfofŠfAf“fgCE^,É,í'É
%o°,ì“Á□«,^a, ,è,Ü,·□B

- fofŠfAf“fgCE^,É,í□®□”“I□CŽÀ□”“I□C•¶Žš—ñ“I□C~ _—□“I□C“ú•t□^Žž□□“I□COLE
fI□[fgf□□[fvf†“flfufWfFfNfg,đ“ü,è,é,±,Æ,^a,Á,«,Ü,·□B,³,ç,É□C,»,é,ç,ICE^,ì—
v'f,©,ç,É,é,³,Ü,´,Ü,ÈfTfCfY,ÆŽYCE³,l”z—ñ,đ“ü,è,é,±,Æ,^a,Á,«,Ü,·□B
 - “ÁŽêfofŠfAf“fg“l Unassigned ,ÍfofŠfAf“fgCE^,É,Ü,¾“l,^aŠ,,è—,Ä,ç,è,Ä,ç,È,ç,±
,Æ,đŽl,μ□C“ÁŽêfofŠfAf“fg“l Null ,Íff□[f^,^a-ç'è<` ,©CE†—Ž,μ,Ä,ç,é,±,Æ,đŽl,μ,Ü,·□B
 - fofŠfAf“fgCE^,ÍŽ@,ì't,Á•É,ÍfofŠfAf“fgCE^,â□®□”“I□CŽÀ□”“I□C•¶Žš—ñ“I□C~ _—
□“l,Æ'g,Ý□†,í,¹,é,±,Æ,^a,Á,«□CfRf“fpfCf%o,Í•K—v,ÉCE^•İŠ,đŽÀ□s,·,éfR□[fh,đŽ©“®□¶□—,μ,Ü,·□B
 - fofŠfAf“fgCE^,É OLE fI□[fgf□□[fvf†“flfufWfFfNfg,^a“ü,Á,Ä,ç
,é□ê□†□C,»,ÍfofŠfAf“fgCE^,đŽg,Á,ÁflfufWfFfNfg,ìfvf□fpfB,Ížæ“¾,â□Y'è□CflfufWfFfNfg,É'í,·,é□
fVbfh,ICEÄ,Ñ□o,μ,^a,Á,«,Ü,·□B
 - fofŠfAf“fgCE^,i•i□”,í□Á□%o,ì□□—Žž,É,í□i,É Unassigned ,Æ,μ,Ä□%oŠú%o»,³,é,Ü,·□B,±
,è,í,»,ÍfofŠfAf“fgCE^•i□”,^afOf□□[fof<,Á,à□□[fjf<,Á,à□C, ,é,ç,í”z—
ñ□CfCEfR□[fh□CflfufWfFfNfg,É,Ç,ì□\`ç,ì^è•”,Á, ,Á,Ä,à“~ ,¶,Á,·□B
- fofŠfAf“fgCE^,í□_“í□«,É•x,ñ,Á,ç,é^è•ú□C'É□í,ì•i□”,æ,è'½,-
,Í□f,fŠ,đ□Á“i,μ□CfofŠfAf“fgCE^,É'í,·,é%o%oŽZ,í□Ä“l,ÉCE^Žw'è,μ,½'l,É'í,·,é%o
%oŽZ,æ,èŽÀ□s'—“x,^a,©,É,è'x,,É,è,Ü,·□B

fofŠfAf“fgĈ^,ì—á

ŽŸ,lfR[]fh,ífofŠfAf“fgĈ^,ìŽg,ç•ù,Æ[]CfofŠfAf“fgĈ^,ð,Ù,©,ìĈ^,Æ'g,Ý[]‡,í¹,½,Æ,«,ÉŽÀ[]s,³,
ê,éŽ©“@Ĉ^•İŠ,ìŽÀ—á,À,·[]B

var

V1, V2, V3, V4, V5: Variant;

I: Integer;

D: Double;

S: **string**;

begin

```
V1 := 1;           { []@[]"l }
V2 := 1234.5678;  { ŽÀ[]"l }
V3 := 'Hello world'; { •¶Žš—ñ'l }
V4 := '1000';     { •¶Žš—ñ'l }
V5 := V1 + V2 + V4; { ŽÀ[]"l 2235.5678 }
I := V1;         { I = 1 }
D := V2;         { D = 1234.5678 }
S := V3;         { S = 'Hello world' }
I := V4;         { I = 1000 }
S := V5;         { S = '2235.5678' }
```

end;

ŽQÆ

foššfAf“fg“à,ìl

foššfAf“fgCE^,ì•iš.

foššfAf“fgŽ®

foššfAf“fg”z—ň

foššfAf“fg,Æ OLE fl□[fgf□Vf†f“flfufWfFfNfg


```

varArray      $2000   fofŠfAf“fg”z—ñ,đŽ!,·frfbfg□B,±,ì'è□",.í□Cfrfbfg,2,Æ,ì~_—
               □~a□iAND□j,đŽg,Á,Ä VType
               ftfB□[f<fh,Æ'g,Ý□‡,í,1,éf}fXfN,Æ,μ,Ä□CfofŠfAf“fg,ªP^è,ì'l,È,ì,
               ©'l,ì”z—ñ,È,ì,©,đ2,x,é,1/2,β,ÉŽg—p,3,è,é

varByRef      $4000   ,±,ì'è□",.í□Cfrfbfg,2,Æ,ì~_—□~a□iAND□j,đŽg,Á,Ä Variant.VType
               ftfB□[f<fh,Æ'g,Ý□‡,í,1,éf}fXfN,Æ,μ,Ä□CfofŠfAf“fg,ªff□[f^,»,ì,à,
               ì,đŠÜ,β,ì,Á,í,È,□C,»,ìff□[f^,Ö,ìf|fCf“f^,đŠÜ,ñ,Á,ç,é,©,Ç,α
               ,©,đ2,x,é,1/2,β,ÉŽg—p,3,è,é

```

•W□€ŠÖ□” varType ,ª•Ô,· varXXXX 'è□",.í System ftffjfbfg“à,É'è<`³,è,Ä,ç,Ü,·□B□«—
^,ìfo□[fWf‡f“,.ì C++Builder ,ÁCE^fR□[fh,ª'Ç%oÁ'è<`³,è,é%oÁ”\□«^a, ,é,ì,Á□C,±,è,ç,ì-
β,è'l,³/₄,¯,É^É'¶,μ,¹/₂fR□[fh,đ□i□→,μ,È,ç,æ,α,É'□^Ó,μ,Ä,³/₄,³,ç□B

```

varArray frfbfg^É'u,í□C, ,éCE^,ì”z—ñ,ªfofŠfAf“fg,É“ü,Á,Ä,ç
,é□é□‡,É□Ý'è,3,è,Ü,·□BvarTypeMask frfbfgf}fXfN,í varType
ŠÖ□”,ª•Ö,·'l,©,çŽÄ□Ú,ìCE^fR□[fh,đ'S□o,·,é,1/2,β,ÉŽg,í,é,Ü,·□B,1/2,Æ,ì,í□CŽÝ,ìŽ®,.í V ,É
Double CE^,Ü,1/2,.í Double CE^,ì”z—ñ,ª“ü,Á,Ä,ç,é□é□‡,É□^,É,È,è,Ü,·□B

```

if VarType(V) **and** varTypeMask = varDouble **then** ...

```

System ftffjfbfg“à,É'è<`3,è,Ä,ç,é TVarData
fCEfR□[fh,đŽg,Á,ÄfofŠfAf“fgCE^,ì'ì□”,đCE^fLfffXfg,·,é,Æ□C,»,ì“à•”·\
CE»,ÖfAfNfZfX,Á,«,Ü,·□B□Ú□x,í□wf%ofCfuf%ofŠfŠftf@fCEf“fX□x,ì TVarData ,ì□à-
3/4,đŽQ□Æ,μ,Ä,3/4,3,ç□B

```

fofŠfAf“fgCE^,ì•İŠ•

ŽQ□Æ fofŠfAf“fgCE^

,,x,Ä,ì□@□”CE^□CŽÀ□”CE^□C•¶Žš—ñCE^□C•¶ŽšCE^□C~_—
□CE^,ífofŠfAf“fgCE^,Æ’ă“ü,ìCEÝŠ•□«,^a,è,Ü,□BŽÝ,ì\,
,ÉfofŠfAf“fg,Ö’ă“ü,Ä,«,éCE^,Æ□C’ă“üCEă,ífofŠfAf“fgCE^fR□[fh,ðŽ!,μ,Ü,□B

Ž®,ìCE^ **fofŠfAf“fgCE^f**
R□[fh

□@□”CE^ varInteger

’Ê%oÝCE^,ð□œ,- varDouble

ŽÀ□”CE^ varCurrency

•¶Žš—ñCE^,Æ•¶ŽšCE^ varString

~_—□CE^ varBoolean

Ž®,í Variant(X) ,Æ,ç,æCE`Ž®,ìCE^fLfffXfg,ðŽg,Á,ÄfofŠfAf“fgCE^,Ö-
¾4Ž!“I,ÉfLfffXfg,Ä,«,Ü,□BX ,í□ă,ì\,ÉŽ!,μ,½,ç,,é,©,ìCE^,ìŽ®,Ä,□B

fofŠfAf“fgCE^,í,.,x,Ä,ì□@□”CE^□CŽÀ□”CE^□C•¶Žš—ñCE^□C~_—□CE^,Æ’ă“ü,ìCEÝŠ•□«,^a,è,Ü,
,□B^Ê%o^o,ì\,ÉfofŠfAf“fgCE^,ì!,©,ç•Ê,ìCE^,Ö•İŠ•,.,é□ê□‡,ìCE^•İŠ•<K’¥,ðŽ!,μ,Ü,□B

fofŠfAf“fgCE^,©,ç□@□”CE^!I,Ö,ì•İŠ•

fofŠfAf“fgCE^ **CE<%oÊ**

varEmpty 0.

varNull EVariantError —áŠO,ð□¶□—,.,é

varByte 1 ,Ä,ì□@□”CE`Ž®,ð•Ê,ìCE`Ž®,Ö•İŠ•,μ□C’I,^a-

varSmallint Ú“I,ìCE`Ž®,É“K□‡,μ,È,ç□ê□‡,í EVariantError —áŠO,ð□¶□—,.,é

varInteger

varError

varSingle ŽÀ□”I,ð,à,Á,Æ,à<β,ç□@□”,ÖŠÛ,β□CCE<%oÊ,^a-

varDouble Ú“I,ìCE`Ž®,É“K□‡,μ,È,ç□ê□‡,í EVariantError —áŠO,ð□¶□—,.,é

varCurrency

varDate “ú•t□^Žž□□’I,ð Double CE^,Æ,μ,Ä
%oðŽB,μ□C’I,ð,à,Á,Æ,à<β,ç□@□”,ÖŠÛ,β□CCE<%oÊ,^a-
Ú“I,ìCE`Ž®,É“K□‡,μ,È,ç□ê□‡,í EVariantError —áŠO,ð□¶□—,.,é

varOleStr •¶Žš—ñ,ð□@□”,É•İŠ•,μ□C•¶Žš—ñ,^a—LCEø,É□@□”I,Ä,È,ç

varString ,©CE<%oÊ,^a-Ú“I,ìCE`Ž®,É“K□‡,μ,È,ç□ê□‡,í EVariantError —
áŠO,ð□¶□—,.,é

varBoolean <U,ì□ê□‡,É 0□C□^,ì□ê□‡,É -1 (-Ú“I,ìCE^,^a Byte ,ì□ê□‡,í 255)

fofŠfAf“fgCE^,©,çŽÀ□”CE^!I,Ö,ì•İŠ•

¾Ž!“l,ÉfLfffXfg,Å,«,Ü,·BTypeName ,Í®“CE^CŽÀ“CE^C·ŕŽš—ñCE^C~—CE^,ì,ç
,,ê,©,ìŽ·ÉŽq,ÅCV ,ÍfofŠfAf“fgCE^,ìŽ®,Å,·B,³,ç,ÉC·W€ŠÖ“,ì VarAsType ,Æ·W€Žè'±
,«,ì VarCast ,đŽg,Å,ÄfofŠfAf“fg,ì“à·“\CE»,đ·ÍX,Å,«,Ü,·Bă,ì\,í,»,ì,æ,æ
,È,·,x,Ä,ìCE^·İŠ·,ÉŠÖ,·,éK'¥,ì^è—,Å,·B

fofŠfAf“fgCE^,É OLE fl[fgf[fvf#“flfufWfFfNfg,Ö,ìŽQÆ (varDispatch CE^fR[fh)
,ŠÜ,Ü,ê,Ä,ç,éê#C,»,ÍfofŠfAf“fgCE^,đ·É,ìCE^,É·İŠ·,µ,æ,æ,Æ,·,é,ÆCÅ%
,ÉflfufWfFfNfg,ÍffftfHf<fgfvf#pfefB,ì'l,Žæ“¾,³,ê,Ä,©,çC,»,ì'l,ä—
v<,³,ê,½CE^,É·İŠ·,³,ê,Ü,·B—^,ì,ç,ê,½ OLE
fl[fgf[fvf#“flfufWfFfNfg,ÉffftfHf<fgfvf#pfefB,^a,È,çê#CEVariantError —
áŠO,^a¶¶—,³,ê,Ü,·B

ŽQÆ

foššAf“fg“à.ì'l

foššAf“fgŽ®

fofŠfAf“fgŽ®

ŽQ□Æ fofŠfAf“fgCE^

fofŠfAf“fgCE^,İŽ®,İ†,ĂŽg,±,±,Æ,ª,Â,«,Ü,·□BŽŸ,İ%%ŽŽŽq,Í Variant CE^,İfİfyf%of“fh,đTfj
□[fg,μ,Ä,ç,Ü,·□B

+ - * / **div** **mod** **shl** **shr** **and** **or** **xor** **not** = <> < >
<= >=

2 ,Â,İfİfyf%of“fh,đ,Æ,é%%ŽŽŽq,İ□ê□#□C^ê•û,İfİfyf
%of“fh,ªfofŠfAf“fgCE^,È,ç,İ□C,à,±^ê•û,İfİfyf%of“fh,İfofŠfAf“fgCE^,İ•İŠ,ÉŽİ,μ,½<K’¥
,ĂŽ©“®“İ,ÉfofŠfAf“fgCE^,É•İŠ,³,ê,Ü,·□BfofŠfAf“fgCE^İ,Éİ,·,é”ñŠÖEW%%ŽŽ (□ĂCEä,İ 6
,Ă,đ□œ,%%ŽŽŽq) ,İCE<%Ê,İCE^,İ□í,ÉfofŠfAf“fgCE^,Â,·□BfofŠfAf“fgCE^,İ’İ,Éİ,·,éŠÖEW%
%%ŽŽ,İCE<%Ê,İCE^,İ□í,É~_□CE^,Â,·□B

”ñŠÖEW%%ŽŽŽq,İ□ê□#□C^ê•û,Ü,½,Í—¼•û,İfİfyf%of“fh,ª Unassigned
,È,ç,İ□CEVariantError —áŠO,ª□¶□¬,³,ê,Ü,·□BCE¾,çŠ,İ,ê,İ□CUnassigned
fofŠfAf“fg,Éİ,μ,Ä,Í”äŠr^ÈŠO,İ%%ŽŽ,Í,Â,«,Ü,¹,ñ□B

,³,ç,É”ñŠÖEW%%ŽŽŽq,İ□ê□#□C^ê•û,Ü,½,Í—¼•û,İfİfyf%of“fh,ª Null ,È,ç,İ□C%
%%ŽŽ,İCE<%Ê,Í Null ,Â,·□BNull ’İ,»,ê,¼,ê,İŽ®,Ă“ ,İ,ç,ê□CŽ®,İ†,É Null ’İ,ª ,é,ÆŽ®‘S’İ,ª
Null ,É,È,è,Ü,·□B

“ñ□€%%ŽŽ,đŽÀ□s,·,é□ê□#□C2 ,Â,İfofŠfAf“fgCE^fİfyf%of“fh,İ<±’É,İCE^,ª%%
%%ŽŽ,đ□§CEä,μ,Ü,·□B<±’É,İCE^,İŽŸ,İ•\,ÉŽİ,·f}fgfŠfbfNfX,Ă”»•É,³,ê,Ü,·□BŽŸ,İ•\
,đ“C,ª□ê□#□CVariant CE^fR□[fh varSmallint□CvarInteger□CvarByte ,Í Integer
,Öf}fbfv,³,ê□CvarSingle ,Æ varDouble ,Í Double ,Öf}fbfv,³,ê□CvarOleStr ,Æ varString ,Í
String ,Öf}fbfv,³,ê,Ü,·□B

fofŠfAf“fg%%ŽŽ,İCE^,İf}fgfŠfbfNfX

	Integer	Double	Currenc y	String	Boolean	Date
Integer	Integer	Double	Currency	Double	Integer	Date
Double	Double	Double	Currency	Double	Double	Date
Currenc y	Currency	Currency	Currency	Currency	Currency	Date
String	Double	Double	Currency	String	Boolean	Date
Boolean	Integer	Double	Currency	Boolean	Boolean	Date
Date	Date	Date	Date	Date	Date	Date

,½,Æ,İ,İ□CV1 + V2 ,İ%%ŽŽ,Ă,İ□CV1 ,İCE^fR□[fh,ª varInteger ,Ă V2 ,İCE^fR□[fh,ª varString
,È,ç,İ□C%%ŽŽ,İŽÀ□s,ÉŽg,İ,é,<±’É,İCE^,Í Double ,Ă,·□B

”ñŠÖEW%%ŽŽŽq,İ□ê□#□C,ç,Á,½,ñ<±’É,İCE^,ª□Y’è,³,ê,é,Æ□C%%ŽŽ,İŽŸ,İ•\,ÉŽİ,·,æ,±
,É□i□s,μ,Ü,·□B

”ñŠÖEW%%ŽŽŽq,İfofŠfAf“fgCE^,Éİ,·,é“®İ
<±’É,İCE^ %%ŽŽŽq,İCE<%Ê

ŽQÆ

foššAf“fgCE^,ì•iš.

foššAf“fg“à,ì'l

fofŠfAf“fg”z—ñ

ŽQ□Æ —á fofŠfAf“fgCE^

fofŠfAf“fgCE^,É,í□C,ç,ê,©,ìfofŠfAf“fgŠî- {CE^,ì—v'f,©,ç,È,é,³,Ü,´,Ü,ÈfTfCfY,ÆŽŸCE³,ì}z—ñ,ð“ü,ê,é,±,Æ,ª,Ä,«,Ü,·□BfofŠfAf“fg”z—ñ,ì—v'f,í,·,x,Ä“¬,¶CE^,Ä,·,ª□C—v'f,ìCE^,ª Variant,È,ç,í□C“—RCEÄ□X,ì—v'f,É,³,Ü,´,Ü,ÈŽí—p,ìff□[f^□i,Ü,©,ìfofŠfAf“fg”z—ñ,ðŠÜ,p□j,ð“ü,ê,é,±,Æ,ª,Ä,«,Ü,·□B

fofŠfAf“fg”z—ñ,í□C'É□í□C•W□€Žè'±,«,ì VarArrayCreate ,ðŽg,Á,Ä□i□¬,μ,Ü,·□B

ŽŸ,ì\,ÉfofŠfAf“fg”z—ñ,ì•W□€Žè'±,«,Æ•W□€ŠÖ□”,ðŽì,μ,Ü,·□B,±,ê,ç,í,·,x,Ä System ftfjfbfg,ì't,Á'è<',³,ê,Ä,ç,Ü,·□B

fofŠfAf“fg”z—ñ,ì•W□€Žè'±,«,Æ•W□€ŠÖ□”

-¼' O

□à-¾

VarArrayCreate —^,ì,ç,ê,½—v'fCE^,Æ—^,ì,ç,ê,½ŠeŽŸCE³,ì %°CEÄ,Æ□äCEÄ,ðŽg,Á,ÄfofŠfAf“fg”z—ñ,ð□i□¬,·,é□B—v'fCE^,í varString ,ð□œ,“C^Ó,ì varXXXX CE^fR□[fh,Ä, ,é□B•¶Žš—ñ,ìfofŠfAf“fg”z—ñ,ð□i□¬,·,é,É,í□CvarOleStr CE^fR□[fh,ðŽg,í,È,¬,ê,í,È,ç,È,ç□B□V,μ,□i□¬,μ,½”z—ñ,ì—v'f,í,·,x,Äf[f□,©<ó,É□Ÿ'è,³,ê,é

VarArrayOf —^,ì,ç,ê,½—v'ffŠfXfg,ðŽg,Á,Ä 1 ŽŸCE³,ìfofŠfAf“fg”z—ñ,ð□i□¬,·,é□B•Ö,³,ê,éfofŠfAf“fg”z—ñ,ì—v'fCE^,ìfofŠfAf“fg,Ä, ,é□B VarArrayOf ŠÖ□”,íCE^%°Ä•í”z—ñfjpf %°f□□[f^,ð,»),ì□ê,Á□i,é□ê□#,É•Ö~ ,Ä, ,é

VarArrayRedim %°E'[,ìŽŸCE³,ì□äCEÄ,ð—^,ì,ç,ê,½'l,É•í□X,μ,ÄfofŠfAf“fg”z—ñ,ðfTfCfY•í□X,·,é□BŠù'¶,ì”z—ñ—v'f,í•ÜŽ□,³,é□C□V,μ,ç—v'f,ìf[f□,©<ó,É□Ÿ'è,³,ê,é

VarArrayDimCount fofŠfAf“fg”z—ñ,ìŽŸCE³□”,ð•Ö,·,©□C^ø□”,ªfofŠfAf“fg”z—ñ,Ä,È,¬,ê,ìf[f□,ð•Ö,·

VarArrayLowBound fofŠfAf“fg”z—ñ,ì—^,ì,ç,ê,½ŽŸCE³,ì%°CEÄ,ð•Ö,·

VarArrayHighBound fofŠfAf“fg”z—ñ,ì—^,ì,ç,ê,½ŽŸCE³,ì□äCEÄ,ð•Ö,·

VarArrayLock fofŠfAf“fg”z—ñ,ðf□fbfN,μ□CfofŠfAf“fg”z—ñ“à,ìff□[f^,Ö,ìf] fCf“f^,ð•Ö,·□B,±,ìŠÖ□”,ðŽg,æ,ÆfofŠfAf“fg”z—ñ“à,ìff□[f^,Ö'¼□ÚfAfNfZfX,Ä,«□C□^—□CEø—ì,ª%°ü'P,³,ê,é

VarArrayUnlock 'O,É VarArrayLock ,Áf□fbfN,μ,½fofŠfAf“fg”z—ñ,ðf□fbfN%°ð□œ,·,é

VarlsArray ^ø□”,ÉfofŠfAf“fg”z—ñ,ª“ü,Á,Ä,ç,é,©,Ç,æ,©,ðfefXfg,·,é

f□f, fofŠfAf“fg”z—ñ,ì—v'fCE^,í varString ,É,Ä,«,Ü,¹,ñ□B•¶Žš—ñ,ìfofŠfAf“fg”z—ñ,ð□i□¬,·,é,É,í varOleStr CE^fR□[fh,ðŽg,í,È,¬,ê,í,È,è,Ü,¹,ñ□B

fofŠfAf“fg,É”z—ñ,ª“ü,Á,Ä,ç,é□ê□#□C”z—ñ—v'f,ÖfAfNfZfX,·,é,É,ìfofŠfAf“fg,ìCEä,Éfjff“f} ,Ä<æ□ø,Á,½ 1 ,Ä,Ü,½,í•j□”,ì“YŽšŽ®,ð'áfjfbfR,Á'í,ñ,ÄŽw'è,μ,Ü,·□B“YŽšŽ®,í□í,É Integer CE^,Ä,·□BfofŠfAf“fg,É“YŽš,ð•t,¬,é,Æ,«□C,»),ìfofŠfAf“fg,ÉfofŠfAf“fg”z—ñ,ª“ü,Á,Ä,ç ,È,ç□ê□#,â□CŽw'è,μ,½“YŽšŽ®,ì□”,ª□³,μ,,È,ç□ê□#□C,³,ç,É 1 ,Ä,Ü,½,í•j□”,ì“YŽšŽ®,ª'í

fofŠfAf“fg”z—ñ,ì—á

fofŠfAf“fg”z—ñ,ìC’ÊíCŽŸ,ì—á,ì,æ,æ,É•W€Žè’±,«,ì VarArrayCreate
,đŽg,Á,Áìì¬,μ,Û,·B

```
var
  A, B: Variant;
  I: Integer;
begin
  A := VarArrayCreate([0, 9], varInteger);
  for I := 0 to 9 do A[I] := I * I;
  B := VarArrayCreate([1, 3, 0, 9], varVariant);
  for I := 0 to 9 do B[1, I] := I;
  for I := 0 to 9 do B[2, I] := Sqrt(I);
  for I := 0 to 9 do B[3, I] := Format('Value=%d', [I]);
  ...
end;
```


ŽQÆ

fofŠfAf“fg”z—ň,ì'â,«,³.ì•i□X

fofŠfAf“fg”z—ň,ìĀ'è

fofŠfAf“fg”z—ñ,ì‘á,«,³,ì•ï□X

ŽQ□Æ —á fofŠfAf“fg”z—ñ

fofŠfAf“fg”z—ñ,í•W□€Žè‘±,«,ì VarArrayRedim ,đŽg,Á,ÄfTfCfY•ï□X,Á,«,Ü,·□BVarArrayRedim
,đŽg,α,Æ□CfofŠfAf“fg”z—ñ,ì%oE‘[(□ÅÆã)
,ìŽŸCE³,ì□ãÆÄ,đ•ï□X,Á,«,Ü,·□B,»ì‘¼,ìŽŸCE³,ì“í^í,ì•ï□X,Á,«,Ü,¹ñ□BSù‘¶,ì”z—ñ—
v‘f,ífTfCfY•ï□X‘€□ì,đ,μ,Ä,à•ÚŽ□,³,ê,Ä,†,Ü,·□B

VarArrayDimCount□CVarArrayLowBound□CVarArrayHighBound ,ìŠe•W□€ŠÖ□” ,đŽg,α
,Æ□CfofŠfAf“fg”z—ñ,ìŽŸCE³□” ,ÆCEÄ□X,ìŽŸCE³,ì“í^í,đCEŸ□, ,Á,«,Ü,·□B,±,ê,í□CŽŸ,ÉŽ|,·
VarArraySum ŠÖ□” ,ì,æ,α,È”Ä—pfofŠfAf“fg”z—ñ‘€□ìf<□[f`f“ ,đ□ì□¬,·,é□ê□‡,É-đ—š,¿,Ü,·□B

fofŠfAf“fg”z—ñ,İfTfCfY•İ□X,İ—á

ŽŸ,İfR□[fh,Í VarArrayRedim ,İŽg,č•û,đŽ!,μ,Ä,č,Ü,·□B

var

A: Variant;

I: Integer;

begin

A := VarArrayCreate([0, 4], varOleStr);

for I := 0 **to** 4 **do** A[I] := 'Initial';

...

VarArrayRedim(A, 9);

for I := 5 **to** 9 **do** A[I] := 'Additional';

...

end;

function VarArraySum(**const** A: Variant): Double;

var

I: Integer;

begin

if VarArrayDimCount(A) <> 1 **then**

raise Exception.Create('One-dimensional variant array expected');

Result := 0;

for I := VarArrayLowBound(A, 1) **to** VarArrayHighBound(A, 1) **do**

Result := Result + Double(A[I]);

end;

ŽQÆ

foššf“fg”z—ň,ìĀ'è

fofŠfAf“fg”z—ñ,ìĈĒ'è

ŽQĒ —á fofŠfAf“fg”z—ñ

•W□€ŠÖ□,ì VarArrayLock ,Ē•W□€Žè'±,«,ì VarArrayUnlock ,ðŽg,ᄡ,Ē□CfofŠfAf“fg”z—ñ“à,ìff□[f^,É'¼□ÚfAfNfZfX,Ā,«,Ü,·□B

□ã<L,ìŠÖ□,Ā□ì□→,μ,½,æ,ᄡ,È—v'fĈ^,ª varByte ,ìfofŠfAf“fg”z—ñ,í OLE
f□[fgf□□[fvf†f“,ìRf“fgf□□[f%o,Ēft□[fo□[,ìŠÔ,ĀfofCfifŠff□[f^,ðŽó,~“n,·,ì,É,æ,Žg,í,è,é•û-
@,Ā,·□B,»,ì,æ,ᄡ,È”z—ñ,ìff□[f^,ì•ìŠ·,É,æ,Ā,Ā%oē<ž,ðŽó,~,□CVarArrayLock f<□[f`f“,Ē
VarArrayUnlock f<□[f`f“,ðŽg,Ā,ĀĈø—ì“l,ÉfAfNfZfX,Ā,«,Ü,·□B

fofŠfAf“fg”z—ñ,ìĀ'è,ì—á

ŽŸ,ÉŽ!,· VarArrayLoadFile ŠÖ”,íftf@fCf<,ì“à—e,đfofŠfAf“fg”z—ñ,ìfofCfg,Ö“Ç,Ý□ž,Ý,Ü,·□B,±
,ìŠÖ”,í VarArrayLock ,Æ VarArrayUnlock ,đžg,Á,Áftf@fCf<,đ”z—ñ,ì't,Ö'¼□Ú“Ç,Ý□o,μ,Ü,·□B

```
function VarArrayLoadFile(const FileName: string): Variant;
```

```
var
```

```
    F: file;
```

```
    Size: Integer;
```

```
    Data: PChar;
```

```
begin
```

```
    AssignFile(F, FileName);
```

```
    Reset(F, 1);
```

```
    try
```

```
        Size := FileSize(F);
```

```
        Result := VarArrayCreate([0, Size - 1], varByte);
```

```
        Data := VarArrayLock(Result);
```

```
        try
```

```
            BlockRead(F, Data^, Size);
```

```
        finally
```

```
            VarArrayUnlock(Result);
```

```
        end;
```

```
    finally
```

```
        CloseFile(F);
```

```
    end;
```

```
end;
```

ŽQÆ

f of Š f A f " f g " z — ñ , ì ' à , « , ³ , ì • ì X

ŽQÆ

OLE f[[fgf[[fVf#f“,ÅŽg,α%∞Â•ifpf%∞f[[f^

OLE f[[fgf[[fVf#f“,lfvf[[pfefB

ŽQÆ

OLE f[fq[fVf“.]fvfpfefB

ŽQÆ

OLE f[[fgf[[fvf#f“,ÅŽg,α%oÂ•ifpf%of[[f^

fRf"fpfCf%offbfZ[]fW

[ŽÄsŽžGf%offbfZ\[\]fW](#)

Žÿ,ì^ê—, í C++Builder fRf"fpfCf%o,²[]-.,.éfgf

%o[]CCEx[]Cf"fg,ì,;,x,Ä,ìfbfZ[]fW,ðfAf<ftf@fxfbfg[]±,ÉŽ!,µ,½,à,ì,Ä,·B"Á"è,ìfbfZ[]fW

,É,Ä,ç,ÄÜx,ð·\Ž!,.é,É,ìC^ê—,ì't,Ä,»,ìfbfZ[]fW,ìefLfxfg,ðfNfŠfbfN,µ,Ä,,¾,¾,çB

'½,,ìfbfZ[]fW,É,í%oÄ·ìefLfxfg,²ü,Ä,Ä,ç,é,ì,ÄC^ê—,ì't,Ä"Á"è,ìfbfZ[]fW,ðCE©,Ä,¯,É,-

,çê±,à, ,è,Ü,·B

f[]f,: "[]±Šj"ŠÄ« (IDE) ,ÄŽó,~Žæ,Ä,½fbfZ[]fW,É,Ä,ç

,Äî·ñ,ð¾,é,É,ìCfbfZ[]fWfEfBf"fhfE,ì't,ÄfbfZ[]fW,ð<'²·\Ž!,µC[]kF1[]l,ð

%oÿ,.,ì,¾,à,Ä,Æ,à·Ö~ ,È·û-@,Ä,·B

';' not allowed before 'ELSE'

'<clause>' clause not allowed in OLE automation section

<clause1> clause expected, but <clause2> found

<Filename>: <RLink32 error message>

'<name>' is not a type identifier

'<name>' not previously declared as a PROPERTY

<RLink32 error message>

<token1> expected but <token2> found

16-Bit fixup encountered in object file '<Filename>'

486/487 instructions not enabled

Abstract methods must be virtual or dynamic

Array type required

Assignment to FOR-Loop variable '<name>'

Bad argument type in variable type array constructor

Bad file format '<name>'

Bad file format: <Filename>

Bad global symbol definition: '<name>' in object file '<Filename>'

Bad specification of M format

Bad unit format: <Filename>

BREAK or CONTINUE outside of loop

Cannot add or subtract relocatable symbols

Cannot assign to a read-only property

Cannot BREAK, CONTINUE or EXIT out of a FINALLY clause

Cannot initialize local variables

Cannot initialize multiple variables

Cannot initialize thread local variables

Cannot override a static method

Cannot read a write-only property

Case label outside of range of case expression

Circular unit reference to <Unitname>

Class already has a default property

Class does not have a default property

Class or object types only allowed in type section

Class type required
Close error on <Filename>
Compile terminated by user
Constant expected
Constant expression expected
Constant expression violates subrange bounds
Constant object cannot be passed as var parameter
Constant or type identifier expected
Constants cannot be used as open array arguments
Constructing instance of '<name>' containing abstract methods
Constructors and destructors not allowed in OLE automation section
Could not compile used unit '<Unitname>'
Could not create output file <Filename>
Could not load RLINK32.DLL
Data type too large: exceeds 2 GB
Declaration of <name> differs from previous declaration
Default property must be an array property
Default values must be of ordinal, pointer or small set type
Destination cannot be assigned to
Destination is inaccessible
Dispid '<number>' already used by '<name>'
Dispid clause only allowed in OLE automation section
Division by zero
Division by zero
Duplicate case label
Duplicate dynamic method index
Duplicate tag value
Dynamic method or message handler not allowed here
Dynamic methods and message handlers not allowed in OLE automation section
Element 0 inaccessible - use 'Length' or 'SetLength'
Error in numeric constant
EXCEPT or FINALLY expected
EXPORTS allowed only at global scope
Expression has no value
Expression is not a procedure
Expression too complicated
Field definition not allowed in OLE automation section
Field definition not allowed after methods or properties
Field or method identifier expected
File not found: <Filename>
File type not allowed here
Fn requires 2 <= n <= 18
For loop control variable must be simple local variable

For loop control variable must have ordinal type
FOR or WHILE loop executes zero times - deleted
FOR-Loop variable '<name>' cannot be passed as var parameter
FOR-Loop variable '<name>' may be undefined after loop
Format specifier must be C, S, D, H, X, Fn, P, R or nM
Function needs result type
'GOTO <label>' leads into or out of TRY statement
Identifier redeclared: '<name>'
Illegal character in input file: '<Char>' (<Hexadecimal value>)
Illegal message method index
Illegal reference to symbol '<name>' in object file '<Filename>'
Illegal type in OLE automation section: '<typename>'
Illegal type in Read/Readln statement
Illegal type in Write/Writeln statement
Inaccessible value
Incompatible format specification
Incompatible types: '<name>' and '<name>'
Incompatible types: <text>
Incompatible types
Inline assembler stack overflow
Inline assembler syntax error
Instance variable '<name>' inaccessible here
Integer constant or variable name expected
Integer constant too large
Internal error: <ErrorCode>
Invalid combination of opcode and operands
Invalid compiler directive: <Directive>
Invalid function result type
Invalid message parameter list
Invalid register combination
Invalid typecast
Label '<name>' is not declared in current procedure
Label already defined: '<Labelname>'
Label declaration not allowed in interface part
Label declared and referenced, but not set: '<label>'
Label expected
Left side cannot be assigned to
Line too long (more than 255 characters)
Local class or object types not allowed
Local procedure/function '<name>' assigned to procedure variable
LOOP/JCXZ distance out of range
Low bound exceeds high bound
Memory reference expected

Method '<name>' hides virtual method of base type '<name>'
Method '<name>' not found in base class
Method identifier expected
Missing ENDIF directive
Missing operator or semicolon
Missing or invalid conditional symbol in '\$<symbol>' directive
Missing parameter type
Necessary library helper function was eliminated by linker
No definition for abstract method '<name>' allowed
No source line for this procedure
Not enough actual parameters
Number of elements differs from declaration
Numeric overflow
Object or class type required
Object type required
Only register calling convention allowed in OLE automation section
Operand size mismatch
Operator not applicable to this operand type
Order of fields in record constant differs from declaration
Ordinal type required
Out of memory
Overflow in conversion or arithmetic operation
Overriding automated virtual method '<name>' cannot specify a dispid
PACKED not allowed here
Pointer type required
Procedure cannot have a result type
Procedure DISPOSE needs destructor
Procedure FAIL only allowed in constructor
Procedure NEW needs constructor
PROCEDURE or FUNCTION expected
Procedure or function name expected
Procedure runs out of local address space
Procedure too long: exceeds 32K
Program or unit recursively uses itself
Property '<name>' does not exist in base class
Published property '<name>' cannot be of type <type>
Published Real property '<name>' must be Single, Double or Extended
Re-raising an exception only allowed in exception handler
Read error on <Filename>
Record, object or class type required
Redeclaration of '<name>' hides a member in the base class
Redeclaration of property not allowed in OLE automation section
Return value of function '<Functionname>' might be undefined

Seek error on <Filename>

Segment/Offset pairs not supported in Borland 32-bit Pascal

Sets may have at most 256 elements

Size of published set '<name>' is >32 bits

Slice standard function only allowed as open array argument

Statement expected, but expression of type '<type>' found

Statements not allowed in interface part

String constant too long

String constant truncated to fit STRING[<number>]

Strings may have at most 255 elements

Structure field identifier expected

Syntax error in real number

System unit out of date or corrupted: missing '<name>'

Text after final 'END.' - ignored by compiler

This form of method call only allowed for class methods

This form of method call only allowed in methods of derived types

This type cannot be initialized

Thread local variables cannot be ABSOLUTE

Thread local variables cannot be local to a function

Too many actual parameters

Too many conditional symbols

Type '<name>' has no type info

Type '<name>' is not yet completely defined

Type '<name>' must be a class to have a PUBLISHED section

Type '<name>' must be a class to have OLE automation

Type '<name>' needs finalization - not allowed in file type

Type '<name>' needs finalization - not allowed in variant record

Type expected

Type not allowed in OLE Automation call

Type of expression must be BOOLEAN

Type of expression must be INTEGER

TYPEINFO standard function expects a type identifier

TYPEOF can only be applied to object types with a VMT

Types of actual and formal var parameters must be identical

Undeclared identifier: '<name>'

Unexpected end of file in comment started on line <Number>

Unit <Unit1> was compiled with a different version of <Unit2>

Unit name mismatch: '<Unitname>'

Unknown directive: '<Directive>'

Unnamed arguments must precede named arguments in OLE Automation call

Unsatisfied forward or external declaration: '<Procedurename>'

Unterminated string

Value assigned to '<name>' never used

Variable '<name>' inaccessible here due to optimization

Variable '<name>' is declared but never used in '<name>'

Variable '<name>' might not have been initialized

Variable required

Virtual constructors are not allowed

Write error on <Filename>

Wrong or corrupted version of RLINK32.DLL

Ordinal type required

ŽQÆ —á fRf“fpfCf<fGf%□[fbfZ□[fW

à-¾

fRf“fpfCf%⁰,[±],žž“_ ,Á□#~CE^,đ•K—v,Æ,μ,Ü,μ,½□B

□#~CE^,í'è<`í,Ý,ì□@□”CE^□CChar CE^□Cf□fCfh•ŋŽšCE^□C~_—□CE^,Æ□C□éCE^¾,μ,½—

ñ<“CE^,Á,·□B□#~CE^,í'È%⁰,ì,æ,α,È□ê□#,É•K—v,Á,·□B

”z—ñ,ì“YŽšCE^,í□#~CE^,Á,È,¯,ê,î,È,è,Ü,¹,ñ□B

- “•a”í'íCE^,ì%⁰CEÀ,Æ□ăCEÀ,í□#~CE^,í'è”Ž®,Á,È,¯,ê,î,È,ç,È,ç
- □W□#,ì—v'fCE^,í□#~CE^,Á,È,¯,ê,î,È,ç,È,ç
- case •ŋ,ì'í'đŽ®,í□#~CE^,Á,È,¯,ê,î,È,ç,È,ç
- W□€Žè'±,« Inc ,Æ Dec ,í'æ 1 ^∅□”,í□#~CE^,Ü,½,í|fCf“f^CE^,ì•í□”,Á,È,¯,ê,î,È,ç,È,ç

```

—á
{ "z—ñ,ì"YŽšĀĒ,í□#□~ĀĒ,Ā,È,¯,ê,Î,È,ç,È,ç□BTByteSet ĀĒ,í□#□~ĀĒ,Ā,È,□W□#,Ā, ,é }
program Produce;
type
  TByteSet = set of 0..7;
var
  BitCount: array[TByteSet] of Integer;
begin
end.

{ □#□~ĀĒ,ð"z—ñ,ì"YŽšĀĒ,Æ,μ,ĂŽw'è,·,é }
program Solve;
type
  TByteSet = set of 0..7;
var
  BitCount: array[Byte] of Integer;
begin
end.

```

ŽQÆ

"z-ñĈ^

•"•ā"ííĈ^

-ñ<"Ĉ^

case •¶

File type not allowed here

ŽQÆ —á fRf“fpfCf<fGf%o[]f[]fbfZ[]fW

à-¾

ftf@fCf<CE^,í'lfpf%of[]f^,Æ,μ,ÄŽg,Á,½,èftf@fCf<CE^Ž©[]g,ìŠì-

{CE^,Æ,μ,ÄŽg,Á,½,è,Ä,«,Ü,¹,ñ[]BŠÖ[]",ì-

ß,èCE^,Æ,μ,Ä,àŽg,!,.,[]C'ă“ü,à,Ä,«,Ü,¹,ñ,^a[]C,»,è,ç,lfGf%o[],.í•Ê,lfGf%o[]f[]fbfZ[]fW,^a·\

Ž!,³,ê,Ü,·[]B

—á

```
{ ŽŸ,lfR[]fh,Á,í[]CT ,ª Text (•W[]€ftj@fCf<) CE^,ì'lfpf%of[]f^,Á, ,é“_É-â'è,ª, ,é[]B'lfpf  
%of[]f^,Ö[]',«[]ž,ñ,Á,à[]CCEÄ,Ñ[]o,μ'α,ì•ì[]"fRfs[][,í  
%oe<¿,đŽó,~,È,¢[]B,μ,½,ª,Á,Ä[]Cftj@fCf<,đ'lfpf%of[]f^,Æ,μ,Ä[]éCE¾,μ,Ä,à^Ó-¿,ª,È,¢ }
```

program Produce;

```
procedure WriteInteger(T: Text; I: Integer);
```

```
begin
```

```
  Writeln(T, I);
```

```
end;
```

```
begin
```

```
end.
```

```
{ fpf%of[]f^,đ var fpf%of[]f^,Æ,μ,Ä[]éCE¾,·,ê,î-â'è,ª%öCE^,·,é }
```

program Solve;

```
procedure WriteInteger(var T: Text; I: Integer);
```

```
begin
```

```
  Writeln(T, I);
```

```
end;
```

```
begin
```

```
end.
```

ŽQÆ
ft@fCf<CE^

Low bound exceeds high bound

á fRf"fpfCf<fGf%o[f]fbfZ[fW

à-¾

,±,lfGf%o[f]fbfZ[fW,í•"•a"í^í(CE^,ì%o°CEÀ,a[ãCEÀ,æ,è'â,«,ç[ê[#,©[Ccase_f%ofxf<,ì"í^í,ì%o°CEÀ,a[ãCEÀ,æ,è'â,«,ç[ê[#,É•\Z!,³,ê,Û,·B

—á

```
{ ŽŸ,İfR[fh,Å,Í"Í'Í,á<ó,Æ,μ,Ä^μ,í,ê,é,ì,Å,È,ÇfGf%o[.É,È,éB }
```

```
program Produce;
```

```
type
```

```
SubrangeType = 1..0; { []u%oCEÀ'l,äCEÀ'l,ð',!,Ä,ç,Ü,·[]vfGf
```

```
%o[.É,È,é }
```

```
begin
```

```
case True of
```

```
True..False: { []u%oCEÀ'l,äCEÀ'l,ð',!,Ä,ç,Ü,·[]vfGf
```

```
%o[.É,È,é }
```

```
Writeln('Expected result');
```

```
else
```

```
Writeln('Unexpected result');
```

```
end;
```

```
end.
```

```
{ []äCEÀ,Æ%oCEÀ,Í•K,[]³,μ,ç[]#[]~,ÅŽw'è,·,é }
```

```
program Solve;
```

```
type
```

```
SubrangeType = 0..1;
```

```
begin
```

```
case True of
```

```
False..True:
```

```
Writeln('Expected result');
```

```
else
```

```
Writeln('Unexpected result');
```

```
end;
```

```
end.
```

□ uProgram or unit recursively uses itself□ v

—á fRf“fpfCf<fGf%□[ffbfZ□[fW

□ à-¾

,±,lfGf%□[ffbfZ□[fW,í **uses** □β,ªCE<%oÊ“l,É“~,¶ffjfbfg,©fvf□fOf%of€,ðf□□[fh,;é□é□#,É•\
Ž,³,è,Ü,·□B-P fRf“fpfCf%Žw—ß (8.3 CE`Ž@,iftf@fCf<ð'T,·) ,ðŽw'è,µ,½□é□#□C-¼'O,ì□Å□%o,ì
8 •¶Žš,ª“~,¶,¾,Æftf@fCf<-¼,ì□Ø,èŽì,Ä,É,æ,Á,Ä,±,lf□bfZ□[fW,ª•\Ž,³,è,é%oÅ“\□«,ª, ,è,Ü,·□B

—á

```
{ Produce_.pas ftf@fCf<,É“ü,Á,Ä,ç,éŽŸ,lfjfbfg,íC'Z,çftf@fCf<-  
¼,đŽg,xfjvfVf#f“,đŽw'è,μ,ÄfRf“fpfCf<,.é,ÆfGf%o[][,É,È,é }
```

```
unit Produce_Unit_1;
```

```
interface
```

```
uses Produce_Unit_2;
```

```
implementation
```

```
end.
```

Procedure runs out of local address space

[fRf“fpfCf<fGf%o\[f\]fbfZ\[fW](#)

à-¾

,±,lfGf%o[f]fbfZ[fW,Í Intel fA[fLfefNf`ff,Å,íŽg,í,ê,Ü,¹,ňB

uLabel '<name>' is not declared in current procedure

—á [fRf“fpfCf<fGf%o\[\]f\[\]fbfZ\[\]fW](#)

•W€ Pascal ,Æ,Í^á,ç[]CBorland Pascal ,Å,Í **goto** ,đŽg,Á,ÄŒ»[]Ý,ìŽè'±
,«,©,çŠO,ÖfWffff“fv,Å,«,Ü,¹,ñ[]BfGf%o[],³“[]¶,μ,½[]ê[]‡,ì^—[],ì'âŽ~,É,Í—áŠO[]^—[],đŽg—
p,μ,Ä,,³/₄,³,ç[]B

```

-á
{ ŽŸ,lfR[]fh,Á,íf[]ff<,Á,È,ç goto ,lžÀ[]s,É,æ,Á,Ä^—,đ'âž~,μ,æ,α,Æ,·,é }
program Produce;

label 99;

procedure MyProc;
begin
  { ,±,±,Á%½,©'â,«,È-â'è,â<N,«,é }
  goto 99;
end;

begin
  MyProc;
  99:
  Writeln('Fatal error');
end.

{ Borland Pascal ,Á,Í—áŠO^—,đžg,Á,Äfvf[]fOf%of€,đ'âž~,·,é[]B,±,ì•ù-@,É,ífGf
%[]f[]fbfZ[]fW,à“n,1,é,Æ,ç,α—“_,a, ,é[]B•É,ì•ù-@,Æ,μ,Ä•W[]€žè'±,«,ì Halt ,Ü,½,Í RunError
,lžg—p,a[],!,ç,ê,é }
program Solve;

uses SysUtils;

procedure MyProc;
begin
  { ,±,±,Á%½,©'â,«,È-â'è,â<N,«,é }
  raise Exception.Create('Fatal error');
end;

begin
  try
    MyProc;
  except
    on E: Exception do Writeln(E.Message);
  end;
end.

```

Local procedure/function '<name>' assigned to procedure variable

—á fRf“fpfCf<fGf%o[f]fbfZ[fW

à-¾

,±,lfGf%o[f]fbfZ[fW,lf[f]f<Žè'±,«,đŽè'±,«•i”,É'ã“ü,μ,æ,α,Æ,μ,½ê±,©Cf[f]f<Žè'±
,«,đŽè'±,«,lfpf%of[f^,Æ,μ,Ä'n,»,α,Æ,μ,½ê±,É•\Ži,³ê,Ü,·B,»,ì,æ,α,É'€ì,ÍCŠO'α,ìŽè'±
,«,AfNfefBfu,Å,È,,Ä,àf[f]f<Žè'±,«,đÆÄ,Ňo,¹é,±,Æ,É,È,é,ì,Å^á-@,Å,·Bf[f]f<Žè'±
,«,ŠO'α,ìŽè'±,«,ì•i”,ÉfAfNfZfX,μ,æ,α,Æ,·,é,Æfvf[fO]f%of€,AfNf%ofbfVf...,μ,Ü,·B

```

—á
{ ŽŸ, ĺR, ĺfh, ĺf, ĺff, Žè'±, «, ðŽè'±, «ĈĤ•Ī, Ö'ǎ"ü, µ, æ, x, Æ, ·, é, B, ±, ê, ÍŽÀsŽž, É^À'S, Å, È, ĸ, ĺ, Å^á-@, Å, , é }
program Produce;

var
  P: Procedure;

procedure Outer;

  procedure Local;
  begin
    Writeln('Local is executing');
  end;

begin
  P := Local;          { <-- ,±,±,ÅfGf%o[ƒƒbfZ[ƒW }
end;

begin
  Outer;
  P;
end.

{ ƒ[ƒƒƒŽè'±,«,ðŠO'x, ĺŽè'±, «, ©, çŠO, Öo, 1, ĺ%oðĈĤ, ·, é }
program Solve;

var
  P: Procedure;

procedure NonLocal;
begin
  Writeln('NonLocal is executing');
end;

procedure Outer;

begin
  P := NonLocal;
end;

begin
  Outer;
  P;
end.

```

Missing ENDIF directive

`if` `defined` `FOPT` `do` `some` `stuff` `endif`

→

`if` `defined` `FOPT` `do` `some` `stuff` `endif` `if` `defined` `FOPT` `do` `some` `stuff` `endif`

—á

```
(* ŽŸ,lfR[fh,Á,ÍC{$Endif} Žw—ß,ì†,É $ •¶Žš,đ“ü,ê-Y,ê,½,½,ßCfRf“fpfCf%oo,Žw—  
ß,đfRf“fg,ÆCEë%ođ,μ,½ *)
```

```
program Produce;
```

```
{AppType Console}
```

```
begin
```

```
{IfOpt O+}
```

```
  Writeln('Compiled with optimizations');
```

```
{Else}
```

```
  Writeln('Compiled without optimizations');
```

```
{Endif}
```

```
end.      { <-- ,±,±,ÅfGf%o[fbfZ[fW } }
```

```
{ —LCEø,È $ENDIF Žw—ß,đđCEŽw—ß,ìCEã,É•t,é,¾,Å%ođCE^,·,é }
```

```
program Solve;
```

```
{AppType Console}
```

```
begin
```

```
{IfOpt O+}
```

```
  Writeln('Compiled with optimizations');
```

```
{Else}
```

```
  Writeln('Compiled without optimizations');
```

```
{Endif}
```

```
end.
```

ŽQÆ
öCEŽw—ß

Method identifier expected

—á [fRf“fpfCf<fGf%o\[f\]fbfZ\[fW](#)

à-¾

,±,lfGf%o[f]fbfZ[fW,í^È%oº,ì,æ,æ,Èéé,É•\Ž!,³,ê,Ü,·B

- **automated** •““à,lfvf]fpfefB,afAfNfZfX—p,lf]fbfh,žg,í,È,̄,ê,î,È,ç,„Cread B,Ü,½,í
- **write** B,ì†,lftfB]f<fh,žg,ì,È,ç
- `uClassType.MethodName`v,ì\•¶,žg,Á,ÄNf%ofXf]fbfh,žCEÄ,Ño,»,æ,Æ,µ,½,ªC]uMethodName]v,af]fbfh-¼,Ä,È,©,Ä,½
- **inherited** `MethodName`v,ì\•¶,žg,Á,ÄEp³]fbfh,žCEÄ,Ño,»,æ,Æ,µ,½,ªC]uMethodName]v,af]fbfh-¼,Ä,È,©,Ä,½

—á

{ ŽŸ, ĺfR[]fh, ĺftfB[]f<fh, É'¼ÚfAfNfZfX, ·, é automated fv[]fpfefB, δéCE³/₄, μ, æ, x, Æ, μ, Ä, †, é[]B2 "Ô-Ú, ĺfGf%[][, Íŝî- {fNf%ofX, ĺftfB[]f<fh, δŽæ"³/₄, μ, æ, x, Æ, μ, ½, ì, æCE '^ö, Å, , é }

program Produce;

type

```
    TMyBase = class
      Field: Integer;
    end;
    TMyDerived = class(TMyBase)
      Field: Integer;
      function Get: Integer;
    automated
      property Prop: Integer read Field;      { <-- ,±,±,ÅfGf%[]f[]fbfZ[]fW }
    end;
```

function TMyDerived.Get: Integer;

begin

```
    Result := TMyBase.Field;                  { <-- ,±,±,ÅfGf%[]f[]fbfZ[]fW }
```

end;

begin

end.

{ Å[]%, ì-â'è, ĺf[]fbfh, δ'É, μ, ÄftfB[]f<fh, ÉfAfNfZfX, ·, é, î%δCE^, Å, «, é[]B2 "Ô-Ú, ì-â'è, ĺ Self f[]fCf" f^, δŝî- {fNf%ofXCE^, ÖfLfffXfg, μ[]C, » , ±, ©, çftfB[]f<fh, ÉfAfNfZfX, ·, é, î%δCE^, ·, é }

program Solve;

type

```
    TMyBase = class
      Field: Integer;
    end;
    TMyDerived = class(TMyBase)
      Field: Integer;
      function Get: Integer;
    automated
      property Prop: Integer read Get;
    end;
```

function TMyDerived.Get: Integer;

begin

```
    Result := TMyBase(Self).Field;
```

end;

begin

```
    Writeln( TMyDerived.Create.Prop );
```

end.

uFOR-Loop variable '<name>' cannot be passed as var parameter

—á fRf“fpfCf<fGf%o[f<fbfZ[fW

à-¾

,±,ìCEx□□,í **for** f<□[fv,ì□\$CEä•ï□”,ð•ï□”fpf%of□□[f^,Æ,μ,Ä“n,μ,½,Æ,«,É•\
Ž!,³,ê,Ü,·□BCEÄ,Ñ□o,³,ê,½Žè’±,«,Ü,½,íSÖ□”,ª□\$CEä•ï□”,ð•ï□X,μ□C,»,ê,ªCE’^ö,Å for
f<□[fv,ª□³,μ,ŽÄ□s,³,ê,È,†%oÄ”\□«,ª, ,è,Ü,·□Bfpf%of□□[f^,í’fpf%of□□[f^,©’è□”fpf
%of□□[f^,ì,Ç,ì,ç,©,Å□éCE¾,μ,Ä,,¾,¾,³,†□Bfpf%of□□[f^,ð□³,μ,□éCE¾,·,é,Æ□CEÄ,Ñ□o,³,ê,é’κ
,ìŽè’±,«,Æ **for** f<□[fv,ì—¼•û,ìCEø—|,ªCEü□ă,μ,Ü,·□B

—á

```
{ ŽŸ, ĺfR[fh, í$Œä•ĭ" | ,đ•ĭ"fpf%of[f^,Æ,μ,Ä MyProc Žè'±,«,É"n,μC,»,ì,½,β,ÉŒx,ª•\
Ž!,³,ê,é }
```

```
program Produce;
{$WARNINGS ON}
```

```
procedure MyProc(var I: Integer);
begin
  Writeln(I);
end;
```

```
var
  I: Integer;
begin
  for I := 1 to 10 do
    MyProc(I);           { <-- ,±,±,ÄŒx,μf,fbfZ[fW }
end.
```

```
{ ,±,ĭ)ê±,É,ĺfpf%of[f^ŒŒ¾,đ'è"fpf%of[f^,É•ĭX,·,ê,ĭ
%đŒĒ^,·,éB$Œä•ĭ",đ•Ē,ĭ•â••ĭ",É'ă"ü,μC,»,ĭ•ĭ",đ"n,•û-@,à, ,é }
```

```
program Solve;
{$WARNINGS ON}
```

```
procedure MyProc(const I: Integer);
begin
  Writeln(I);
end;
```

```
var
  I: Integer;
begin
  for I := 1 to 10 do
    MyProc(I);
end.
```

uBREAK or CONTINUE outside of loopv

—á fRf“fpfCf<fGf%o□[f□fbfZ□[fW

□à-¾

while f<□[fv,Ü,½,Í **repeat** f<□[fv,É“ü,Á,Ä,ç,È,ç Break •¶,Ü,½,Í Continue
•¶,ª, ,è,Ü,µ,½□BBreak ,Æ Continue ,Íf<□[fv“à,É,È,,Á,Í,ç, ,Ü,¹,ñ□B

Division by zero

[Division by zero](#)

à-¾

Of%€,'t,É,f,É,æ,é'è"œŽZ,è,è,Ü,µ,½B

'è"Ž®,'²,x,ÄCf,f,É,æ,éœŽZ,³<N,«,È,ç,æ,α,É,µ,Ä,¾,³,çB

uType of expression must be BOOLEANv

—á fRf“fpfCf<fGf%o[]f[]fbfZ[]fW

à-¾

,±,lfGf%o[]f[]fbfZ[]fW,ºo—í,³,ê,é,ì,í[]C, ,éŽ® ,ºð[]Æ,µ,Ä<@”\
,µ,Ä,¨,è[]C,µ,½,º,Á,Ä,»,ìŽ®,º_—[]^,Ä,È,¨,é,í,È,ç,È,ç
,Æ,«,Ä,·[]B,½,Æ,!,î[]Cif[]Cwhile[]Crepeat •¶,ì[]\$[]äŽ®,â[]C[]ð[]fuf[]fNf|
fCf“fg,ð[]\$[]ä,·,éŽ®,ì[]é[]‡,È,Ç,Ä,·[]B

-á

{ ,±,±,Á,Í if •¶,ìðŒ,Æ,µ,Äf|fCf“f^•ï”,ðŽg,Á,½ }

program Produce;

var

P: Pointer;

begin

if P **then**

Writeln('P <> nil');

end.

{ ,±,ìé#CPascal ,Á,Í,æ,è-¾Ž!“I,ÉŽw’è,·,é•K—v,ª, ,é }

program Solve;

var

P: Pointer;

begin

if P <> nil **then**

Writeln('P <> nil');

end.

uOverflow in conversion or arithmetic operationv

[fRf“fpfCf<fGf%o\[f\[fbfZ\[fW](#)

à-¾

ŽŽpŽ®,ì†,Åf[fo[ftf[.ªEÿo,³,ê,Û,µ,½BŽ®,ìE<%oÊ,ª'â,«,·,¬,Ä 32 frfbfg,Å,Í\

E»,Å,«,Û,¹,ñB

E v Ž Ž Ž ®, ð ' ², x, Ä C f R f “ f s f . . . [f ^, ì f n [f h f E f F f A,ª • \ E » , Å , « , é ' l , É Ž ù , Û , é , æ , x , É , µ , Ä , , ¾ , ¾ , ¢ B

uData type too large: exceeds 2 GB

á fRf“fpfCf<fGf%o[]f[]bfZ[]fW

à-¾

‘â,«,·,¬,ÄfRf“fpfCf%o,³•\Œ»‚Å,«,È,çff[]f^Œ^,ďŽw’è,μ,Û,μ,½[]BŒ^,ì<L[]q,ìTfCfY,ð¬,³,-
,μ,È,¬,ê,î,È,è,Û,¹,ň[]B

—á

{ ,±,ê,ç,ìéÉ¾,âfGf%[]f[]fbfZ[]fW,ð"[]¶,³,¹,½—[]—R,ÍÉ©,ê,î,·,®,É,í,©,é }

program Produce;

type

EnormousArray = **array**[0..MaxLongint] **of** Longint;
BigRecord = **record**
 Points: **array**[1..10000] **of** Extended;
end;

var

Data: **array**[0..500000] **of** BigRecord;

begin

end.

{ ,±,ìfGf%[]f[]fbfZ[]fW,ð%ñ"ð,·,é,É,í[]Cff[]f^É^,ìftfCfY,ð•K, 2GB -ç-ž,É,Æ,Ç,ß,ê,îŠÈ'P,É
%ðÉ^,Å,«,é[]B,à,Á,Æ•;ŽG,È•û-@,Æ,µ,Ä,í[]CBigRecord []éÉ¾,Å,µ,½,æ,æ,Éff[]f^,ì[]'ç
,ð•ì[]X,·,é }

program Solve;

type

EnormousArray = **array**[0..MaxLongint **div** 8] **of** Longint;
DataPoints = ^DataPointDesc;
DataPointDesc = **array**[1..10000] **of** Extended;
BigRecord = **record**
 Points: DataPoints;
end;

var

Data: **array**[0..500000] **of** BigRecord;

begin

end.

Integer constant too large

á fRf“fpfCf<fGf%o[]f[]bfZ[]fW

à-¾

•\Œ»,:é,ì,É 32 frfbfg^Èã•K—v,È®”è”,ďŽw’è,μ,Û,μ,½B

-á

```
{ ŽŸ,lfR[fh,Å,í¼•û,ì'è",a'å,«,·,-,Ä 32 frfbfg,Å•\CE»,Å,«,È,ç,½,ß,ÉfRf"fpfCf<fGf%oo[,É,È,é  
}
```

program Produce;

const

```
VeryDecimal = 123456789;
```

```
VeryBigHex = $123456789;
```

begin

end.

```
{ Žw'è,µ,½'è",ð²,x,Ä 32 frfbfg,Å•\CE»,Å,«,é,æ,α,É,·,é }
```

program Solve;

const

```
VeryDecimal = 12345678;
```

```
VeryBigHex = $12345678;
```

begin

end.

u16-Bit fixup encountered in object file '<Filename>'

fRf"fpfCf<fGf%o[f]fbfZ[fW

à-¾

\$L fRf"fpfCf%oŽw—ß,ÅfvfOf%of€,ÖfŠf"fn,μ,½flfufWfFfNfgf,fWf...[f<,ì 1 ,Â,É 16
frfbfg,ìC³,ª%oA,!,ç,è,Ä,ç,Û,μ,½BfRf"fpfCf%o,ÍfŠf"fnflfufWfFfNfgf,fWf...[f<,Ä,Í 32
frfbfg,ìC³,¾,¯,ðTf|f[fq,μ,Ä,ç,Û,·B
fŠf"fnflfufWfFfNfgf,fWf...[f<,í•K,¾ 32 frfbfg,ìflfufWfFfNfgf,fWf...[f<,É,μ,Ä,,¾,¾,çB

Inline assembler syntax error

á Rf"fpfCf<fGf%o[fbfZ[fW

à-¾

fCf"f%ofCf"fAfZf"fufo,ª—LCEø,ÈfAfZf"fuŒŠ-½—ß,Æ,μ,Ä%øŽß,Å,«,È,çŽ®,ð"ü—Í,μ,Û,μ,½B
fGf%o[l,ð<N,±,μ,½fCf"f%ofCf"fAfZf"fuŒŠ•¶,ð'²,×,ÄC³,μ,ç\•¶,É,μ,Ä,,¾,¾,çB

-á

program Produce;

procedure Assembly;

asm

 adx eax, 151

end;

begin

end.

program Solve;

procedure Assembly;

asm

 add eax, 151

end;

begin

end.

Inline assembler stack overflow

[fRf"fpfCf<fGf%o\[f\]fbfZ\[fW](#)

à-¾

fCf"fofCf" fAfZf"fufofR[fh,afCf"fofCf" fAfZf"fufo, ì—e—Ê, ð' , !, Ü, µ, ½ B
, ±, ìfGf%o[l, a, N, «, ½ ê, Í, Cf{[f%of"fh, É~A—, µ, Ä, , ¾, ¾, ç B

Operand size mismatch

—á fRf“fpfCf<fGf%o[]f[]fbfZ[]fW

à-¾

-½—ß,lflyf%of“fh,ª•K—v,Æ,·,éTfCfY,ª[]CŽw’è,³,ê,½TfCfY,É^ê’v,µ,Ü,¹,ñ[]B

-á

{ ŽŸ,ĵfR[fh,Å,Í offset %%%ŽŽŽq,í dword ,đŦŦŦŦ-,·,é,ªC,±,ì%%ŽŽŽq,ª byte ,đ•K—
v,Æ,·,é,ì,ÅfRf“fpfCf:fGf%[][,É,È,é }

program Produce;

var

V: Integer;

procedure Assembly;

asm

db offset V

end;

begin

end.

{ ,±,ì—á,ÉCEÀ,ê,îC%%ŽŽŽq,ª dword ,đŽó,~Žæ,é,æ,ª,É•ĭX,·,ê,ĭ
%%đCE^,Å,«,éB^ê”Ê“l,É,íCfR[fh,đ,æ,’²,x,Ä%%ŽŽŽq,Æfĵfĵf
%of“fh,ĵTfCfY,đŦŦŦŦ,É^ê’v,³,¹,é•K—v,ª, ,é }

program Solve;

var

V: Integer;

procedure Assembly;

asm

dd offset v

end;

begin

end.

Memory reference expected

[fRf"fpfCf<fGf%o\[f\]fbfZ\[fW](#)

à-¾

fCf"fofCf" fAfZf" fuf%o, a—Šú, μ, Ä, ç, ½f[f, fŠŽQ[ÆŽ® , aCE© , Â, © , è, Ü, ¹, ñ, Å, μ, ½[B
fGf%o[l, đ<N, ±, μ, ½ • ¶, af[f, fŠŽQ[Æ, É, È, é, æ, æ, É, μ, Ä, , ¾, ¾, ç[B

□uConstant expected□v

—á [fRf“fpfCf<fGf%□\[f□fbfZ□\[fW](#)

□à-¾

fCf“f%□fCf“fAfZf“fuf%□,ª—Šú,µ,Ä,ç,½'è□”,ªŒ©,Â,©,è,Ü,¹ñ,Â,µ,½□B

fCf“f%□fCf“fAfZf“fuf%□,ì¹/₂,,ìŽ®,Â,Í□C□³,µ,fAfZf“fuf<,·,é,½,ß,É'è□”,ª•K—v,Â,·□BfGf

%□□[,ð<N,±,µ,½•¶,ªfAfZf“fuf<Žž,É'è□”,ðŽ□,Â,æ,æ,É•í□X,µ,Ä,,¾,³,ç□B

—á

{ fCf“f%fCf“fAfZf“fuf%o,Í Pascal •ĭ”,Éĭ,·,é MOD %o%oŽZ,ª,Ā,«,È,ç,ì,Ā□CŽŸ,ĭfR□[fh,ĭfGf
%o□[,É,È,é }

program Produce;

procedure Assembly(X: Integer);

asm

 mov ax, X MOD 10

end;

begin

end.

uType expected

fRf“fpfCf<fGf%o[]f[]fbfZ[]fW

à-¾

,±,lfGf%o[],³<N,«,½ê[]‡,Í[]Cf{[]f%of“fh,É~A—[],μ,Ä,,¾,³,ç[]B

uType of expression must be INTEGERv

—á fRf“fpfCf<fGf%o[]f[]fbfZ[]fW

à-¾

,±,ìfGf%o[],í,Z,ç•qŽš—ñĈ^,ì•qŽš[]”,đŽw’è,μ,½’è”Ž®,®”Ĉ^,Å,È,ç,Æ,«,É,¾,~”-
[]q,μ,Û,·[]B

-á

{ ŽŸ,lfR[fh,í•ŋŽš—ñ“à,ì—v'f,ì",đ Color Ą^,ìĀ'â'l—v'f,É^Ě'ŋ,.,é'l,Æ,μ,ÄŽw'è,μ,æ,π
,Æ,μ,Ä,č,é,âC—v'f",â^á-@,Ě Color Ą^,Ā, ,é }

program Produce;

type

Color = (red,green,blue);

var

S3: **string**[Succ(High(Color))];

begin

end.

program Solve;

type

Color = (red,green,blue);

var

S3: **string**[Ord(High(Color))+1];

begin

end.

Cannot add or subtract relocatable symbols

á Rf"fpfCf<fGf%[]f[]bfZ[]fW

à-¾

fCf"f%ofCf"fAfZf"fuf%o,ífŠf"fj,É,æ,Á,Ä•ïX,³,ê,é%oÂ"\«,ª, ,éf[]f,fŠfAfhfCEfX,ì
%oÁŽZ,âCE,ŽZ,Í,Â,«,Û,¹,ñ[]B

fCf"f%ofCf"fAfZf"fuf%o•¶,ì'†,©,ç[]Ä"z'u%oÂ"\fAfhfCEfX,ì%oÁŽZ,âCE,ŽZ,ð,µ,È,ç,æ,π,É,µ,Ä,-
,¾,³,ç[]B

—á

```
{ fOf□□[fof<•i□",í□Ä"z'u%oÁ"vfAfhfCEfX,ð□¶□-.,.é□€-Ú,lfNf%ofX,É'®,µ□CfCf"f%ofCf"fAfZf"fuf  
%o,í,»,ê,ç,ì%oÁŽŽ,âCE,ŽŽ,â,Á,«,È,ç }
```

program Produce;

var

```
A: array[1..10] of Integer;  
EndOfA: Integer;
```

procedure Relocatable;

```
begin  
end;
```

procedure Assembly;

```
asm  
    mov eax, A + EndOfA  
end;
```

begin

end.

Invalid register combination

—á fRf“fpfCf<fGf%o□[f□fbfZ□[fW

□à-¾

fCf“f%ofCf“fAfZf“fuf%o•¶,ì‘†,ÅfCEfWfXf^,ì^á-@,È‘g,Ý□‡,í,¹,đŽw’è,μ,Ü,μ,½□Intel 80x86
ftf@f~fŠ,ÅŽg,!,éfAfhfCEfXŽw’èf,□[fh,É,Â,ç,Ä,ì□Ú□×,í□CfAfZf“fufŠCE¾CEé,ì
%ođ□à□’,đŽQ□Æ,μ,Ä,,¾,¾,ç□B

-á

{ ,±,ì mov -½—β,ÅŽw'è,μ,½‰E'α,ì|f|yf‰of“fh,í^á-@,Å, ,é }

program Produce;

procedure AssemblerExample;

asm

mov eax, [ecx + esp * 4]

end;

begin

end.

{ ,±,ì mov -½—β,ì‰E'α,ì|f|yf‰of“fh,ÅŽw'è,μ,½fAfhfCEfXŽw'èf,□[fh,í<-,³,è,é }

program Solve;

procedure AssemblerExample;

asm

mov eax, [ecx + ebx * 4]

end;

begin

end.

uNumeric overflowv

—á [fRf“fpfCf<fGf%o\[\]f\[\]fbfZ\[\]fW](#)

à-¾

fCf“f%ofCf“fAfZf“fuf%o,ž®,ì 1 ,Â,Â[]’lf[]fo[]ftf[][],đŒÿ[]o,μ,Û,μ,½[]B

—á

{ 32 frfbfg^È%º,Å,í•\Œ»,Å,«,È,ç□''l,ðŽw'è,·,é,Æ,±,}fGf%º□[.ª<N,«,é }

program Produce;

procedure AssemblerExample;

asm

mov eax, \$0ffffffffffffffffffffffff

end;

begin

end.

{ Žw'è,·,é□''l,ª,·,×,Ä 32 frfbfg,ÉŽû,Û,é,æ,ª,É,·,é }

program Solve;

procedure AssemblerExample;

asm

mov al, \$0ff

end;

begin

end.

uString constant too long

—á [fRf“fpfCf<fGf%o\[\]f\[\]fbfZ\[\]fW](#)

à-¾

Žw’è,µ,½•¶Žš—ñ,ì[]l,í,è,ðfCf“f%oofCf“fAfZf“fuf%o

,³CEÿ[]o,Å,«,Ü,¹,ñ,Å,µ,½[]B,à,Á,Æ,à[]l,ç,é,éCE^ö,í•Â,¶,é^ø—p•,,ìCEë,Á,½”z’u,Å,·[]B

—á

{ fCf“f%ofCf“fAfZf“fuf%o,Í•ŕŽš—ň,ìl,í,è,ðŒŸo,Å,«,È,ç,æ,¿,És,ªl—¹,·,é,½,ßC•ŕŽš—
ň,ª',·,-,é,Æ,ç,æfGf%o[l,ð•ňo,·,é }

program Produce;

procedure AssemblerExample;

asm

db 'Hello world. I am an inline assembler statement'

end;

begin

end.

{ •Â,ŕ,é^ø—p•,,ð'Ç%oÁ,·,ê,Î,±,lfGf%o[l,Í%oðŒ^,·,é }

program Solve;

procedure AssemblerExample;

asm

db 'Hello world. I am an inline assembler statement'

end;

begin

end.

Error in numeric constant

á fRf"fpfCf<fGf%o[fbfZ[fW

à-¾

"ü—í,µ,½""l'è",©,çfCf"f%ofCf"fAfZf"fu f%o,afGf%o[,ðŒÿo,µ,Û,µ,½B

—á

```
{ ŽŸ, ĩfR[]fh, Å, í[]CfCf“f%ofCf“fAfZf“fuf%o, í 16 []i'è[]", ĩ%ođ[]í, đ—\Šú, μ, Ä, ç, ½, æĒë, Á, ½•¶Žš, đĒĚŸ[]o, μ, ½ }
```

program Produce;

```
procedure AssemblerExample;
```

```
asm
```

```
    mov al, $z0f0
```

```
end;
```

begin

end.

```
{ "ü—í, μ, ½[]"i'è[]", æfCf“f%ofCf“fAfZf“fuf%o, æ%ođ[]í, đ—\Šú, μ, Ä, ç, éĒĒ^, đ•K, „K[]‡, ³, ¹, é }
```

program Solve;

```
procedure AssemblerExample;
```

```
asm
```

```
    mov al, $f0
```

```
end;
```

begin

end.

Invalid combination of opcode and operands

—á fRf“fpfCf<fGf%o[]f[]fbfZ[]fW

à-¾

³,μ,,È,¢fCf“f%ofCf“fAfZf“fuf%o•¶,ǎŽw'è,μ,Û,μ,½ B

—á

{ fCf“f%ofCf“fAfZf“fuf%o,Í \$f0*16 ,ìCE<%oÊ,ð al fCEfWfXf^,ÉŠi”[,Å,«,È,ç□BCE^,ì•s^ê’v,ªCE
^ö,Å, ,é }

program Produce;

```
procedure AssemblerExample;  
asm  
    mov al, $0f0 * 16  
end;
```

begin
end.

{ —¼•û,ìfifyf%of“fh,ìCE^,ð•K, ,^ê’v,³,¹,é }

program Solve;

```
procedure AssemblerExample;  
asm  
    mov al, $0f * 16  
end;
```

begin
end.

u486/487 instructions not enabled

[fRf"fpfCf<fGf%o\[fbfZ\[fW](#)

à-¾

486 -½—ß,íí,ÉŽg—p%oÂ"\,É,È,Á,Ä,ç,é,ì,ÅC,±,ìCf"f%ofCf"fAfZf"fu f%o,ìfGf%o[,í"¶,µ,È,ç,í,.,Â,·B

Division by zero

á fRf"fpfCf<fGf%o[fbfZ[fW

à-¾

fCf"f%ofCf"fAfZf"fu f%o, aCE<%oÊ"l, Éf[f, É, æ, é œžž, É, È, éž®, ðŒÿ o, μ, Ü, μ, ½ B

-á

```
{ 'è"ſſfef%of<,Å,È,fvf[]fOf%of€'è",ðŽg,Á,Ä,ç,é,Æ[]C,±,lfGf%o[][,Í, ,Ü,è-Ú-s,½,È,ç[]ê[]‡,ª, ,é  
}
```

program Produce;

```
procedure AssemblerExample;  
asm  
    dw 1000 / 0  
end;
```

begin
end.

```
{ [],<%oCE¾CEê,Å,lfvf[]fOf%of~f"fO,Æ"-l,É[]CCE^,μ,Äf[f[],É,æ,é[]œŽZ,ª,È,ç,æ,α,É,·,ê,î  
%oðCE^,·,é }
```

program Solve;

```
procedure AssemblerExample;  
asm  
    dw 1000 / 10  
end;
```

begin
end.

Structure field identifier expected

—á fRf“fpfCf<fGf%o□[f□fbfZ□[fW

□à-¾

fCf“f%ofCf“fAfZf“fuf%o,ª□u.□v,ì%oE’x,ÉŽ⁻•ÊŽq,ð”FŽ⁻,μ,Û,μ,½,ª□C,»,ê,í□u.□v,ì□¶’x,É, ,éfƎfR
□[fh,íftfB□[f<fh,Å,í, ,è,Û,¹,ñ,Å,μ,½□B,±,ìŽí,ì,æ,, ,é□C,μ,©,μƎ©,Å,⁻,é,ì,ª“i,μ,¢fGf%o□[,í□Cch
,Æ,¢,xftfB□[f<fh,^a, ,éfƎfR□[fh,ðŽg,Å,½fGf%o□[,Å,·□BfCf“f%ofCf“fAfZf“fuf%o,í□í,É ch
,ðfƎfWfxf^{-1/4},Æ,μ,Å%oðŽß,μ,Û,·□B

—á

{ ŽŸ, ĩfR ĩfh, Å, ĩCfCf“f%ofCf“fAfZf“fuf%o, ĩ Y , ð—LCEø, ÈŽ•ÈŽq, Æ, μ, Ä“FŽ-, μ, ½, ðCY , ð D
CE^, ĩf“fo ĩ, Æ, μ, Ä, ĩ“FŽ-, μ, È, ©, Á, ½ }

program Produce;

type

Data = **record**

X: Integer;

end;

procedure AssemblerExample(D: Data; Y: Char);

asm

mov eax, D.Y

end;

begin

end.

{ ĩ³, μ, ç•ĩ“—¼, ðŽw'è, , è, ĩfGf%o ĩ, ĩ, È, , È, é }

program Solve;

type

Data = **record**

X: Integer;

end;

procedure AssemblerExample(D: Data; Y: Char);

asm

mov eax, D.X

end;

begin

end.

uLOOP/JCXZ distance out of range v

[fRf"fpfCf<fGf%o\[f\]fbfZ\[fW](#)

à-¾

fCf" f%ofCf" fAfZf" fuf%ofR[fh,ì't,ÅŽw'è,μ,½ LOOP ,Ü,½,Í JCXZ ,ìs[æ,ª"í^íŠO,Å,·B<—£,í -
128[`127 ,ì"í^í,Å,È,¯,ê,î,È,è,Ü,¹ñ[B

,±,ìfGf%o[f,ª•\Ž!,³,ê,½[ê[†,í[CLOOP ,Ü,½,Í JCXZ ,ð 2 ,Â,ì-½—β,©,ç,È,é"¯,¶^Ó-
i,ìfV[fPf" fX,É'uŠ·,μ,Ä,,¾,³,ç[B

Statement expected, but expression of type '<type>' found

á fRf“fpfCf<fGf%o[]f[]fbfZ[]fW

à-¾

fRf“fpfCf%o, í•¶ ,đ—\Šú,μ,Ä,ϕ,Ü,μ,½,³[]CŽw’è,³,ê,½CE^,ìŽ®,đ,©,í,è,ÉCEŸ[]o,μ,Ü,μ,½[]B

—á

{ ŽŸ, ðfR, ðfh, í IF, CWHILE, CREPEAT, È, Ç, ð•Ÿ, á, ,é, x, «, ê, Š, É, ČŽ® (3+4), á'Ÿ, µ, Ä, ç, é }

program Produce;

var

A: Integer;

begin

(3 + 4);

end.

{ , ±, ±, Å, ÍŽ® (3+4), ðœ<%oÊ, ð•í" a , É'ã"ü, ,ê, î%oðœ^, ,é, BfGf%o, ð<N, ±, µ, ½Ž®, ðf\

program Produce;

var

A: Integer;

begin

A := (3 + 4);

end.

Procedure or function name expected

—á fRf“fpfCf<fGf%o[]f[]fbfZ[]fW

à-¾

Žè'±,«,âŠÖ",đ•\,³,È,çŽ⁻•ÊŽq,đ **exports** []β,ì't,ÅŽw'è,μ,Ü,μ,½[]B

—á

```
{ •ï",ªprocedurevCE^,Å,àCC++Builder f%ofCfuf%fŠ,©,ç,í•ï",đfGfNfXf|[fg,Å,«,È,ç }
```

```
library Produce;
```

```
var
```

```
  Y: procedure;
```

```
exports Y;
```

```
begin
```

```
end.
```

```
{ EXPORTS □β,ÉŽw'è,μ,½,·,x,Ä,ìŽ·ÉŽq,ª•K,Žè'±,«,Ü,½,ÍŠÖ",đ•\,·,æ,α,É,·,é }
```

```
program Solve;
```

```
  procedure ExportMe;
```

```
  begin
```

```
  end;
```

```
exports ExportMe;
```

```
begin
```

```
end.
```

uPROCEDURE or FUNCTION expectedv

á fRf“fpfCf<fGf%o[]f[]fbfZ[]fW

à-¾

,±,ìé¾,É,í **procedure** ,Ü,½,í **function** ,ð•t,¯,È,,Ä,í,ç,¯,Ü,¹,ñB

—á

```
{ ŽŸ, Ì, Ç, ÿ, ç, ì, ê, ð, à, Cclass ,Æ, ç, ð, fL[f[f[h, Ì, Æ, É procedure ,Æ, ç, ð, Æ, Æ, ð, ±, ©, È, ÷, ê, Ì, È, ç, È, ç }
```

```
program Produce;
```

```
type
```

```
Base = class
```

```
class AProcedure; { fP[fX 1 }
```

```
end;
```

```
class Base.AProcedure; { fP[fX 2 }
```

```
begin
```

```
end;
```

```
begin
```

```
end.
```

```
{ procedure fL[f[f[f[h, ð, Ç, Á, ÷, é, Æ, C, ±, Ì, v, f, f, Of, %, f, €, ©, ç, f, G, f, %, [, ð, È, ÷, È, é }
```

```
program Solve;
```

```
type
```

```
Base = class
```

```
class procedure AProcedure;
```

```
end;
```

```
class procedure Base.AProcedure;
```

```
begin
```

```
end;
```

```
begin
```

```
end.
```

Instance variable '<name>' inaccessible here

—á fRf“fpfCf<fGf%o[]f[]fbfZ[]fW

à-¾

fNf%ofXf[]fbfh,ì†,©,çfCf“fXf^f“fX•ï”,ðŽQ[]Æ,μ,æ,α,Æ,μ,Ä,ç,Ü,·[]B

—á

```
{ fNf%oXf[]\fbfh,ÍfCf“fXf^f“fXf|fCf“f^,ðŽ[],Á,Ä,ç,È,ç,ì,Å[]CfNf%oX,Íf[]\fbfh,âfCf“fXf^f“fXff[]f^,ÉfAfNfZfX,Å,«,È,ç }
```

program Produce;

type

Base = **class**

Title: **string**;

class procedure Init;

end;

class procedure Base.Init;

begin

Self.Title := 'Does not work';

Title := 'Does not work';

end;

begin

end.

```
{ ,±,ÍfGf%o[],Á,ÍfNf%oXf[]\fbfh,ì't,©,çf[]“fo[],Íff[]f^,âf[]\fbfh,ÉfAfNfZfX,μ,È,ç,ì,a,½,3/4 1,Ä,ì%oðCE^-@,Ä, ,é }
```

program Solve;

type

Base = **class**

Title: **string**;

class procedure Init;

end;

class procedure Base.Init;

begin

end;

begin

end.

uEXCEPT or FINALLY expectedv

—á [fRf“fpfCf<fGf%o\[\]f\[\]bfZ\[\]fW](#)

à-¾

try fuf[]bfN,É,í—áŠO^—[]•” (**except**) ,Ü,½,ífNfŠ[]f“fAfbfvfR[]fh•” (**finally**) ,ª•K,„ü,Á,Ä,¢
,È,¯,ê,î,Ë,è,Û,¹,ñ[]B

—á

{ ŽŸ, ĩfR□[fh, Å, í—áŠO□^—□fR□[fh, ĩ except □β, Ü, ½, í finally □β, ³CE‡—Ž, μ, Ä, †, é, ĩ, ÅfRf“f‡fCf<fGf%□[É, È, é }

program Produce;

begin

try

end;

end.

{ CE‡—Ž, μ, Ä, †, é□β, †'Ç%□Á, ·, ê, ĩfR□[fh, ĩfRf“f‡fCf<, †Š@—¹, Å, ‹, é□B, ±, ĩ—á, Å, í except □β, Åf‡f□fO‡f%□f€‡, †□|—¹, Å, ‹, é }

program Solve;

begin

try

except

end;

end.

Cannot BREAK, CONTINUE or EXIT out of a FINALLY clause

[fRf"fpfCf<fGf%o\[f\]fbfZ\[f\]fW](#)

à-¾

finally is a C++ Builder keyword used to ensure that a block of code is executed regardless of whether an exception is thrown or not. It is used in conjunction with try, catch, and throw statements. The finally block is executed after the try block and before the catch block. It is used to perform cleanup operations, such as closing files or releasing resources, that must be performed regardless of the outcome of the try block. The finally block is executed even if an exception is thrown and caught, and even if the try block returns a value. The finally block is also executed if the try block throws an exception that is not caught by any of the catch blocks. The finally block is a good way to ensure that resources are properly released and that cleanup operations are performed. The finally block is a good way to ensure that resources are properly released and that cleanup operations are performed. The finally block is a good way to ensure that resources are properly released and that cleanup operations are performed.

—á

```
{ ŽŸ,lfvf[]fOf%of€,í break •¶,Å finally []ß,©,ç[]o,æ,æ,Æ,μ,Ä,ç,é[]B,±,ì•û-@,Å FINALLY  
[]ß,©,ç[]o,é,ì,í[]±-@,Å,í,É,ç }
```

program Produce;

```
procedure A0;
```

```
var
```

```
  i : integer;
```

```
begin
```

```
  for i:=1 to 10 do
```

```
    try
```

```
      (* ^Ù[]í[]|—¹,·,é%oÅ"[]«,ª, ,é%o½,©,ðŽŽ,Ý,é *)
```

```
    finally
```

```
      Break;
```

```
    end;
```

```
end;
```

```
begin
```

```
end.
```

```
{ FINALLY []ß,ÉfGf%o[][,ð<N,±,·•¶,ð"ü,ê,É,ç,æ,æ,É•í[]X,μ,É,¯,ê,î,É,ç,É,ç[]B,±,ì—á,ì[]ê[]±,Å,í  
f<[][fv,ìŠO,Å—áŠO[]^—[],ð[]s,æ,æ,É•í[]X,μ,½[]BBREAK ,ì"ã,í,è,É RAISE •¶,É,æ,é—  
áŠO,ì[]Ä[]¶[]—,ðŽg,æ  
,±,Æ,à,Å,«,é[]B}
```

program Produce;

```
procedure A0;
```

```
var
```

```
  i : integer;
```

```
begin
```

```
  try
```

```
    for i:=1 to 10 do
```

```
      begin
```

```
        (* ^Ù[]í[]|—¹,·,é%oÅ"[]«,ª, ,é%o½,©,ðŽŽ,Ý,é *)
```

```
      end;
```

```
    finally
```

```
      end;
```

```
end;
```

```
begin
```

```
end.
```

u'GOTO <label>' leads into or out of TRY statementv

—á fRf“fpfCf<fGf%o□[f□fbfZ□[fW

□à-¾

goto •¶, í—áŠO□^—□•¶, ì†, Ö□C, Ü, ½—áŠO□^—□•¶, ì†, ©, çŠO, ÖfWffff“fv, Å, «, Ü, †, ñ□B
goto •¶, đŽg, í, È, †, æ, x, É, ·, é, ì, ^a—□‘z“l, È%ođCE^—@, Å, ·, ^a□C, » , ê, ^a•s%oÂ“\, Èêê†, Ívf□fOf%of€
, đ□Ú, μ, •^a□í, μ, Ä□³, μ, †□^‘u, đ, ·, é•K—v, ^a, , è, Ü, ·□B

—á

{ ŽŸ, ðfR[]fh, ð GOTO •¶, í—¼•û, Æ, à³, µ,, È, ç[]B—áŠO[]^—
[]fuf[]bfN, ð†, Ö[]C, Ü, ½ŠO, Ö, ðfWffff“fv, Å, «, È, ç }

program Produce;

label 1, 2;

begin

goto 1;

try

1:

except

goto 2;

end;

2:

end.

u<clause1> clause expected, but <clause2> foundv

á fRf“fpfCf<fGf%o[]f[]fbfZ[]fW

à-¾

Pascal ,ì\•¶,Á,Ífvj[]fOf%of€“à,Á <clause1> ,ª•K—v,È[]ê[]Š,É[]C<clause2> ,ª, ,è,Ü,µ,½[]B

Cannot assign to a read-only property

—á [fRf“fpfCf<fGf%o\[\]f\[\]fbfZ\[\]fW](#)

à-¾

'l,đ'ã“ü,µ,æ,π,Æ,µ,Ä,ç,éfvf[]fpfefB,í **write** []ß,Žw'è,³,ê,Ä,ç,È,ç,½,ß,É“Ç,Ý[]o,µ[]ê—
pfvf[]fpfefB,É,È,Á,Ä,ç,Û,·[]B

—á

```
{ fvf[]pfefB,Í write []ß,ðŽw'è,μ,Ä,ç,È,¯,ê,Î“Ç,Ý[]o,μ[]ê—pfvf[]pfefB,É,É,é[]B“Ç,Ý[]o,μ[]ê—  
p,lfvf[]pfefB,É,Í'l,ð'ã“ü,Ä,«,È,ç,ì,Â[]CfRf“fpfCf%o,í[]uc.Title[]v,Ö,ì'ã“ü,ÄfGf%o[][,ð[]o—Í,·,é }
```

program Produce;

type

```
Base = class  
  S: string;  
  property Title: string read S;  
end;
```

var

```
C: Base;
```

procedure DiddleTitle;

begin

```
  if C.Title = '' then  
    C.Title := 'Super Galactic Invaders with Turbo Gunpla Sticks';  
    { C.Title ,É'í,μ,Ä,»,ì'¼,ì[]<Æ,ð,·,é }
```

end;

begin

end.

```
{ f[]fXfR[]fh,ª, ,é[]ê[]#,É,í[]C,±,ì“Ç,Ý[]o,μ[]ê—pfvf[]pfefB,É write []ß,ðŽw'è,·,é,ì,ª 1 ,Â,ì  
%oðCE^~@,É,È,é[]B,μ,©,μ,±,ì•û~@,Íŝî~{fNf%ofX,ì^Ó~ì,ð'ã,«,•ì,ì,é<°,è,ª, ,é,ì,ÂCy[]X,μ,-  
ŽÁ[]s,·,x,«,Ä,ì,È,ç[]B•É,ì%oðCE^~@,Æ,μ,Ä,ì“Ç,Ý[]o,μ[]ê—pfvf[]pfefB,ì'l,ð“ü,é,é'±%oí—  
p,ì•í[]",ðŽg,ª•û~@,ª, ,é[]BŽÝ,ÉŽì,·,ì,ì 2 "Ö~Ü,ì•û~@,lfR[]fh,Ä, ,é }
```

program Solve;

type

```
Base = class  
  S: string;  
  property Title: string read S;  
end;
```

var

```
C: Base;
```

procedure DiddleTitle;

var

```
Title: string;
```

begin

```
  Title := C.Title;  
  if Title = '' then  
    Title := 'Super Galactic Invaders with Turbo Gunpla Sticks';  
    { Title ,É'í,μ,Ä,»,ì'¼,ì[]<Æ,ð,·,é }
```

end;

begin

end.

Cannot read a write-only property

—á fRf“fpfCf<fGf%o[]f[]fbfZ[]fW

à-¾

'l,đ“Ç,Ýo,»»,Æ,μ,Ä,ç,éfvf[]pfefB,Í **read** []ß,Žw'è,³,ê,Ä,ç,È,ç,½,ß,É',«ž,Ýê—
pfvf[]pfefB,É,È,Á,Ä,ç,Û,·B

—á

```
{ C.Password ,Í read []β,đŽw'è,μ,Ä,ç,È,ç,ì,Å[]C,»,ì'l,đ"Ç,Ý[]o,1,È,ç }
```

program Produce;

type

```
Base = class  
  S: string;  
  property Password: string write S;  
end;
```

var

```
C: Base;  
S: string;
```

begin

```
S := C.Password;
```

end.

```
{ f[]fXfR[]fh,a, ,é[]ê[]±,É,í[]C,±,ì[]',«[]ž,Ý[]ê—pfvf[]pfefB,É read []β,đ'Ç%oÁ,·,è,îŠÈ'P,É  
%ođCE^,Ä,«,é[]B,μ,©,μ[]Cread []β,ì'Ç%oÁ,í-],Û,μ,,È,ç[]ê[]±,à, ,è[]CfzfLf...fŠfefBfVfXfef€  
,ÉCEŠ,a, ,<°,ê,à, ,é[]B,½,Æ,ì,î[]C,±,ì—á,ì Password ,Æ,ç,æ[]',«[]ž,Ý[]ê—  
pfvf[]pfefB,đ[]l,ì,Ä,Ý,é,Æ[]C,±,ìfNf%ofX,đŽg,Á,½fvf[]fOf%of€  
,aŠi"[[]í,ÝpfXf[]fh,đ<ô'R,É"Ç,Ý[]o,·,æ,æ,ÈŽ-'Ô,í-¾,ç,©,É-],Û,μ,,È,ç[]Bfvf[]pfefB,a[]',«[]ž,Ý[]ê  
—p,Æ,μ,Ä[]í[]-3,ê,Ä,ç,é[]ê[]±,É,í,»,ì,æ,æ,È—[]—R,a[]\•a,É[]l,ì,ç,é,é,ì,Å[]C,±  
,ìfvf[]pfefB,đ"Ç,Ý[]o,3,È, -,ê,î,È,ç,È,ç—[]—R,đ[]Ä"xCEÝ"ç,μ,È,-,ê,î,È,ç,È,ç }
```

program Solve;

type

```
Base = class  
  S: string;  
  property Password: string read S write S;  
end;
```

var

```
C: Base;  
S: string;
```

begin

```
S := C.Password;
```

end.

Class already has a default property

á Rf“fpfCf<fGf%o[]f[]fbfZ[]fW

à-¾

ffftfHf<fgfvf[]pfefB,ð,·,Å,É'è<`,μ,Ä, ,éfNf%ofX,É'í,μ,ÄffftfHf<fgfvf[]pfefB,ðŠ,,è“- ,Ä,æ,α
,Æ,μ,Û,μ,½[]B

—á

```
{ ŽŸ, ĺR [fh, Å, í Access fvf [pfefB, ð, ±, ĺNf %fX, ĺfftfHf <fgfvf [pfefB, É, µ, æ, α, Æ, µ, Ä, ç, é, ¢C, ·, Å, É Data , ¢fftfHf <fg, Æ, µ, ÄŽw' è ĺ, Ý, Å, , é [BfftfHf <fgfvf [pfefB, í 1 , Å, ĺNf %fX, É 1 , Å, ¾, ¯, Å, , é }
```

program Produce;

type

Base = **class**

function GetV(I: Integer): Char;

procedure SetV(I: Integer; **const** X: Char);

property Data[I: Integer]: Char **read** GetV **write** SetV; **default**;

property Access[I: Integer]: Char **read** GetV **write** SetV; **default**;

end;

function Base.GetV(I: Integer): Char;

begin

GetV := 'A';

end;

procedure Base.SetV(I: Integer; **const** X: Char);

begin

end;

begin

end.

```
{ fvf [Of %f€, ĺf [fX, ©, ç [³, µ, , È, çfftfHf <fgfvf [pfefB, ĺŽw' è, ð ĺ [œ, , , ê, í %ðCE ^, , é }
```

program Solve;

type

Base = **class**

function GetV(I: Integer): Char;

procedure SetV(I: Integer; **const** X: Char);

property Data[I: Integer]: Char **read** GetV **write** SetV; **default**;

end;

function Base.GetV(I: Integer): Char;

begin

GetV := 'A';

end;

procedure Base.SetV(I: Integer; **const** X: Char);

begin

end;

begin

end.

Operator not applicable to this operand type

—á fRf“fpfCf<fGf%o[f[]fbfZ[]fW

à-¾

,±,lfGf%o[f[]fbfZ[]fW,Ílfyf%of“fh,ÖŽw’è,μ,½%o%oŽŽŽq,^³,» ,lflyf%of“fh,É,Í“K—
p,Å,«,È,ç[]é[]#[]C,½,Æ,¡,ÍlfCf“f^,Ö~_—[]%o%oŽŽŽq,ð“K—p,μ,½[]é[]# ,É,Ç,É•\Ž!,^³,ê,Ü,·[]B

-á

{ P, í_—□Ž® ,Á, í, È, □C" äŠr, íjffbfR, Á^í, p•K—v, a, , é }

program Produce;

var

P: ^Integer;

begin

if P **and** P^ > 0 **then**

Writeln('P points to a number greater 0');

end.

{ P ,Æ nil ,ð-¾Ž! "I, É" äŠr, μ□CjffbfR, Á^í, β, í, æ, φ }

program Solve;

var

P: ^Integer;

begin

if (P <> nil) **and** (P^ > 0) **then**

Writeln('P points to a number greater 0');

end.

Default property must be an array property

á Rf“fpfCf<fGf%o[]f[]bfZ[]fW

à-¾

fNf%ofX,ÉŽw’è,μ,½ffftfHf<fgfvf[]pfefB,“z—ñfvf[]pfefB,Å,Í, ,è,Ü,¹,ñ[]BffftfHf<fgfvf[]pfefB,Í”z
—ñfvf[]pfefB,Å,È, ,è,Í,È,è,Ü,¹,ñ[]B

—á

```
{ ffftfHf<fgfvf[]pfefB,íC"z—ñĀ^,Å,È, ,ê,Î,È,ç,È,ç[]BŽŸ,ìfR[]fh,ì Data fvf[]pfefB,í"z—  
ñĀ^,Å,È, Char Ā^,ðŽw'è,μ,Ä,ç,é }
```

```
program Produce;
```

```
type
```

```
Base = class
```

```
function GetV: Char;
```

```
procedure SetV(X: Char);
```

```
property Data: Char read GetV write SetV; default;
```

```
end;
```

```
function Base.GetV: Char;
```

```
begin
```

```
GetV := 'A';
```

```
end;
```

```
procedure Base.SetV(X: Char);
```

```
begin
```

```
end;
```

```
begin
```

```
end.
```

```
{ fGf%oo[],ð<N,±,μ,½fvf[]pfefB,ìŽw'è,ð"z—ñĀ^,É•ï[]X,•,é,©[]Cdefault Žw—β,ð[]í[]œ,•,ê,Î,±  
,ìfGf%oo[],í,È,,È,é }
```

```
program Solve;
```

```
type
```

```
Base = class
```

```
function GetV(I: Integer): Char;
```

```
procedure SetV(I: Integer; const X: Char);
```

```
property Data[I: Integer]: Char read GetV write SetV; default;
```

```
end;
```

```
function Base.GetV(I: Integer): Char;
```

```
begin
```

```
GetV := 'A';
```

```
end;
```

```
procedure Base.SetV(I: Integer; const X: Char);
```

```
begin
```

```
end;
```

```
begin
```

```
end.
```

uTYPEINFO standard function expects a type identifier

á fRf“fpfCf<fGf%o[]f[]fbfZ[]fW

à-¾

CE^,ð•\,μ,Ä,ç,È,çŽ`•ÊŽq,É,Â,ç,ÄCE^[]•ñ,ð“üŽè,μ,æ,α,Æ,μ,Ü,μ,½[]B

—á

```
{ TypeInfo • W€žè'±,«,É,Ífpf%of□□[f^,Æ,μ,ÄCE^Ž^-Êžq,a•K—v,Å, ,é□BŽŸ,ìfR□[fh,Å,Í  
NotType ,ÍCE^Ž^-Êžq,đ•\,μ,Ä,ç,È,ç }
```

```
program Produce;
```

```
var
```

```
  P: Pointer;
```

```
procedure NotType;
```

```
begin
```

```
end;
```

```
begin
```

```
  P := TypeInfo(NotType);
```

```
end.
```

```
{ TypeInfo ,Éžg,xfpf%of□□[f^,đCE^Ž^-Êžq,É,•,ê,î□C,±,ìfGf%o□[,đ%oñ"đ,Å,«,é }
```

```
program Solve;
```

```
type
```

```
  Base = class
```

```
  end;
```

```
var
```

```
  P: Pointer;
```

```
begin
```

```
  P := TypeInfo(Base);
```

```
end.
```


uType '<name>' has no type info

—á fRf“fpfCf<fGf%o[]f[]fbfZ[]fW

à-¾

ŠÖ~A,μ,½ŽÀ[]sŽžCE^[]î•ñ,ª,È,çCE^Ž~•ÊŽq,Éî,μ,Ä TypeInfo •W[]€Žè'±,«,đ“K—p,μ,æ,π
,Æ,μ,Û,μ,½[]B

—á

{ fCEfR[fhCE^,ÍCE^î•ñ,ð□□□¬,μ,È,ç,ì,Å□C,±,ì TypeInfo ,íŽg—p,Å,«,È,ç }

program Produce;

type

Data = **record**
end;

var

V: Pointer;

begin

V := TypeInfo(Data);

end.

{ fNf%ofX,Í RTTI ,ð□□□¬,·,é,ì,Å□CTypeInfo ,ªŽg—p,Å,«,é }

program Solve;

type

Base = **class**
end;

var

V: Pointer;

begin

V := TypeInfo(Base);

end.

do FOR or WHILE loop executes zero times - deleted

—á fRf“fpfCf<fGf%o□[f□fbfZ□[fW

□à-¾

fRf“fpfCf%o,íŽw'è,³,ê,½f<□[fv□\‘ç,ª 1 %oñ,àŽÀ□s,³,ê,È,ç,Æ”»’f,μ□C□Å“K
%o»,ì,½,ß,É,»,lf<□[fv□\‘ç,đ□í□œ,μ,Ü,·□B

—á

```
{ fRf“fpfCf%oo,ÍuFALSE AND (i<100)[]v,ðí,É FALSE ,Æ•]‰o¿,μ[]C,»,)f<[]fv,ÍŽÀ[]s,3,ê,È,†,Æ—  
e^Ö,É”»'f,·,é }
```

```
program Produce;  
{ $HINTS ON }
```

```
var
```

```
  I: Integer;
```

```
begin
```

```
  I := 0;
```

```
  while False and (I < 100) do
```

```
    Inc(I);
```

```
end.
```

```
{ while •¶,ð[]$CEä,·,é~_—[]Ž®,ð'²,x,Ä[]C[]í,É FALSE ,É,È,é,æ,α,È[]ó'Ô,ð‰oñ”ð,·,ê,Î[]C,±  
,)fqf“fg,Í‰oðCE^,·,é[]Bfor f<[]fv,Å,Í•K,·, ( []ãCEÀ-‰o°CEÀ )>=1 ,É,·,é }
```

```
program Solve;  
{ $HINTS ON }
```

```
var
```

```
  I: Integer;
```

```
begin
```

```
  I := 0;
```

```
  while I < 100 do
```

```
    Inc(I);
```

```
end.
```

□uNo definition for abstract method '<name>' allowed□v

—á fRf“fpfCf<fGf%o□[f□fbfZ□[fW

□à-¾

<name> ,đ abstract ,Æ,μ,Ä□éÉ¾,μ,Ü,μ,½,ª□CfRf“fpfCf%o,Í\□[fXftf@fCf<,ì†,Å,»,ìf□\fbfh,ì'è<` ,đÉ©,Â,¯,Ü,μ,½□Babstract □éÉ¾,É'è<` ,đŽw'è,·,é,ì,í^á-@,Å,·□B

—á

```
{ 'ŠŮf\fbfh,í'è` ,Á,«,È,çB,±,lfvfOf%of€,đfRf“fpfCf< ,.é,ÆCBBase.Foundation ,ì,Æ,± ,ë,ÁfGf%o[ ,ª•\Ž!,³,ê,é }
```

program Produce;

type

```
Base = class  
    procedure Foundation; virtual; abstract;  
end;
```

procedure Base.Foundation;

```
begin  
end;
```

begin

end.

```
{ ,±,lfGf%o[ ,đ%ođĈ^ ,.é,É,í 2 ,Á,ìŽè±,ª•K—v,Á ,éBÁ%o,ÉCSî—{fNf %ofX,ÁéĈ¾,μ,½'ŠŮŽè'±,«,í'è` ,đíœ,μ,È, ,ê,í,È,ç,È,çBŽŸ,ÉCSî—{fNf%ofX,đŠg'Ě ,μC,±,í'ŠŮŽè'±,«,đŠg'Ě<@“\,í†,Á override ,Æ,μ,ÁéĈ¾,μ,½ĈãC V,μ,éĈ¾,μ,½Žè'± ,«,í'è` ,đŽw'è ,.é }
```

program Solve;

type

```
Base = class  
    procedure Foundation; virtual; abstract;  
end;
```

```
Derived = class(Base)  
    procedure Foundation; override;  
end;
```

procedure Derived.Foundation;

```
begin  
end;
```

begin

end.

Method '<name>' not found in base class

—á fRf“fpfCf<fGf%o[]f[]fbfZ[]fW

à-¾

f[]\fbfh,É override Žw—β,đ“K—p,μ,Ü,μ,½,ª[]C,»,ì-¼‘O,ìŽè‘±,«,ªŠî-{}fNf
%ofX,ì‘†,É,í, ,è,Ü,¹,ň[]B

-á

```
{ ,±,lfGf%o[ ,l^ê"E"l,ÈCE'^ö,lf\[[fXfR[[fh,Å,l'P,È,éf^fCfvf~fX,Å, ,é[]Boverride Žè'±
,«,Æ,μ,ÄŽg,Á,½-¼'O,Šî-{fNf%ofX"à,l-¼'O,Æ"- ,lfXfyf<,Å, ,é,©,Ç,κ,©,đŠm"F,·,é•K-v,ª, ,é[]
B, ,é,ç,í[]C<[],β,éŽè'±,«,ªŠî-{fNf%ofX,É,È,ç[]ê[]#,à[],,ç,é,é[]B,»,l,æ,κ,È[]ê[]#,É,í[]C-â'è,l
%ođCE^-@,đ"»•É,; ,é,½,β[]C,æ,è[],ç•ªí,ª•K-v,É,É,é }
```

program Produce;

type

```
Base = class
  procedure Title; virtual;
end;
```

```
Derived = class(Base)
  procedure Titl; override;
end;
```

```
procedure Base.Title;
begin
end;
```

```
procedure Derived.Titl;
begin
end;
```

```
begin
end.
```

```
{ Žÿ,lfR[[fh,Å,l'P,É Derived "à,lžè'±,«-¼,lXfyf<,đ'ù[]³,μ,Ä%ođCE^,μ,½ }
```

program Solve;

type

```
Base = class
  procedure Title; virtual;
end;
```

```
Derived = class(Base)
  procedure Title; override;
end;
```

```
procedure Base.Title;
begin
end;
```

```
procedure Derived.Title;
begin
end;
```

```
begin
end.
```


Invalid message parameter list

á fRf“fpfCf<fGf%o[f]fbfZ[fW

à-¾

f]fbfZ[fW^—f]f]fbfh,í var fpf%of[f^,ð 1 ,Â,¾,¯ ,Æ,ê,Û,·Bfpf
%of[f^,ìÆ^,í`fFfbfN,¾,ê,Û,¹,ñB

-á

```
{ Å%ò, ì—á, Å, ìfjpf%òf[]f^, a var , Å, È, ç, ì, a-¾, ç, ©, ÈfGf%ò[] , Å, , éB2 "Ô-Ú, ì—á, Å, Í•i", ìfjpf  
%òf[]f^, ðéCE¾, µ, ½, ì, ðfGf%ò[] , Å, , é }
```

program Produce;

type

Base = **class**

procedure Msg1(X: Integer); **message** 151;

procedure Msg2(**var** X, Y: Integer); **message** 152;

end;

procedure Base.Msg1(X: Integer);

begin

end;

procedure Base.Msg2(**var** X, Y: Integer);

begin

end;

begin

end.

```
{ , Ç, ì, ç, ìé[]±, àf[]fbfZ[]fWf[]fjbfh, ìéCE¾, Å var fpf%òf[]f^, ð 1 , Å, ¾, ~Žw'è, µ, Ä  
%òðCE^, µ, ½ }
```

program Solve;

type

Base = **class**

procedure Msg1(**var** X: Integer); **message** 151;

procedure Msg2(**var** Y: Integer); **message** 152;

end;

procedure Base.Msg1(**var** X: Integer);

begin

end;

procedure Base.Msg2(**var** Y: Integer);

begin

end;

begin

end.

Illegal message method index

ŽQÆ —á fRf“fpfCf<fGf%o[fbfZ[fW

à-¾

fbfZ[fWfCf“ffbfNfX,É 0 ^È%o,ì'l,ďŽw'è,μ,Ü,μ,½B

-á

{ f[]bfZ[]fWfCf“ffbfNfX,Æ,μ,Ä -151 ,ðŽw’è,μ,Ä,Í,ç, ,Ü,¹,ñ }

program Produce;

type

Base = **class**

procedure Dynamo(**var** X: Integer); **message** -151;

end;

procedure Base.Dynamo(**var** X: Integer);

begin

end;

begin

end.

{ f[]bfZ[]fWfCf“ffbfNfX,Ì,Í,Í•K, , 1 ^È[]ã,É,·,é }

program Solve;

type

Base = **class**

procedure Dynamo(**var** X: Integer); **message** 151;

end;

procedure Base.Dynamo(**var** X: Integer);

begin

end;

begin

end.

ŽQÆ

%o¼'zf\fbfh

uDuplicate dynamic method indexv

—á [fRf“fpfCf<fGf%o\[\]f\[\]fbfZ\[\]fW](#)

à-¾

“®“lf[]\fbfh,ÉŽw’è,μ,½fCf“ffbfNfX,³C,·,Á,É•Ê,ì“®“lf[]\fbfh,ÁŽg,í,ê,Ä,ç,Ü,·B

—á

```
{ Second ,ìéCE¾,í First ,ǎŽg,Á,Ä,ç,é,ì,Æ“~,¶f¶bfZ¶[fWfCf“ffbfNfX,ð¶Ä“xŽg,“,α,Æ,μ,Ä,ç,é¶B }
```

program Produce;

type

Base = **class**

procedure First(**var** X: Integer); **message** 151;

procedure Second(**var** X: Integer); **message** 151;

end;

procedure Base.First(**var** X: Integer);

begin

end;

procedure Base.Second(**var** X: Integer);

begin

end;

begin

end.

```
{ ,±,ì-â'è,É,í¼¶Ú“l,È 2 ,Á,ì%øðCE^-@,ǎ, ,é¶B“~,¶f¶bfZ¶[fW'l,ðŽg,α•K—  
v,ǎ,È,~,ê,í¶C'P,Éf¶bfZ¶[fW“Ô¶t,ðftfj¶[fN,È“Ô¶t,É•í¶X,·,ê,í,æ,ç¶B, ,é,ç,í¶CŠì- {fNf  
%øfX, ©,ç¶V,μ,çfNf%øfX,ð“h¶¶l,³,¹¶CŠì- {fNf%øfX“à,Å¶éCE¾,μ,½f¶bfZ¶[fWfnf“fhf%ø  
,ì“@¶ì,ð•í¶X,μ,Ä,à,æ,ç¶B—¼•ú,ðŽÿ,ìfR¶[fh,ÉŽ!,· }
```

program Solve;

type

Base = **class**

procedure First(**var** X: Integer); **message** 151;

procedure Second(**var** X: Integer); **message** 152; {

ftfj¶[fN,ÉfCf“ffbfNfX,É•í¶X,·,é }

end;

Derived = **class**(Base)

procedure First(**var** X: Integer); **override;** { Šì- {fNf%øfX,ì“@¶ì,ð•í¶X,·,é }

end;

procedure Base.First(**var** X: Integer);

begin

end;

procedure Base.Second(**var** X: Integer);

begin

end;

procedure Derived.First(**var** X: Integer);

begin

end;

begin
end.

Bad file format '<name>'

[fRf"fpfCf<fGf%o\[fbfZ\[fW](#)

à-¾

fRf"fpfCf%o,ìó'Ôftj@fCf<,º%ó,ê,Ü,µ,½B'O,ìfRf"fpfCf%o,ìó'Ô,ðÄf[fh,Å,<,Ü,¹,ñB

uArray type requiredv

—á fRf“fpfCf<fGf%o[f[]fbfZ[]fW

à-¾

,±,lfGf%o[f[]fbfZ[]fW,í“z—ñ,Å,È,çf|fyf%of“fh,É‘î,µ,Ä“YŽš,ðŽw’è,µ,½[]ê[]‡,©[]Cf[]f[]v[]f““z—
ñfpf%of[]f^,É”z—ñ,Å,È,ç^ø[]”,ð“n,µ,½[]ê[]‡,É•\Ž|,³,ê,Û,·[]B

—á

{ □@□",Ö,lf|fCf"f^,É"YŽš,đ"K—p,μ,æ,κ,Æ,·,é□B,±,ê,Í C ,Á,Í□‡-@,¾,ª Pascal ,Á,Í^á-@,Á, ,é }

program Produce;

var

P: ^Integer;

I: Integer;

begin

Writeln(P[I]);

end.

{ Pascal ,Á,Í P ,ª□@□""z—ñ,Ö,lf|fCf"f^,Á, ,é,Æ,ϕ,κ,±,Æ,ðRf"fpfCf%o,É-¾Ž,μ,É,·,ê,Í,È,ç,È,ϕ }

program Solve;

type

TIntArray = **array**[0..MaxInt **div** sizeof(Integer)-1] **of** Integer;

var

P: ^TIntArray;

I: Integer;

begin

Writeln(P^[I]); { Delphi 2.0 ,·,æ,Ñ C++Builder ,Á,Í P[I] ,Æ,μ,Ä,à□‡-@,Á, ,é }

end.

Unaccessible value v

[fRf“fpfCf<fGf%o\[f\]fbfZ\[fW](#)

à-¾

“fffofbfK,ì't,©,çfAfNfZfX,Å,«,È,ç'l,ð•\Ž!,μ,æ,π,Æ,μ,Ü,μ,½B',³,³f[f],ìfofŠfAf“fgCE^•ŕŽš
—ñ,È,ÇC“Á'è,ìCE^,ì'l,ìfffofbfK,ì't,©,ç•\Ž!,Å,«,Ù,¹,ñB

Destination cannot be assigned to

[fRf“fpfCf<fGf%□\[f□fbfZ□\[fW](#)

à-¾

“□□†fffofbfK,ÍŽw'è,³,ê,½'ã“ü,³CE»□Ý,ìfRf“fefLjXfg,ì†,Á,Í—LCEø,Á,È,ç,Æ”»'f,μ,Ü,μ,½□B

uExpression has no valuev

fRf“fpfCf<fGf%o[f]fbfZ[fW

à-¾

Ž®,ìĒ<%oÊ,ð•i”,Ö’ã”ü,μ,æ,α,Æ,μ,Ü,μ,½,ªCŽ®,ª’l,ð¶¶¬,μ,Ü,¹,ň,Å,μ,½B

Destination is inaccessible

[fRf"fpfCf<fGf%o\[f\]fbfZ\[fW](#)

à-¾

'l,ð"ü,ê,æ,ɹ,Æ,μ,½fAfhfCefX,í"[]#ffofbfK,ì't,©,çfAfNfZfX,Å,«,È,çfAfhfCefX,Å,·B

Expression is not a procedure

[fRf“fpfCf<fGf%o\[f\]fbfZ\[fW](#)

à-¾

, ,éVf“f{f<,đfvf[]fOf%of€,ĂŽè'±,«,Æ,μ,ĂŽg,“,æ,Æ,μ,Û,μ,½,ªC,»,ìVf“f{f<,ÍŽè'±,«,Ă,í, ,è,Û,¹,ň

B

□uNo source line for this procedure□v

[fRf“fpcfCf<fGf%□\[f□fbfZ□\[fW](#)

□à-¾

—v<□,μ,½Žè'±,«,\f□[fX□s,đ“□□#fffofbfK,ªCE©,Â,¯,ç,ê,Û,¹,ñ,Å,μ,½□Bf□[fX,ª, ,é□é□#,É,Í□C<□,ß,éŽè'±,«,ª“ü,Á,Ä,ç,éftffjfbfg,đ□CfffofbfO□î•ñ,ðfjf“ ,É,μ,Ä□ÄfRf“fpcfCf<,μ,Ä,,¾,¾,ç□Bf□[fX,ª,È,ç□é□#,É,Í,±,ìŽè'±,«,ð•Ž!,Á,«,Û,¹,ñ□B

—á

```
{ ,±,lfGf%oo[,É,í,ç,,Â,©,ìĈ´^ö,ª□l,|,ç,ê,é□B'æ 1 ,É—áŠOfnf“fhf%oo,ìŠO•”,Ā—áŠOfRf“fXfgf  
%ofNf^,ðŽ□,½,Ě,ç raise ,ðŽw'è,μ,½%oĀ”\□«,ª, ,é□B'æ 2 ,É—áŠOfnf“fhf%oo,ì try fuf□fbfN,Ā—  
áŠO,ðĀ□¶□¬,μ,æ,κ,Æ,μ,½%oĀ”\□«,ª, ,é□B'æ 3 ,É•Ě,ì—áŠOfnf“fhf%oo,ì't,ÉfXfg,μ,½—  
áŠOfnf“fhf%oo,ì't,Ā—áŠO,ðĀ□¶□¬,μ,æ,κ,Æ,μ,½%oĀ”\□«,ª, ,é }
```

program Produce;

procedure RaiseException;

begin

raise; { fP□[fX 1 }

try

raise; { fP□[fX 2 }

except

try

raise; { fP□[fX 3 }

except

end;

raise;

end;

end;

begin

end.

```
{ ,±,lfGf%oo[,Ā,í□V,μ,ç—áŠO,ð-¾Ž!“l,É□¶□¬,·,é,ì,ª 1 ,Ā,ì%oðĈ^~@,Ā, ,é□B□ucase  
1□v,Æ□ucase 2□v,ì,æ,κ,Èĉê□‡,í,» ,è,ð^Ó□},μ,½,ÆŽv,í,ê,é□B□ucase  
3□v,ìĉê□‡,É,í□CfR□[fh,ð'²,x,Ā<□,β,éĈ<%oĚ,ª“¾,ç,ê,é,æ,κ,Ě“K□Ø,È%oñ”ð•û~@,ð”»•Ě,·,é•K—  
v,ª, ,é }
```

program Solve;

uses SysUtils;

procedure RaiseException;

begin

raise Exception.Create('case 1');

try

raise Exception.Create('case 2');

except

try

raise Exception.Create('case 3');

except

end;

raise;

end;

end;

begin

end.

Default values must be of ordinal, pointer or small set type

—á [fRf“fpfCf<fGf%o\[\]f\[\]fbfZ\[\]fW](#)

à-¾

default ß,ª“ü,Á,Ä,ç,éfvf[]fpfefB,ðéÉ¾,µ,æ,κ
,Æ,µ,Ü,µ,½,ªC,»,lfvf[]fpfefB,ìÉ^,ífftfHf<fg'l,ÆÉÝŠ·«ª,è,Ü,¹,ñB

—á

```
{ ŽŸ,lfvf[]fOf%of€ ,lfvf[]fpfefB,ð[]¬,μ,Ä,» ,é,ÉfftfHf<fg'l,ðŠ,,è“- ,Ä,æ,κ,Æ,μ,Ä,ç ,é,ª[]Cfvf[]fpfefB,ìCE^ ,ªfftfHf<fg'l,ðŽg,!,È,çCE^ ,É,!,ÁfGf%o[] ,ª[]o—Í,³,ê,é }
```

program Produce;

type

```
VisualGuage = class  
  Pos: Single;  
  property Position: Single read Pos write Pos default 0.0;  
end;
```

begin

end.

```
{ ,±,lfGf%o[] ,ª"[]¶,μ,½[]ê[]‡,É,ÍŠÈ'P,È 2 ,Â,ì%oðCE^-@,ª ,é[]B1 ,Á,lffftfHf<fg'l,ì'è<` ,ð[]í[]œ, ,é•û-@,Á[]C,à,κ 1 ,Á,lfvf[]fpfefB,ìCE^ ,ðfftfHf<fg'l,ªŽg,!,éCE^ ,É•ï[]X, ,é•û-@,Á ,é[]B,μ,©,μ[]CŽÀ[]Ù,lfvf[]fOf%of€ ,Á,ì[]C[]³ ,ª,» ,é,Ù,ÇŠÈ'P,Á,È,ç,Æ,« ,à ,é[]B'â,« ,: ,¬,é[]W[]‡fvf[]fpfefB,ª ,é[]ê[]‡,ð[]!,!,Ä,Ý,é,Æ,æ,ç []B,» ,ì[]ê[]‡,É,lfvf[]fOf%of€,ð'[]^Ó[] ,',²,×[]C,±,ì-â'è,ì[]Á'P,ì%oðCE^-@,ð"»•É, ,é•K—v,ª ,é }
```

program Solve;

type

```
VisualGuage = class  
  Pos: Integer;  
  property Position: Integer read Pos write Pos default 0;  
end;
```

begin

end.

Property '<name>' does not exist in base class

á fRf“fpfCf<fGf%o[fbfZ[fW

à-¾

fRf“fpfCf%o,íŠ”ŽÒ,àfvf[]pfefB,ð”h[]fNf%ofX,ì•Ê,ì%oÂŽ<[]«fCefxf<,Ü,Å^ø,«[]ă,°,é^Ó[]},Å, ,é,Æ
”»'f,μ,Ü,μ,½,à[]CŽw'è,³,ê,½fvf[]pfefB,àŠî-{}fNf%ofX“à,É'[]Ý,μ,Ü,¹,ñ[]B

—á

```
{ ,±,lfGf%o[ ,É,í□²-{"l,ÈCE´^ö,² ,Â, ,é□B1
,Â,íCE^ ,ðŽw'è,¹, ,É□V,μ,¢fvf□fpfefB,ðŽw'è,μ,½□ê□‡,Â□C´Ê□í,±,ê,í□V,μ,¢
%oÂŽ<□fCEfxf<,Ö,ì`Ú"@ ,Æ,í□l,|,ç,ê,È,¢□B,à,× 1 ,Â,ÍŠî- {fNf
%ofX"à,É`¶□Ý,·,é,í, ,lfvf□fpfefB,ðŽw'è,μ,ÄfRf"fpfCf%o
,²,» ,ê,ðCE© ,A, ¯,ç,ê,È,¢□ê□‡,Â□C,Ù,Æ,ñ,Ç,í f^fCfvf~fX,Â ,é□B2 "Ô-Ú,ìCE`´Ô,Â,àfRf"fpfCf%o,í
read □β,© write □β,²•K—v,¾,Æ,¢,xfGf%o[ ,ð□o—í,·,é }
```

program Produce;

type

```
Base = class
private
  A: Integer;
  property BaseProp: Integer read A write A;
end;

Derived = class(Base)
  Ch: Char;
  property Alpha read Ch write Ch; { fp□[fX 1 }
  property BesaProp; { fp□[fX 2 }
end;
```

begin

end.

```
{ □Â□%o,ì—á,Â,lfvf□fpfefB,ìCE^ ,ðŽw'è,·,ê,í%oðCE^ ,·,é□B2 "Ô-Ú,ì—á,Â,lfvf□fpfefB-
¼,lfXfyf<,ðf`fFbfN,·,ê,í%oðCE^ ,·,é }
```

program Solve;

type

```
Base = class
private
  A: Integer;
  property BaseProp: Integer read A write A;
end;

Derived = class(Base)
  Ch: Char;
public
  property Alpha: Char read Ch write Ch; { fp□[fX 1 }
  property BaseProp; { fp□[fX 2 }
end;
```

begin

end.

Dynamic method or message handler not allowed here

—á fRf“fpfCf<fGf%o[]f[]bfZ[]fW

à-¾

“®“lf[]\bfh,Æf[]bfZ[]fWf[]\bfh,Ívf[]pfefB—p,ÌfAfNfZfXŠÖ[]”,Æ,μ,ÄŽg,!,Ü,¹,ñ[]B

—á

{ ŽŸ, Ì Velocity ,Æ Value ,Í,Ç, ï,ç, à^á-@, ÈfAfNfZfXŠÖ" ,Š,,è"-,Ä,ç,ê,Ä,ç,é, Ì, ÅfGf%o[,É,È,é }

program Produce;

type

Base = **class**

V: Integer;

procedure SetV(var X: Integer); **message** 1;

function GetV: Integer; **dynamic**;

property Velocity: Integer **read** GetV **write** V;

property Value: Integer **read** V **write** SetV;

end;

procedure Base.SetV(var X: Integer);

begin

V := X;

end;

function Base.GetV: Integer;

begin

GetV := V;

end;

begin

end.

{ ŽŸ, ÌfR[fh, Å, ÌfGf%o[, ð<N, ±, μ, ½fRf"fpfCf%oŽw—β, ðŽè'±, «éCE¾, ©, çíœ, μ, Ä
%oðCE^ , μ, ½, ðC, ±, ê, ð³, μ, ç%oðCE^-@, Ä, , é, Æ, ÍCEÄ, ç, È, çBfvf[]fOf%of€, Ì~_—, ðÚ, μ, -
'2, x, ÄCfvf[]pfefB, ÈfAfNfZfXŠÖ" , ðŽw'è, , éÄ'P, Ì•û-@, ð"»•È, μ, È, , è, Ì, È, ç, È, çéé†, à, , é }

program Solve;

type

Base = **class**

V: Integer;

procedure SetV(X: Integer);

function GetV: Integer;

property Velocity: Integer **read** GetV **write** V;

property Value: Integer **read** V **write** SetV;

end;

procedure Base.SetV(X: Integer);

begin

V := X;

end;

function Base.GetV: Integer;

begin

GetV := v;

end;

begin
end.

uPointer type requiredv

—á [fRf“fpfCf<fGf%o\[f\]fbfZ\[fW](#)

à-¾

,±,lfGf%o[f]fbfZ[fW,íf|fCf“f^,Å,È,çf|fyf%of“fh,É<tžQ[Æ%o%žžžq[u^v,ð“K—
p,μ,½,Æ,«,ÆC”ňí,É“Ážê,Èê[†,Æ,μ,ÅuRaise <exception> at <address>v•¶,ì'æ 2 flfyf
%of“fh,af|fCf“f^,Å,È,ç,Æ,«,É•ž,³,ê,Û,·B

—á

```
{ fNf%oXCE^,ã"à•""l,É,ÍŽÀ□Ú,ì□î•ñ,Ö,ìf|fCf"f^,Æ,μ,ÄŽÀ'•,³,ê,Ä,ç,Ä,à□C<tŽQ□Æ%  
%oŽŽŽq,đf□[fXfCfxf<,ÅfNf%oXCE^,É"K—p,·,é,ì,í^á-@,Å, ,é□BfRf"fpfCf%o,í•K—v,Å, ,ê,ÍŽ©"  
®"l,É<tŽQ□Æ,đ,·,é,ì,Å•s•K—v,Å,à, ,é }
```

program Produce;

var

C: TObject;

begin

C^.Destroy;

end.

```
{ 'P,É<tŽQ□Æ%o%oŽŽŽq,đ"ü,ê,È,ç,Å, ", ,ìfRf"fpfCf%o,ãŽ©"®"l,É□³,μ,□^—□,·,é }
```

program Solve;

var

C: TObject;

begin

C.Destroy;

end.

uClass does not have a default propertyv

—á [fRf“fpfCf<fGf%o\[\]f\[\]bfZ\[\]fW](#)

à-¾

”z—ňŽ® ,ì†,ÅfNf%ofXfCf“fXf^f“fX•i” ,đŽg,ç,Û,μ,½,¾C,» ,ìfNf%ofXCE^ ,íffftfHf<fg,ì”z—
ňfvf[]pfefB,đéCE¾,μ,Ä,ç,Û,¹ňB

-á

```
{ ŽŸ, ĺR [fh, Ā, Ī Base ,ª"z—ñfvf [pfefB, đéCE¾, µ, Ā, ", ç, , CB Ž© 'ì,ª"z—ñ, Ā, È, ç, ì, ĀfGf  
%o [ ,ª<N, <, é }
```

program Produce;

type

```
Base = class  
end;
```

var

```
B: Base;
```

procedure P;

var

```
Ch: Char;
```

begin

```
Ch := B[1];
```

end;

begin

end.

```
{ fNf%ofX, ĺffftfHf<fgfvf [pfefB, đéCE¾, µ, ½ [ê [†, Ī [C"z—ñŽ® , ì†, ĀfNf  
%ofXfCf" fXf^f" fX•Ī [ , đŽÀ [Ū, ì"z—ñ, ì, æ, x, ÉŽg, ĺ, é [B, Ū, ½, Ī [Cfvf [pfefB, ì-  
¼' O, đ'¼ [ŪŽw'è, Ā, <, é [Bf [f, : $HINTS , đ ON , É, µ, ½ [ê [† [Cch , É'ă"ü, ³, è, ½' l, ĪŽg, í, è, Ā, ç, È, ç  
, Æ, ç, xfqf" fg,ª•\Žì, ³, è, é }
```

program Solve;

type

```
Base = class  
function GetChar(I: Integer): Char;  
property data[I: Integer]: Char read GetChar; default;  
end;
```

var

```
B: Base;
```

function Base.GetChar(I: Integer): Char;

begin

```
GetChar := 'A';
```

end;

procedure P;

var

```
Ch: Char;
```

begin

```
Ch := B[1];
```

```
Ch := B.Data[1];
```

end;

begin
end.

Bad argument type in variable type array constructor

á fRf"fpfCf<fGf%o[]f[]bfZ[]fW

à-¾

•i""z-ñ,ì't,Á,ÍŽg,!,È,çCE^,ðŽg,Á,Ä"z-ñ,ð[]i[]¬,μ,æ,κ,Æ,μ,Ä,ç,Ü,·[]B

—á

```
{ "z—ñfRf“fXfgf%ofNf^,ì†,Å,í—ñ<“,ÆfCEfR□[fh,ÍfTf|□[fg,³,ê,È,ç,ì,Å□CExaminer ,ì 2  
,Å,ìCEÄ,Ñ□o,μ,í—¼•û,Æ,àŽ,“s,·,é }
```

program Produce;

type

```
Fruit = (apple, orange, pear);
```

```
Data = record
```

```
  X: Integer;
```

```
  Ch: Char;
```

```
end;
```

var

```
F: Fruit;
```

```
D: Data;
```

procedure Examiner(V: **array of** TVarRec);

begin

end;

begin

```
  Examiner([D]);
```

```
  Examiner([F]);
```

end.

```
{ Žÿ,ìfR□[fh,ÉŽ!,μ,½,æ,α,É'½□",ìff□[f^CE^,³"z—ñfRf“fXfgf%ofNf^,ì†,ÅŽg,ì,é }
```

program Solve;

var

```
I: Integer;
```

```
R: Real;
```

```
V: Variant;
```

procedure Examiner(V: **array of** TVarRec);

begin

end;

begin

```
I := 0; R := 0; V := 0;
```

```
  Examiner([I, R, V]);
```

end.

Could not load RLINK32.DLL

[fRf“fpfCf<fGf%o\[f\[fbfZ\[fW](#)

à-¾

RLINK32.DLL ,³CE©,Â,©,è,Ü,¹,ñ,Â,µ,½B,±,ìtf@fCf<,³•K,,fpfX[ã,É, ,é,æ,α,É,µ,Ä,,¾,¾,çB

Wrong or corrupted version of RLINK32.DLL

[fRf"fpfCf<fGf%o\[f\]fbfZ\[fW](#)

à-¾

RLINK32.DLL ,É'î,·,é"à•",ì^êšÑ«f`fFfbfN,Â^Ùí,ªCE©,Â,©,è,Ü,µ,½B

ÆÃ,ç RLINK32 ,ðf[h,µ,æ,æ,Æ,µ,Ä,ç,é%oÂ"\<ª, ,é,ì,ÂCPATH ã,ÉÖ"Ë,ª,È,ç,©,Ç,æ

,©,ð'²,x,Ä,,¾,¾,çBRLINK32.DLL ,ÉŠm,©,É^Ùí,ª,È,ç,ì,É,±,ìf]fbfZ[fW,ª•\

Ž!,¾,é,éê±,íCf{[f%of"fh,É~A—,µ,Ä,,¾,¾,çB

'u;' not allowed before 'ELSE'

—á [fRf“fpfCf<fGf%o\[\]f\[\]fbfZ\[\]fW](#)

à-¾

if..else •¶, ì **else** ,ì'¼'O,É□u;□v,ª, ,è,Ü,·□B□u;□v,í•¶,ì□l,í,è,Å,È,-
•¶,ì<æ□∅,è,Æ,μ,Å^μ,í,ê,Ü,·□B**if..else** ,í 1
,Å,ì•¶,Å, ,è□C•j□¶•¶,đŽg,Á,½□ê□¶^ÈŠO□CŠÔ,É□u;□v,í“ü,è,Ü,¹ñ□B

—á

{ Pascal ,Á,Í ELSE •¶,ì'¼'O,É□u;□v,ð•t,¯,ç,ê,È,ç□B,» ,ì,½,ß,ÉŽŸ,lfR□[fh,Á,ÍfGf%□[,ª<N,« ,é }

program Produce;

var

B: Integer;

begin

if B = 10 **then**

B := 0;

else

B := 10;

end.

{ ,±,ì-â'è,É,Í 2 ,Â,ìŠÈ'P,È%ðCE^-@ ,ª ,é□B1 ,Â,ÍfGf%□[,ð<N,±,µ,½□u;□v,ð□í□œ,·,é•û-
@,Á ,é□B,à,× 1 ,Á,Í IF.ELSE ,ìCEÂ□X,ì•"•ª,É•;□‡•¶,ð□\□¬,·,é•û-@,Á ,é□B\$HINTS ,ª ON
,ì□ê□‡,ì□CB ,Ö'ã"ü,µ,½'l ,ªCE^ ,µ,ÄŽg,í,ê,È,ç ,Æ,ç,×fqf"fg,ª•\Ž| ,³ ,é,é }

program Solve;

var

B: Integer;

begin

if B = 10 **then**

B := 0

else

B := 10;

if B = 10 **then**

begin

B := 0;

end

else

begin

B := 10;

end;

end.

uType '<name>' needs finalization - not allowed in variant record

—á fRf“fpfCf<fGf%o□[f□fbfZ□[fW

□à-¾

Œ»□Ý□Š—L,μ,Ä,ç,éfŠf\□[fX,ð%oð•ú,μ,Ä□³,μ,ç□l—¹□^—□,ð,μ,È,¯,ê,î,È,ç,È,ç,Æ,ç,α“à•”“l,È—□
—R,©,ç□C,ç,,Â,©,ì“Á'è,ìŒ^,íRf“fpfCf%o,É,æ,Á,Ä“Á•É^μ,í,ê,Û,·□BfRf“fpfCf%o
,íŽÀ□sŽž,É,ç,ìŒ^,ªŽÀ□Û,ÉfŒfR□[fh,ìfofŠfAf“fg•”,ÉŠi”[,³,ê,Ä,ç,é,©,ð”»•É,Ä,«,È,ç
,½,ß□C,»ê,ç,ì“ÁŽê,Èff□[f^Œ^,ª³,μ,□l—¹□^—□,³,ê,é,©,ç,α,©,í•Û□Ø,³,ê,Û,¹,ñ□B

—á

```
{ •¶Žš—ñ,íſſf\□[fX,đ□³,μ,%đ•ú,·,é,½,β,ÉfRf“fpfCf%o,É,æ,é“ÁŽê,È□^—□,đ•K—v,Æ,·,éCE^,ì 1
,Á,Á, ,é□B,μ,½,ª,Á,Ä□CfofſſfAſ“fg•”,É String ,đŽg,α,ì,í^á-@,Á, ,é }
```

program Produce;

type

```
Data = record
  case Kind:Char of
    'A': (Str: string);
  end;
```

begin

end.

```
{ fGf%o□[ ,đ<N,±,μ,½,·,×,Ä,ì□éCE¾,đfofſſfAſ“fg•”,©,ç□í□œ,·,é,ìª 1 ,Á,ì%đCE^-
@,Á, ,é□B,» ,ì,Ù,©□Cf|fCf“f^CE^ (,½,Æ,|,î ^String) ,đŽg,Á,Äf□f,ſſ,đŽ©•ª,ÁſſÇ—□,·,é%đCE^-
@,à, ,é }
```

program Solve;

type

```
Data = record
  Str: string;
  end;
```

begin

end.

uType '<name>' needs finalization - not allowed in file type

á fRf“fpfCf<fGf%o[]f[]fbfZ[]fW

à-¾

»ÝŠ—L,μ,Ä,ç,éfŠf\[]fX,ð%øð•ú,μ,Ä³,μ,ç[]—¹[]^—[],ð,μ,È,¯,ê,Î,È,ç,È,ç,Æ,ç,α“à•”“l,È—[]
—R,©,ç[]C,ç,,Ä,©,ì“Á'è,ìCE^,ìfRf“fpfCf%o,É,æ,Á,Ä“Á•É,É^μ,í,ê,Û,·[]B

fRf“fpfCf%o,íŽÀ[]sŽž,É',ç•¶Žš—ñ,ª,ç,ê,,ç,ç',.,È,é,©,ð”»•É,Å,«,È,ç

,½,ß[]C,»,ê,ç,ì“ÁŽè,Èff[]f^CE^,ª³,μ,[]—¹[]^—[],³,ê,é,©,ç,α

,©,í•Û[]Ø,³,ê,Û,¹,ñ[]BCE^•t,«ftf@fCf<,ì't,É, ,é,·,×,Ä,ìfCEfR[]fh,í“¯,¶fTfçY,Å,È,¯,ê,Î,È,ç,È,ç

,ì,Å[]C',ç•¶Žš—ñ,ª“ü,Ä,Ä,ç,éCE^,ÍŽg,ì,Û,¹,ñ[]B

—á

{ •¶Žš—ñ,í□I—¹□^—□,đ•K—v,Æ,.,éff□[f^CE^,ì 1 ,Â,È,ì,Â□CFile CE^,É,ÍŠi"[,Â,«,È,¢ }

program Produce;

type

Data = **record**
Name: **string**;
end;

var

InFile: **file of** Data;

begin

end.

{ String ,ì□ê□‡,É,íCE^,đ•¶Žš,ì"z—ñ,Æ,μ,Ä□Ä□éCE³/₄,.,é,ì,ŠÈ'P,È%đCE^-@,Â, ,é□B□I—¹□^—
□,đ•K—v,Æ,.,é,»,ê^ÈŠO,ìCE^,Â,í□Cfile of ,È,Ç,ì•W□€ Pascal <@"\,đŽg,Á,½fofCfifŠftf@fCf<□\`¢
,ì•ÚŽç,í^ê'w"i,μ,,È,é□B□ê—p,ìftf@fCf<"ü□o—Íf<□[f`f",đ□ì□¬,μ,½•û,ŠÈ'P,³/₄,ÆŽv,í,ê,é }

program Solve;

type

Data = **record**
Name: **array**[1..25] **of** Char;
end;

var

InFile: **file of** Data;

begin

end.

□uExpression too complicated□v

fRf“fpcfCf<fGf%o□[f□fbfZ□[fW

□à-¾

f□[fXfR□[fh,ì't,É•;ŽG,;,¬,ÄfRf“fpcfCf%o,ª^—□,Å,«,È,çŽ®ª, ,è,Ü,μ,½□B
^êžž•i□”,đŽg,α,È,Ç,μ,ÄŽ® ,đŠÈ'P,É,μ,Ä,,¾,¾,ç□B

Element 0 inaccessible - use 'Length' or 'SetLength'

á fRf"fpfCf<fGf%o[f fbfZ[fW

à-¾

C++Builder, à **string** ^, Á, Í—v'f 0, É•ŕŽš—ñ, ì'·, ³, íŠi" [, ³, ê, Ä, ç, Ü, ¹, ñ B':, ç•ŕŽš—ñ, Á, Í—v'f 0, ÉfAfNfZfX, μ, Ä•ŕŽš—ñ, ì'·, ³, ðŽæ"¾, μ, ½, è•í X, μ, ½, è, ·, éCEÄ, ç•û-@, íŽg, ì, Ü, ¹, ñ B

—á

{ ,±,lfvf□fOf%of€,Í•¶Žš—ň,ì'æ 1 —v'f,É'¼□ÚfAfnfZfX,μ,Ä•¶Žš—ň,ì'·,³,ðŽæ"¾,μ,æ,κ
,Æ,μ,Ä,ç,é□B }

program Produce;

var

Str: **string**;

Len: Integer;

begin

Str := 'Kojo no tsuki';

Len := Str[0];

end.

{ •W□€Žè'±,«,ì SetLength ,Æ Length ,ðŽg,í,Î•¶Žš—ň,ì'æ 1 —
v'f,É'¼□ÚfAfnfZfX,·,é,ì,Æ"~,¶<@"\,ª"¾,ç,é,é□B\$HINTS ,ª ON ,ì□ê□‡,Í□CŽg,í,ê,È,ç len
,ì'l,ÉŠÖ,·,éfqf"fg,ª•\Ž!,³,ê,é }

program Solve;

var

Str: **string**;

Len: Integer;

begin

Str := 'Kojo no tsuki';

Len := Length(Str);

end.

System unit out of date or corrupted: missing '<name>'

[fRf"fpfCf<fGf%o\[f\]fbfZ\[f\]fW](#)

à-¾

fRf"fpfCf%o,í System.dcu

,ì't,É, ,é"ÁŽéŠÖ" ,đ'T,μ,Ü,μ,½,¾CCE©,Á,©,è,Ü,¹,ñ,Á,μ,½BSystem ftjfbfg,í%ó,ê,Ä,ç ,é,©CEÄ,çftjfbfg,Ä,·B

f%ofCfuf%ofŠCEÿðöpfX,ìÖ"È,É,æ,Á,Ä•Ê,ì System.dcu ,đŽw,·,±,Æ,¾,È,ç,©,Ç,κ

,©,đŠm"F,μ,Ä,,¾,¾,çBSystem.dcu ,ðÄfCf"fXfg[f<,μ,Ä,Ý,Ä,,¾,¾,çB,» ,é,Á,à

%oðCE^ ,μ,È,çéç,íCf{[f%of"fH,Ü,Ä~A—,μ,Ä,,¾,¾,çB

Record, object or class type required

—á [fRf“fpfCf<fGf%o\[\]f\[\]fbfZ\[\]fW](#)

à-¾

fRf“fpfCf%o,ífĒfR[]fh[]CflfufWfFfNfg[]CfNf%ofX,ì,ç,,ê,©,đŽw’è,μ,½Ē^-¼,đ—Šú,μ,Ä,ç,Ü,μ,½,ª[]ĒĒ©,Á,©,è,Ü,¹ñ,Á,μ,½[]B

,±,lfGf%o[],ìĒ^ö,í 2 ,Á, ,è,Ü,·[]B1 ,Á,ífĒfR[]fh,Á,È,çflfufWfFfNfg,Ö,ì[]u,[]v,ì“K—p,Á,·[]B,à,κ 1 ,Á,ìĒ^ö,í **with** •¶,ì’t,ÉĒë,Á,½Ē^,ì•ï[]”,đŽg,Á,Ä,ç,é,±,Æ,Á,·[]B

—á

```
{ ,±,lfvf[]fOf%of€É,Í“~,¶fGf%o[][,É 2 ,ÂCE´^ö,a, ,é[]B1
,Â,lfCEfR[]fh,Â,È,çfIfufWfFfNfg,Ö,ì[]u.[]v,ì“K—p,Â, ,é[]B2 "Ô-Ú,ì—á,Í WITH
•¶,ì't,ÉCEë,Á,½CE^,ì•ì[]",ðŽg,Á,Ä,ç,é }
```

program Produce;

type

```
RecordDesc = class
  Ch: Char;
end;
```

var

```
pCh: PChar;
r: RecordDesc;
```

procedure A;

begin

```
pCh.Ch := 'A'; (* fP[]fX 1 *)
with pCh do
  begin (* fP[]fX 2 *)
  end;
```

end;

end.

```
{ ,±,lfGf%o[][,Í[]u.[]v,Æ WITH ,ð,Ç,¿,ç,à•K, ,fCEfR[]fh[]CfIfufWfFfNfg[]CfNf%ofX•ì[]",ì,ç
, ,è,©,É,¾,“K—p, ,é,æ,æ,É, ,ê,İŠÈ'P,É%øðCE^, ,é }
```

program Solve;

type

```
RecordDesc = class
  Ch: Char;
end;
```

var

```
R: RecordDesc;
```

procedure A;

begin

```
R.Ch := 'A'; (* fP[]fX 1 *)
with r do
  begin (* fP[]fX 2 *)
  end;
```

end;

end.

☐uType not allowed in OLE Automation call☐v

—á fRf“fpfCf<fGf%o☐[f☐fbfZ☐[fW

☐à-¾

fRf“fpfCf%o,afofŠfAf“fg☐☐,Ö•iš,Å,«,È,☐ff☐[f^☐^,í OLE
f☐[f☐f☐☐[fvf#f“,ì☐Ā,Ń☐o,μ,ÉŽg,!,Ü,¹,ň☐B

-á

{ fofŠfAf“fgĈ^,Ö•İŠ·,Å,«,È,†fNf%ofX,È,İ,Å OLE ĈÄ,Ñ□o,μ,ÉŽg,İ,È,† }

program Produce;

type

Base = **class**
X: Integer;
end;

var

B: Base;
V: Variant;

begin

V.Dispatch(B);

end.

{ ,±

,è,ç,İff□[f^Ĉ^,ðŽè“® ,ÅfofŠfAf“fg,Ö•İŠ·,·,é,©□CfofŠfAf“fg,ÖŽ©“®“İ,É•İŠ·,Å,«,éff□[f^Ĉ^,
¾,¯,ðŽg,π,İ,ª,±,İ-â‘è,İ,½,¾ 1 ,Å,İ%øðĈ^ -@,Å, ,é }

program Solve;

type

Base = **class**
X: Integer;
end;

var

B: Base;
V: Variant;

begin

V.Dispatch(B.X);

end.

u<RLink32 error message>v

fRf“fpfCf<fGf%o[f fbfZ[fW

à-¾

RLink32 ,ª•ñ,μ,Ä,ç,é,Æ,¨,è,lfGf%o[,ðCEÿo,μ,Ü,μ,½B

,±,lfGf%o[,É,Â,ç,Ä,ìÚ×,íCRLINK32 fŠftf@fÆf“fX,ðŽQÆ,μ,Ä,,¾,¾,çB

u<Filename>: <RLink32 error message>v

fRf“fpfCf<fGf%o[f fbfZ[fW

à-¾

RLink32 ,ª•ñ,μ,Ä,ç,é,Æ,¨,è,lfGf%o[,ðCEÿo,μ,Ü,μ,½B

,±,lfGf%o[,É,Â,ç,Ä,ìÚ×,íCRLINK32 fŠftf@fÆf“fX,ðŽQÆ,μ,Ä,,¾,¾,çB

Too many conditional symbols

[Rf"fpfCf<fGf%o\[f\]fbfZ\[fW](#)

à-¾

fRf}f"fhf%ofCf" (ŠÂ««Ÿ'èftf@fCf<,ðŠÜ,Þ) ,Á'è<` ,µ,½ðCEfVf"f{f<,ªCŠ,,,è"- ,Ä,ç,ê,Ä,ç ,éf[f,fŠ,ð',ì,Ü,µ,½B,·,×,Ä,ìðCEfVf"f{f<,É'í,µ,Ä 256 fofCfGŠ,,,è"- ,Ä,ç,ê,Ü,·BðCEfVf"f{f<,íðCEfVf"f{f<-ì^æ,ÉŠi"[,·,é,Æ,« ,É 1 ,Ä,ìðCEfVf"f{f<,É,Ä,« 1 fofCfG-]CEv,É•K-v,Æ,µ,Ü,·B

fRf}f"fhf%ofCf" (,Ü,½,ÍŠÂ««Ÿ'èftf@fCf<) ,É"ü,Á,Ä,ç ,éðCEfRf"fpfCf<fVf"f{f<,ì",ðCE,ç,·,ì,ª,½,¾ 1 ,Ä,ì%ðCE^-@,Ä,·B

Method '<name>' hides virtual method of base type '<name>'

ŽQÆ —á fRf“fpfCf<fGf%o[f]fbfZ[f]fW

à-¾

Šî- {fNf%ofX“à,É, ,é%¼'zf\fbfh,Æ“˘,ŋ-¼'O,lf\fbfh,đéCE¾,μ,Ü,μ,½B V,μ,çf\fbfh,í
%¼'zf\fbfh,Â,Í,È,C“˘,ŋ-¼'O,đŽ,ÂŠî- {fNf%ofX,lf\fbfh,Ô,lfAfNfZfX,đ%B,μ,Ü,·B

—á

```
{ Derived ,ì'è<`"à,Â□éĈ¾,μ,½ 2 ,Â,ìf□f□f□fh,í,Ç,ì,ç,àŠî- {fNf%ofX"à,Â□éĈ¾,¾,ê,½"˘,¶-¼'0,ì  
%o¼'zŠÖ□",ð%oB,· }
```

```
program Produce;  
{ $WARNINGS ON }
```

type

```
Base = class  
  procedure VirtuMethod; virtual;  
  procedure VirtuMethod2; virtual;  
end;
```

```
Derived = class(Base)  
  procedure VirtuMethod;  
  procedure VirtuMethod2;  
end;
```

```
procedure Base.VirtuMethod;  
begin  
end;
```

```
procedure Base.VirtuMethod2;  
begin  
end;
```

```
procedure Derived.VirtuMethod;  
begin  
end;
```

```
procedure Derived.VirtuMethod2;  
begin  
end;
```

```
begin  
end.
```

```
{ ,±,ìfGf%o□[,ð%oðĈ^,·,é•û-@,í 2 ,Â, ,é□B1 ,Â,í override ,ðŽw'è,μ,Ä"□h□¶fNf%ofX,ìŽè'±,« ,à  
virtual ,É,·,é•û-@,Â□C,» ,ì□é□#□CĈp□¾,¾,ê,½ĈÄ,Ń□o,μ,í,» ,ì,Û,ÛĈ¾,ìŽè'±  
,« ,ðŽQ□/E,Â,« ,é□B"□h□¶fNf%ofX"à,Â□éĈ¾,·,é,Æ,« ,ÉŽè'±,« ,ì-¼'0,ð•ï□X,·,é•û-@,à ,é□BŽŸ,ìf  
R□[fh,í-¼•û,ì•û-@,ðŽ!,·—á,Â, ,é }
```

```
program Solve;
```

type

```
Base = class  
  procedure VirtuMethod; virtual;  
  procedure VirtuMethod2; virtual;  
end;
```

```
Derived = class(Base)  
  procedure VirtuMethod; override;
```

```
    procedure Virtu2Method;
end;

procedure Base.VirtuMethod;
begin
end;

procedure Base.VirtuMethod2;
begin
end;

procedure Derived.VirtuMethod;
begin
end;

procedure Derived.Virtu2Method;
begin
end;

begin
end.
```

ŽQÆ

fifbfh,iffof%ofCh

-á

```
program Produce;  
{ $HINTS ON }
```

```
procedure Local;
```

```
var
```

```
  I: Integer;
```

```
begin
```

```
end;
```

```
begin
```

```
end.
```

```
{ Žg, í, È, ç • ĩ " , ð Ž è ' ± , « , © , ç ĩ ĩ œ , , é , ì , ð Š È ' P , È % ð œ ^ - @ , Å , , é B , μ , © , μ C Ž À œ » • " " à , Å Ž g —  
p , , x , « • ĩ " , ĩ % ð Å " \ ĩ « , à , , é }
```

```
program Solve;
```

```
{ $HINTS ON }
```

```
procedure Local;
```

```
begin
```

```
end;
```

```
begin
```

```
end.
```

uCompile terminated by userv

fRf“fpcfCf<fGf%o[]f[]fbfZ[]fW

à-¾

fRf“fpcfCf<’t,É[]mfRf“fpcfCf<[]nf_fCfAf[]fOf{fbfNfX,Å[]mfLfff“fZf<[]nf{f^f“,ð%oÿ,µ,Ü,µ,½[]B

Unnamed arguments must precede named arguments in OLE Automation call

á fRf"fpfCf<fGf%o[fbfZfW

à-¾

-¼'O•t,« OLE_flfgfVf+f"fpf%of[f^,ìĒă,É-¼'O,ì,È,ç^ø",ð'u,±,α,Æ,μ,Û,μ,½B

—á

```
{ ,±,ì OLE fffBfXfjfbf` ,Å,ÍC-¼'O•t,«fjpf%of[]f^ FileName ,ð-¼'O,ì,È,çfjpf  
%of[]f^,ìEã,É'u,©,È,¯,ê,Í,È,ç,È,ç }
```

program Produce;

var

Ole: Variant;

begin

Ole.Dispatch(FileName:='FrogEggs', 'Tapioca');

end.

```
{ ,±,ì,æ,κ,Éfjpf%of[]f^,ð<t,É,·,é,ì,Í,à,Á,Æ,à'¼'Ú"l,È%øðE^-  
@,¾,ªC"K[]Ø,Å,È,ç[]ê[]‡,à, ,é[]B-¼'O,ì,È,çfjpf%of[]f^,É-¼'O,ðŽw'è,·,é%øðE^-@,à, ,é }
```

program Solve;

var

Ole: Variant;

begin

Ole.Dispatch('Tapioca', FileName:='FrogEggs');

end.

Abstract methods must be virtual or dynamic

á Rf“fpfCf<fGf%o[]f[]bfZ[]fW

à-¾

Šî- {fNf%ofX“à,Á’ŠŮf[]fbfh,đéÉ¾,.,éêê#[]C,» ,ì’ŠŮf[]fbfh,í’Êí,ì¼zÉ^, © “®“!¼zÉ^,Á,È, ,ê,î,È,è,Û,¹,ňB

—á

{ 'ŠŮfſfbfh,í virtual ,© dynamic ,Å,È,¯,ê,î,È,ç,È,ç,ì,ÅŽŸ,ìéĚ¾,ÍGf%o[] ,É,È,é }

program Produce;

type

```
Base = class
  procedure DaliVision; abstract;
  procedure TellyVision; abstract;
end;
```

begin

end.

{ ,±,ÍGf%o[] ,ÍAfvfŠfP[]fVf#f",É%ž,ŕ,Ä virtual ,Æ dynamic
,ì,Ç,¿,ç,©Å"K,È•û,ðŽw'è,·,ê,î,È,,È,é }

program Solve;

type

```
Base = class
  procedure DaliVision; virtual; abstract;
  procedure TellyVision; dynamic; abstract;
end;
```

begin

end.

Case label outside of range of case expression

á fRf“fpfCf<fGf%o[f fbfZ[fW

à-¾

case •¶, ì\$CEä•ï”, º¶¶¬, Å, «, È, çf%ofxf<, ð case •¶, ì“à•”, ÉŽw’è, µ, Ü, µ, ½B

—á

```
{ TatesCompass ,Í CompassPoints ,ì'l,ì^ê•",ð•ÛŽ□,Å,«,È,ç,ì,Å□C,ç,,Å,©,ì case f%oofxf<,âfGf
%o□[,É,È,é }
```

```
program Produce;
{$WARNINGS ON}
```

type

```
CompassPoints = (n, e, s, w, ne, se, sw, nw);
FourPoints = n..w;
```

var

```
TatesCompass: FourPoints;
```

begin

```
TatesCompass := e;
case TatesCompass of
  n:   Writeln('North');
  e:   Writeln('East');
  s:   Writeln('West');
  w:   Writeln('South');
  ne:  Writeln('Northeast');
  se:  Writeln('Southeast');
  sw:  Writeln('Southwest');
  nw:  Writeln('Northwest');
```

end;

end.

```
{ fR□[fh,ð'2,x,Ä%o1/2,â-Ú"l,©,ð"»•É,μ,½CEä□C2 ,Å,ì%oðCE^-@,â, ,é□B1 ,Å,í,·,×,Ä,ì case f
%oofxf<,ð□¶□- ,Å,«,é,æ,x case •¶,ì□$CEä•ï□",ìCE^ ,ð•ï□X,·,é•û-@,Å, ,é□B2 "Ö-Ú,ì•û-
@,í□$CEä•ï□",â□¶□- ,Å,«,È,ç,·,×,Ä,ì case f%oofxf<,ð□í□œ,·,é•û-@,Å, ,é□BŽÿ,ìfR□[fh,í□Å□%o
,ì•û-@,ðŽ!,·-á,Å, ,é }
```

```
program Solve;
{$WARNINGS ON}
```

type

```
CompassPoints = (n, e, s, w, ne, se, sw, nw);
FourPoints = n..w;
```

var

```
TatesCompass: CompassPoints;
```

begin

```
TatesCompass := e;
case TatesCompass of
  n:   Writeln('North');
  e:   Writeln('East');
  s:   Writeln('West');
  w:   Writeln('South');
  ne:  Writeln('Northeast');
  se:  Writeln('Southeast');
```

```
sw: Writeln('Southwest');  
nw: Writeln('Northwest');  
end;  
end.
```

Object type required

—á [fRf“fpfCf<fGf%o\[\]f\[\]fbfZ\[\]fW](#)

à-¾

,±,lfGf%o[],lfRf“fpfCf%o,²flfufWfFfNfgCE^,ð•K—v,Æ,μ,Ä,ç,é,Æ,«,É•\Ž|,³,ê,Ü,·B,½,Æ,¡,îC, ,
éflfufWfFfNfg,ìä^ÊflfufWfFfNfg,ìCE^,àflfufWfFfNfgCE^,Å,È,¯,ê,î,È,è,Ü,¹,ñB

—á

```
{ System ftfjfbfg“à,ì Tobject ,ífNf%ofXCE^,È,ì,Å□C,»,±  
,©,ç,ífifufWfFfNfgCE^,ð”h□¶,Å,«,È,ç }
```

type

```
MyObject = object (TObject)
```

```
end;
```

begin

end.

```
{ CE^Ž~•ÊŽq,ífifufWfFfNfgCE^,ð□³,μ,•\,•,æ,π,É,;é□BfXfyf<,ŠÔ^á,Á,Ä,ç  
,é,©•Ê,ífifjfbfg,©,ç,ìŽ~•ÊŽq,É,æ,Á,Ä%oB,³,è,Ä,ç,é%oA”\□«,ª, ,é }
```

program Solve;

type

```
MyObject = class { ŽÀ□Û,É,í□C,±,ê,í class (TObject) ,ð^Ó-j,•,é }
```

```
end;
```

begin

end.

Field or method identifier expected

á fRf“fpfCf<fGf%o[]f[]fbfZ[]fW

à-¾

ftfB[]f<fh,Å,àf[]fbfh,Å,à,È,çfvf[]pfefB,É'í,μ,Ä **read** []ß,Ü,½,í **write** []ß—
p,ìZ⁻•ÉZq,ðZw'è,μ,Ü,μ,½[]B

-á

```
{ ŽŸ, ĩfR□[fh, Å, í 2 , Å, ĩfvf□fpfefB, ĩ-¼•û, ðfGf%□□[ , ð<N, ±, ·□B□Å□%□, ĩfvf□fpfefB, ðfGf%□□[ , É, È, é  
—□—R, ĩfvf□fpfefB Ž© 'ì, ð"Ç, Ý□', «f□f\fbfh, Æ, μ, ÄŽw'è, Å, «, È, ç, ©, ç, Å, , é□B2 "Ô-  
Ú, ĩfvf□fpfefB, ðfGf%□□[ , É, È, é—□—R, í R , ð Base fNf%□fX, ĩf□f"fo□□[ , Å, È, ç, ©, ç, Å, , é }
```

program Produce;

var

R: **string**;

type

Base = **class**

T: **string**;

property Title: **string** **read** Title **write** Title;

property Caption: **string** **read** R **write** R;

end;

begin

end.

```
{ , ±, ĩfGf%□□[ , ð%□ðÇÉ^ , , é, É, í□Cfvf□fpfefB—p, ì, , x, Å, ĩ read □ß, Æ write  
□ß, Å□C, » , ĩfvf□fpfefB, ð□Š—L, , éfNf%□fX, ĩf□f"fo□□[ , Å, , é—LÇø, ÈftfB□[f<fhŽ~ •ÉŽq, ©f□f\  
fbfhŽ~ •ÉŽq, ðŠmŽÀ, ÉŽw'è, , é }
```

program Solve;

type

Base = **class**

T: **string**;

property Title: **string** **read** T **write** T;

end;

begin

end.

Constructing instance of '<name>' containing abstract methods

á fRf"fpfCf<fGf%o[fbfZfW

à-¾

fRf"fpfCf<'t,ìfR[fh,í'ŠÛf\fbfh,đŽ,Á,½fNf%ofX,ìfCf"fXf^f"fX,ði¬,μ,æ,α,Æ,μ,Ä,φ,Ü,·B

Field definition not allowed after methods or properties

á Rf“fpfCf<fGf%o[]f[]bfZ[]fW

à-¾

Å%o,ì[]\fbfh'è` ,Ü,½,ívf[]pfefB'è` ,ªCEÿ[]o,³,ê,½CEã[]C,³,ç,ÉftfB[]f<fh,ðfNf%ofX,É'Ç
%oÁ,µ,æ,æ,Æ,µ,Ü,µ,½[]B,·,×,Ä,ìftfB[]f<fh'è` ,ðf[]\
fbfh,Æfvf[]pfefB,ì'O,É'u,©,È,¯,ê,î,È,è,Ü,¹,ñ[]B

Cannot override a static method

—á [fRf“fpfCf<fGf%o\[\]f\[\]fbfZ\[\]fW](#)

à-¾

”h[]fNf%ofX,ì†,Å[]C%o¼’zE^,Æ,μ,Ä[]éE¾,¾,ê,Ä,ç,È,çŠî- {f[]fbfh,ðf[]fo[]f%ofCfh,μ,æ,α
,Æ,μ,Û,μ,½[]B

—á

```
{ ŽŸ, ĩfR[fh, afGf%o[ , É, È, é—R, Í Base.StaticMethod , a%o¼'zf\
fbfh, Æ, μ, ÅéCE¾, ¾, ê, Ä, ¨, ç, , C, μ, ½, a, Ä, » , ìéCE¾, ðf[fo[f%ofCfh, Å, «, È, ç, ½, ß, Å, , é }
```

program Produce;

type

Base = **class**

procedure StaticMethod;

end;

Derived = **class**(Base)

procedure StaticMethod; **override;**

end;

procedure Base.StaticMethod;

begin

end;

procedure Derived.StaticMethod;

begin

end;

begin

end.

```
{ Šî- {fNf%ofX, ĩf[fXfR[fh, ðŽ, Á, Ä, ç, È, çéê#C, ±, ĩfGf%o[ , ðfvf[fOf%of€, ©, çŽæ, èœ, -
, É, í" h[f[fbfh, ìéCE¾, ©, ç override , ĩŽw'è, ðíœ, , é, ì, a, ½, ¾ 1 , Ä, ĩ•ú-@, Ä, , éBSî- {fNf
%ofX, ĩf[fX, a, , ééê# , É, ĩCCTd, É|—¶, μ, ½CEãCSî- {fNf%ofX, ĩf[fbfh, ð•ĭX, μ, Å%o¼'zCE^ , ĩ
1 , Ä, Æ, μ, ÅéCE¾, , éB, ½, ¾, μC, » , ì, æ, x, È•ĭX, ĩfvf[fOf%of€, É'ã, «, È
%oe<¿, ð<y, Ú, , ĩ, Å'^Ó, μ, È, , ê, ĩ, È, ç, È, ç }
```

program Solve;

type

Base = **class**

procedure StaticMethod;

end;

Derived = **class**(Base)

procedure StaticMethod;

end;

procedure Base.StaticMethod;

begin

end;

procedure Derived.StaticMethod;

begin

end;

begin

end.

Variable '<name>' inaccessible here due to optimization

á Rf“fpfCf<fGf%o[fbfZ[fW

à-¾

•]‰ž,Ü,½,íŠĂŽ<Ž® ,^{a-3}CEø,È•i” <name> ,ì'l,ðŽæ,èo,»,x,Æ,μ,Ü,μ,½,½B'½,,ìê#C,±
,lfGf%o[f,ífvf[fOf%of€
,ì\$CEäftf[f,ì†,Å“Á'è,ì“,©,çæ,íŽg,í,ê,È,ç'l,³f[fjf<•i” ,É“ü,³,ê,½,ÆfRf“fpfCf%o
,^a”»'f,μ,½ê# ,É”¶,μ,Ü,·B

—á

1. □V,μ,ϕfAfvfŠfP□[fVfϕf“,δ□□□-,μ,Ü,·□B
2. ftfH□[f€□ä,Éf{f^f“,δ“ü,ê,Ü,·□B
3. f{f^f“,δf_fuf<fNfŠfbfN,μ,Ä click f□f\fbfh,δ□□□-,μ,Ü,·□B
4. □@□“CE^,ìfOf□□[fof<•ï□” C ,δŽÀCE»•”,Ö’Ç%oÁ,μ,Ü,·□B

click f□f\fbfh,ÉŽÿ,ìfR□[fh,δ’Ç%oÁ,μ,Ü,·□B

```

procedure TForm1.Button1Click(Sender: TObject);
var
  A, B: Integer;
begin
  A := 10;
  B := 20;
  C := B;
  A := C;
end;

```

5. C ,Ö,ì’ã“ü,ÉfufCE□[fNf]fCf“fg,δ□Ý’è,μ,Ü,·□B
 6. fAfvfŠfP□[fVfϕf“,δfRf“fpfCf<,μ,ÄŽÀ□s,μ,Ü,·□B
 7. f{f^f“,δ%oÿ,μ,Ü,·□B
 8. fufCE□[fNf]fCf“fg,É“ž’B,μ,½CEã□C□m•]‰o¿□^•ï□X□nf_fCfAf□fOf{fbfNfX,δŠJ,«,Ü,·
(□mŽÀ□s□b•]‰o¿□^•ï□X(V)□n)□B
 9. A ,ð•]‰o¿,μ,Ü,·□B
- fRf“fpfCf‰o,í A ,Ö,ì□Á□‰o,ì’ã“ü,í□C,»„ì’l,ªCE^,μ,ÄŽg,í,ê,È,ϕ,½,β-
³CEø,^¾,Æ”FŽ˘,μ,Ü,·□B,»„ì,½,β□CfRf“fpfCf‰o,í 2 ”Ö-Ü,ì’ã“ü,ª”□¶,·,é,Ü,Á A ,ìŽg—p,δ‰o
 „Šú,μ,Ü,·□B•ï□” A ,í C ,ª’ã“ü,³,ê,é“_Ü,Á-³CEø,Æ,Ý,È,³,ê,Ü,·□B
 —LCEø,È’l,δŽ□,Á,Ä,ϕ,é•ï□”,ð•\Ž|,·,é,ì,ª,½,^¾ 1 ,Â,ì‰oðCE^-@,Á,·□B

□uNecessary library helper function was eliminated by linker□v

—á [fRf“fpfCf<fGf%o□\[f□fbfZ□\[fW](#)

□à-¾

—v<□,³,ê,½•]‰o¿,đŽÀ□s,·,é,½,ß,É□C“□□#fffofbfK,³fRf“fpfCf%o,lfwf<fp□[ŠÖ□”,đŽg,“,¤,Æ,μ,Ä,†,Ü,·□B^ê•û□CfŠf“fj,lfwf<fp□[ŠÖ□”,³ŽÄ□Ů,É,lfvf□fOf%of€
,ÉŽg,í,ê,È,©,Á,½,Æ”»'f,μ□Cfwf<fp□[ŠÖ□”,đfvf□fOf%of€,ÖfŠf“fN,μ,Ü,¹,ň,Å,μ,½□B

Missing or invalid conditional symbol in '\$<symbol>' directive

á fRf"fpfCf<fGf%o[]f[]fbfZ[]fW

à-¾

\$IFDEF **C\$IFNDEF** **C\$DEFINE** **C\$UNDEF** ,ìŠeŽw—ß,ìŒě,ÉfVf"ff{f<,đ'u,•K—v,^a, ,è,Ü,;B

-á

```
{ ,±,±,Á,Í $IFDEF □đĀŽw—β,āĀĒ,Á,ĀŽw'è,³,ê,Ā,ċ,é,ì,ĀfGf%□[ ,É,È,é }
```

program Produce;

```
{ $IFDEF }
```

```
{ $ENDIF }
```

begin

end.

```
{ fefXfg,·,éfVf“f{f,đŠY“-,ìŽw—β,ìĀĒ,É•K, Žw'è,·,ê,Ā□C,±,ì-â'è,ì%đĀĒ^ ,·,é }
```

program Solve;

```
{ $IFDEF WIN32 }
```

```
{ $ENDIF }
```

begin

end.

uIncompatible format specificationv

[fRf"fpfCf<fGf%o\[f\]fbfZ\[f\]fW](#)

à-¾

fCf"fxfyfNfg,µ,æ,π,Æ,µ,Ä,ç,élfufWfFfNfg,ìCE^,Æ,ìCEÝŠ·«,ª,È,çCE`Ž®Žw'èŽq,đ watch
•¶,Û,½,í evaluate •¶,ÉŽw'è,µ,Û,µ,½B,½,Æ,î~_—CE^·í",đ•¶Žš—ñ,Æ,µ,Ä·\Ž!,µ,æ,π
,Æ,·,é,ÆC,±,ìfGf%o[f],ª·N,«,Û,·B

Format specifier must be C, S, D, H, X, Fn, P, R or nMv

[fRf“fpfCf<fGf%o\[\]f\[\]fbfZ\[\]fW](#)

à-¾

•]‰ı, ;éŽ®,É-³Eø,ÈE`Ž®Žw'èŽq,đŽw'è,μ,æ,π,Æ,μ,Û,μ,½B
—LEø,ÈE`Ž®,đŽw'è,μ,Ä,©,ç,Å,È,̄,ê,î•]‰ı,ª[]æ,Ö[]ı,Ý,Û,¹,ñB

Bad specification of M format

fRf"fpfCf<fGf%o[f]fbfZ[fW

à-¾

Žg,!,È,ç M Ć`Ž®Žw'èŽq,đŽw'è,μ,Û,μ,½BM Žw'èŽq,ÉŽg,!,éfTftfBfNfX,í
C□CD□CH□CX□CS□CM ,¾, ¯,Å,·B

Object or class type required

á Rf“fpfCf<fGf%o[fbfZ[fW

à-¾

,±,lfGf%o[fbfZ[fW,ÍuTypename.Methodname[v,Æ,ç,æ[\•¶,đŽg,Á,½ê‡,ÉCtypename
,³lfufWfFfNfgCE^,Ü,½,ÍNf%ofXCE^,đŽ!,μ,Ä,ç,È,ç,Æ•\Ž!,³,ê,Ü,:B

—á

{ Create f\fbfh,đŽ,Á,Ä,ç,é,ì,í TInteger ,Å, ,èC®"CE^,Å,í,È,ç }

program Produce;

type

TInteger = **class**

Value: Integer;

end;

var

V: TInteger;

begin

V := Integer.Create;

end.

{ Ž•Éžq,aflfufWfFfNfgCE^,Ü,½,ífNf%ofXCE^,đŽ!,·,æ,π,É,·,éBŽ•Éžq,ìfXfyfç,ŠÔ^á,Á,Ä,ç
,é,©CŽ•Éžq,•É,ìftfjfbfg,©,ç,ìŽ•Éžq,É,æ,Á,Ä%B,³,ê,Ä,ç,é%Å"«, ,é }

program Solve;

type

TInteger = **class**

Value: Integer;

end;

var

V: TInteger;

begin

V := TInteger.Create;

end.

uFn requires 2 <= n <= 18v

—á fRf“fpfCf<fGf%o□[f□fbfZ□[fW

à-¾

“□□‡fffofbfK,ì’t,Å•,“@□-□”“_E`Ž®Žw’èŽq,ì”í^íŠO,ì’l,đŽw’è,μ,Ü,μ,½□B

Fn E`Ž®Žw’èŽq,ì”í^í,í 2□`18 ,Å,·□B

u'<name>' not previously declared as a PROPERTYv

á fRf"fpfCf<fGf%o[f]fbfZ[fW

à-¾

Äé¾,É,æ,Á,Ävf]pfefB,ð•Ê,ì%oÂŽ<«fCfxf<,Ü,Å^ø,«ä,°,æ,α,Æ,μ,Û,μ,½,³CSî-{fNf
%oX"à,ì <name> ,³vf]pfefB,Æ,μ,Äé¾,³,ê,Ä,ç,Û,¹,ñB

—á

```
{ Derived.Title ,\ÄéÉ¾,Í fvf\pfefB Title ,\Ç,Ý,«,ÉŽg,xfB[f<fh,ì\X,ÆpfufŠfbfN,È  
%ÅŽ<«,Ö,ì^ø,«ä,°,ðÓ],μ,Ä,ç,éB,μ,©,μfvf\fo%of},ª-{"-,ÉŽg,“,x,Æ,μ,½,ì,Í Title ,Å,È,  
TitleProp ,Å, ,é }
```

```
program Produce;  
{ $WARNINGS ON }
```

type

```
Base = class  
protected  
Caption: string;  
Title: string;  
property TitleProp: string read Title write Title;  
end;
```

```
Derived = class(Base)  
public  
property Title read Caption write Caption;  
end;
```

```
begin  
end.
```

```
{ ,±,lfGf%[\,ì%ðÉ^-@,Í 2 ,Å, ,éB1 ,Å,Í\ÄéÉ¾,μ,½,ç-{"-,lfvf\pfefB,ðŽw'è,·,é•û-  
@,ÅC,±,é,ª,à,Á,Æ,à^ê"É"l,È•û-@,ÆŽv,í,é,éB,à,x 1 ,Å,Í Title ,\ÄéÉ¾,ÉÉ©,ç,é,é,æ,x  
,ÉCŠì-{fNf%ofX"à,lfB[f<fh,Æ"~,¶-¼'O,ÅV,μ,çfvf\pfefB,ð-¾Ž!l,É\ì-,·,é•û-@,Å, ,éB,  
±,ìV,μ,çfvf\pfefB,ÍŠì-{ftB[f<fh,ð%B,·,ì,ÅCŠì-  
{ftB[f<fh,ÖÉ^flfffXfg,É,μ,ÉfAfNfZfX,Å,«,É,,É,é (f\f, : CEx,ðflf",É,μ,Ä, ,éê#\CTitle  
,ð\ÄéÉ¾,·,é,ÆŠì-{fNf%ofX,lf"fo[\,ª\ÄéÉ¾,É,æ,Å,Å%B,³,é,é,Æ,ç,xEx,ª"s,³,é,é) }
```

```
program Solve;  
{ $WARNINGS ON }
```

type

```
Base = class  
protected  
Caption: string;  
Title: string;  
property TitleProp: string read Title write Title;  
end;
```

```
Derived = class(Base)  
public  
property TitleProp read Caption write Caption;  
property Title: string read Caption write Caption;  
end;
```

```
begin  
end.
```

Field definition not allowed in OLE automation section

á fRf“fpfCf<fGf%o[]f[]fbfZ[]fW

à-¾

fNf%ofXé¾, ò OLE fi[]fgf[]fVf+f“•”, ÉftfB[]f<fh’è` , ð“ü, ê, æ, x, Æ, µ, Û, µ, ½ **automated**
•”, É, ívf[]fpfefB, Æf[]f\fbfh, ¾, ¯, ðé¾, Å, «, Û, ·B

—á

{ ,±,ìNf%ofX,Å,ì | ,ìéÉ³/₄,íRf“fpfCf<fGf%oo[.É,È,é }

program Produce;

type

Base = **class**

automated

I: Integer;

end;

begin

end.

{ | ,ìéÉ³/₄,đ automated •”,ìŠO,Öo,¹,íGf%oo[.í,È,,É,é }

program Solve;

type

Base = **class**

I: Integer;

automated

end;

begin

end.

—á

{ •¶ŽšĀ^,Í automated •",Á,ÍŽg,!,È,ċĀ^,È,!,Á□CCh ,đ□éĀ¾,·,é,ÆfRf“fƆf<fGf%□[,É,È,é }

program Produce;

type

Base = **class**

function GetC: Char;

procedure SetC(C: Char);

automated

property Ch: Char **read** GetC **write** SetC **dispId** 151;

end;

procedure Base.SetC(C: Char);

begin

end;

function Base.GetC: Char;

begin

 GetC := '!';

end;

begin

end.

{ ,±,ì-â'è,ì%đĀ^-@,Í 2 ,Á, ,é□B1 ,Á,ÍfGf%□[,đ<N,±,μ,½□éĀ¾,đ automated

•",ìŠO,Ö□o,·•û-@,Á, ,é□B,à,π 1 ,Á,ÍfGf%□[,đ<N,±,μ,½Ā^,đ automated

•",ÁŽg,!,éĀ^,É•í□X,;é•û-@,Á, ,é }

program Solve;

type

Base = **class**

function GetC: **string**;

procedure SetC(C: **string**);

automated

property Ch: **string** **read** GetC **write** SetC **dispId** 151;

end;

procedure Base.SetC(C: **string**);

begin

end;

function Base.GetC: **string**;

begin

 GetC := '!';

end;

begin

end.

uString constant truncated to fit STRING[<number>]v

ŽQÆ —á fRf“fpfCf<fGf%o[f]fbfZ[f]fW

à-¾

•ŕŽš—ň'è“,đ•i“,É'ã“ü,μ,æ,π,Æ,μ,Ü,μ,½,ªC•i“,ì'å,«,³,ª,»,ì•ŕŽš—ň'S'ì,đ“ü,ê,é,É,í\•ª,Å,í,
,è,Ü,¹,ňBfRf“fpfCf%o,í•i“,ÉŽù,Ü,é,æ,π,ÉfŠfef%of<,đØ,èŽì,Å,½,±,Æ,ðEx,μ,Å,ç,Ü,·B

—á

{ 2 ,Â, ì•ŕŽš—ñ'è", a•ĭ", Ö'ã"ü, ³, ê, é, a□C, » , ê, ç, ì•ĭ", í•ŕŽš—
ñ'S'ì, ð"ü, ê, é, É, 'Z, , -, é□BfRf"fpfCf%o, í•ŕŽš—ñ, ì--"ö, ð□Ø, èŽì, Ä, Ä'ã"ü, ðŽÀ□s, , é }

program Produce;
{ \$WARNINGS ON }

const

Title = 'Super Galactic Invaders with Turbo Gunpla Sticks';
Subtitle = 'Copyright (c) 1968 by Frank Borland';

type

TitleString = **string**[25];
SubtitleString = **string**[18];

var

ProgramTitle: TitleString;
ProgramSubtitle: SubtitleString;

begin

ProgramTitle := Title;
ProgramSubtitle := Subtitle;

end.

{ , ±, ì-â'è, ì%oðŒ^-@, í 2 , Â, , è□C, ±, ì-á, Ä, í-¼•û, ðŽì, .□B□Ä□%o, ì%oðŒ^-@, Ä, í•ŕŽš—
ñ, ð•ÛŽ□, , é•ĭ", ìftfCfY, ð'â, <, , , é□B2 "Ô-Û, ì%oðŒ^-@, Ä, í□éŒ¾, μ, ½•ĭ"ftfCfY, É□‡, í, ¹, Ä•ŕŽš—
—ñ, ìftfCfY, ð□¬, ³, , , é }

program Solve;
{ \$WARNINGS ON }

const

Title = 'Super Galactic Invaders with Turbo Gunpla Sticks';
Subtitle = 'Copyright (c) 1968';

type

TitleString = **string**[55];
SubtitleString = **string**[18];

var

ProgramTitle: TitleString;
ProgramSubtitle: SubtitleString;

begin

ProgramTitle := Title;
ProgramSubtitle := Subtitle;

end.

ŽQÆ
'Z,č•¶Žš—ňŒ^

Constructors and destructors not allowed in OLE automation section

á Rf“fpfCf<fGf%o[fbfZ[fW

à-¾

fNf%ofXé¾, à automated •”, ì’t, ÖfRf“fXfgf%ofNf^, ©ffXfgf%ofNf^, ðÆë, Á, Ä“ü, ê, æ, x, Æ, µ, Û, µ, ½B

Dynamic methods and message handlers not allowed in OLE automation section

á fRf“fpfCf<fGf%o[]f[]fbfZ[]fW

à-¾

fNf%ofX[]éÉ¾, à automated •”, ì’t, Ö“®“lf[]\fbfh, ©f[]fbfZ[]fWf[]\fbfh, ðÉë, Á, Ä“ü, ê, æ, x, Æ, µ, Û, µ, ½[]B

—á

```
{ fNf%ofX,ì OLE f[fgf[fVf#f“•”,ì†,Å,í“@“lf[fVfbfh,âf[fbfZ[fWf[fA  
fbfh,ðééCE¾,Å,«,É,ç[B,μ,½,ª,Á,Ä[CŽŸ,ìfvf[fOf%of€É,É,é 2 ,Å,ìf[fVfbfhééCE¾,í,ç,ì,ç,àfGf  
%o[f,ð[f[f,·,é }
```

program Produce;

type

Base = **class**

automated

procedure DynaMethod; **dynamic**;

procedure MessageMethod(**var** Msg: Integer); **message** 151;

end;

procedure Base.DynaMethod;

begin

end;

procedure Base.MessageMethod;

begin

end;

begin

end.

```
{ fvf[fOf%of€,©,ç,±,ìfGf%o[f,ðŽæ,è[œ,•û-@,í,ç,,Å,©, ,é[B,Ü, ,[CŽŸ,ìR[fh,ÉŽ,·,æ,ª  
,É[C,±,ìfGf%o[f,ð[f[f,μ,½[éCE¾,ð automated •”,ìŠO,Ö[o,·û-@,ª, ,é[B, ,é,ç,í[Cf[fVfbfh,ì  
dynamic ‘@[«,Ú,½,í message ‘@[«,ð[f[œ,μ,Ä,à,æ,ç[B,±,é,ç,í‘@[«,ð[f[œ,·,é,Æ[CŠó-]  
,ì‘@[,í“¾,ç,é,È,,É,é,ªfGf%o[f,à,È,,É,é }
```

program Solve;

type

Base = **class**

procedure DynaMethod; **dynamic**;

procedure MessageMethod(**var** Msg: Integer); **message** 151;

end;

procedure Base.DynaMethod;

begin

end;

procedure Base.MessageMethod;

begin

end;

begin

end.

Only register calling convention allowed in OLE automation section

—á fRf“fpfCf<fGf%o[]f[]fbfZ[]fW

à-¾

fNf%ofX[]éE¾,ì **automated** •”,ì’t,É, ,éf[]fjfbfh,É’í,μ,Ä[]C^á-@,ÈEÄ,Ñ[]o,μ<K-
ñ,šŽw’è,μ,Û,μ,½[]B

—á

```
{ Ć¼Ćê, ÌŽd—lǎǎCOLE fl[fjgf[fVfj“•”, Ā, Í register ^ÈŠO, ÌĆÄ, Ño, µ<K-  
ñ, Í, ·, x, ÄŽg, Ì, È, çBŽŸ, ÌfR[fh, Ā, Í cdecl •¶, ðfGf%o[ , ð<N, ±, µ, Ä, ç, é }
```

program Produce;

type

Base = **class**

automated

procedure Method; **cdecl**;

end;

procedure Base.Method; **cdecl**;

begin

end;

begin

end.

```
{ , ±, ÌfGf%o[ , Ì%oðĆ^-@, Í 3 , Ā , , éB1 , Ā, Í automated •””à, ĀéĆ¼, µ, ½fj\  
fbfh, É’Í, µ, Ā, ÍĆÄ, Ño, µ<K-ñ, ðŽw’è, µ, È, ç•û-@, Ā , , éB2 ”Ô-Ú, Ì•û-@, Í register ĆÄ, Ño, µ<K-  
ñ, ¾, -, ðŽw’è, ·, é•û-@, Ā , , éB3 ”Ô-Ú, Ì•û-@, ÌfGf%o[ , ð<N, ±  
, µ, ½éĆ¼, ðfj[fjgf[fVfj“•”, ÌŠO, Öo, ·•û-@, Ā , , é }
```

program Solve;

type

Base = **class**

automated

procedure Method; **register**;

procedure Method2;

end;

procedure Base.Method; **register**;

begin

end;

procedure Base.Method2;

begin

end;

begin

end.

uDispid '<number>' already used by '<name>'

ŽQÆ —á fRf“fpfCf<fGf%o[f]fbfZ[f]fW

à-¾

,±,lfNf%ofX,Å,·,Å,É•Ê,lf“fo[.ÖŠ,,è“-,Ä,Ä, ,é **dispid** ,đŽg,“,x,Æ,μ,Ü,μ,½B

—á

```
{ ĄX, ĩ automated fvfĳpfefB, ĩ dispid , ĳffĳĳ[ĳN, Ą, Ę, ě, ĩ, Ę, ğ, Ę, ğ, ĩ, ĄCSecondValue , ĳGf  
%oĳ[Ą, Ę, ě }
```

```
program Produce;
```

```
type
```

```
Base = class
```

```
  V: Integer;
```

```
  procedure SetV(X: Integer);
```

```
  function GetV: Integer;
```

```
  automated
```

```
    property Value: Integer read GetV write SetV dispid 151;
```

```
    property SecondValue: Integer read GetV write SetV dispid 151;
```

```
  end;
```

```
procedure Base.SetV(X: Integer);
```

```
begin
```

```
  V := X;
```

```
end;
```

```
function Base.GetV: Integer;
```

```
begin
```

```
  GetV := V;
```

```
end;
```

```
begin
```

```
end.
```

```
{ SecondValue , Öftĳĳĳ[ĳN, Ę dispid , đŠ,, ě“-Ą, Ę, ĳGf%oĳ[ĳ, Ę, Ę, ě }
```

```
program Solve;
```

```
type
```

```
Base = class
```

```
  V: Integer;
```

```
  procedure SetV(X: Integer);
```

```
  function GetV: Integer;
```

```
  automated
```

```
    property Value: Integer read getV write setV dispid 151;
```

```
    property SecondValue: Integer read GetV write SetV dispid 152;
```

```
  end;
```

```
procedure Base.SetV(X: Integer);
```

```
begin
```

```
  V := X;
```

```
end;
```

```
function Base.GetV: Integer;
```

```
begin
```

```
  GetV := V;
```

```
end;
```

begin
end.

ŽQÆ

OLE f![]fgf[]fvf#"

Redeclaration of property not allowed in OLE automation section

á fRf"fpfCf<fGf%o[fbfZ[fW

à-¾

automated •",)'+,Á,ívf]pfefB,ðÄé¾,Á,«,Ü,¹,ñB

—á

```
{ ŽŸ,lfR[]fh,Á,íC[]ÄéĚ¾,É,æ,Á,Ä Name ,ð Base ,Á,lfvf%ofCfx[]fg,È%oÄŽ<[]«,©,ç Derived
,Á,lfpfufŠfbfN,È%oÄŽ<[]«,Ö^Ú,μ,½[]B"~,¶'€[]ì,ð Value ,ÉŽŽ,Ý,½,afGf%o[][,É,È,Á,½ }
```

program Produce;

type

Base = **class**

V: Integer;

S: **string**;

protected

property Name: **string** **read** S **write** S;

property Value: Integer **read** V **write** V;

end;

Derived = **class**(Base)

public

property Name; (* []ÄéĚ¾,É,æ,Á,Ä Name ,ðpfufŠfbfN,È%oÄŽ<[]«,Ö^Ú,· *)

automated

property Value;

end;

begin

end.

```
{ fvf[]pfefB,ì%oÄŽ<[]«,ð automated ·",Ö'P[]f,É,í·i[]X,Á,«,È,ç[]B,μ,½,ª,Á,Ä[]CŠî-{fNf
%ofX,lfvf[]pfefB,ð automated ·",Á[]ÄéĚ¾,μ,È,ç,ì,ª,±,ì-â'è,ì%oðĚ^-@,Á, ,é }
```

program Solve;

type

Base = **class**

V: Integer;

S: **string**;

protected

property Name: **string** **read** S **write** S;

property Value: Integer **read** V **write** V;

end;

Derived = **class**(Base)

public

property Name; (* []ÄéĚ¾,É,æ,Á,Ä Name ,ðpfufŠfbfN,È%oÄŽ<[]«,Ö^Ú,· *)

property Value;

automated

end;

begin

end.

uUndeclared identifier: '<name>'v

—á fRf“fpfCf<fGf%o[]f[]fbfZ[]fW

à-¾

Žw'è,³,ê,½Ž-•ÊŽq,³CE©,Â,©,è,Ü,¹,ň,Â,μ,½B,à,Á,Æ,à[]!,ç,ê,éCE'^ö,í[]éCE¾,Ü,½,ÍŽg—
p,ìŽž“_.,Â,ìfXfyf<,ìCEè,è,Â,·B**uses** []ß,Âffjfbfg,ďŽw'è,μ,È,©,Á,½%oÁ“\[]«,à, ,è,Ü,·B

—á

{ ŽŸ, ĭfR□[fh, Å, Í Counter ,Æ, μ, Ä□éCE¾, μ, ½• ĭ□", ð Count
,Æ, μ, ÄŽg, Á, ½□B□éCE¾, ð• ĭ□X, ·, é, ©• ĭ□", ðŽg, Á, ½□ê□Š, É• ĭ□X, ð‰Á, ĭ, ê, ĭ‰ðCE^, ·, é }

program Produce;

var

Counter: Integer;

begin

Count := 0;

Inc(Count);

Writeln(Count);

end.

{ , ±, ĭ—á, Å, Í□éCE¾, ð• ĭ□X, μ, ½□B, » , ĭ•û, ¢ŽèŠÔ, ¢, ©, ©, ç, È, ç }

program Solve;

var

Count: Integer;

begin

Count := 0;

Inc(Count);

Writeln(Count);

end.

uClass type requiredv

á fRf“fpfCf<fGf%o[fbfZ[fW

à-¾

fRf“fpfCf%o,í^È%oº,ìè¶,ÉfNf%ofXCE^,ð•K—v,Æ,µ,Ü,·B

- fNf%ofXCE^,ìã^ÊfufWfFfNfg,Æ,µ,Ä
- **try..except** •¶,ì **on** ¶ß,ì†,Ä
- **raise** •¶,ì'æ 1 ^ø¶,Æ,µ,Ä
- forward ¶éCE¾fNf%ofXCE^,ìÅ¶I“l,ÈCE^,Æ,µ,Ä

-á

```
program Produce;
```

```
begin
```

```
    raise 'This would work in C++, but does not in C++Builder';
```

```
end.
```

```
program Solve;
```

```
uses SysUtils;
```

```
begin
```

```
    raise Exception.Create('There is a simple workaround, however');
```

```
end.
```

u'<clause>' clause not allowed in OLE automation section

á fRf“fpfCf<fGf%o[fbfZ[fW

à-¾

OLE f[fgf[fVf+f“•”,Á,Í **index**CstoredCdefaultCnodefault ,ìŠeŽw—ß,ðŽg,ı,Ü,¹,ñB

—á

{ automated fvf fpfefB,É,Í NODEFAULT B,ð'g,ÝZ,ß,È,ç }

program Produce;

type

Base = **class**

V: Integer;

procedure SetV(X: Integer);

function GetV: Integer;

automated

property Value: Integer **read** GetV **write** SetV **nodefault**;

end;

procedure Base.SetV(X: Integer);

begin

V := X;

end;

function Base.GetV: Integer;

begin

GetV := V;

end;

begin

end.

{ fGf%o[,ð<N,±,μ,½B,ðíœ,·,é,¾,~,ÅfGf%o[,Í,È,,È,éB, ,é,ç,ÍC,»,)fvf fpfefB,ð
automated •",©,çŠO,Éo,μ,Ã,àfGf%o[,Í,È,,È,é }

program Solve;

type

Base = **class**

V: Integer;

procedure SetV(X: Integer);

function GetV: Integer;

automated

property Value: Integer **read** GetV **write** SetV;

end;

procedure Base.SetV(X: Integer);

begin

V := X;

end;

function Base.GetV: Integer;

begin

GetV := V;

end;

begin

end.

DispID clause only allowed in OLE automation section

á

à-¾

automated •",É"ü,Á,Ä,ç,È,çfvf[]fpfefB,É **dispID** ,ðŽw'è,μ,Û,μ,½[]B

—á

{ ,±,ìfjvf[]fOj%oof€,Í OLE f![]fjgf[][]fVfj#“fjufWfFfNfg,ì dispid ,ð[]Ý’è,μ,æ,κ,Æ,μ,Ä,ç
,é,ª[]C,»,)fjvf[]pfefB,Í automated •”,Å[]é€¾4,³,ê,Ä,ç,È,ç }

program Produce;

type

Base = **class**

V: Integer;

procedure SetV(X: Integer);

function GetV: Integer;

property Value: Integer **read** GetV **write** SetV **dispid** 151;

end;

procedure Base.SetV(X: Integer);

begin

V := X;

end;

function Base.GetV: Integer;

begin

GetV := V;

end;

begin

end.

{ fGf%o[][,ð%oð€^,.,é,É,í[]Cfvf[]pfefB[]é€¾4,©,ç dispid []ß,ð[]í[]œ,.;é,©[]Cfvf[]pfefB[]é€¾4,ð
automated •”,ì’t,Ö“ü,ê,é }

program Solve;

type

Base = **class**

V: Integer;

procedure SetV(X: Integer);

function GetV: Integer;

automated

property Value: Integer **read** GetV **write** SetV **dispid** 151;

end;

procedure Base.SetV(X: Integer);

begin

V := X;

end;

function Base.GetV: Integer;

begin

GetV := V;

end;

begin

end.

uType '<name>' must be a class to have OLE automation

á fRf“fpfCf<fGf%o[]f[]fbfZ[]fW

à-¾

Ā,čfXf^fCf<,lfufWfFfNfg,É,Í automated •”,đŽw’è,Å,«,Ü,¹,ňB

—á

{ ĄĀ, ĄfXf^fCf<, ĩfufWfFfNfg, É, Í automated •”, đŽw’è, Ā, «, È, Ą, ì, Ā□C, ±, ì—á, ĩfGf%□[, È, È, é }

program Produce;

type

OldObject = **object**
 automated
 end;

begin

end.

{ ĄĀ^, đ object , ©, Ą class , É•ĭ□X, , é, © automated •”, đ□í□œ, , ê, ĩfGf%□[, Í, È, , È, é }

program Solve;

type

NewClass = **class**
 automated
 end;

begin

end.

uType '<name>' must be a class to have a PUBLISHED sectionv

á fR“fpfCf<fGf%o[]f[]bfZ[]fW

à-¾

Ā,çfXf^fCf<,lfufWfFfNfg,É,Í **published** •”,ðŽw’è,Å,«,Ü,¹,ňB

—á

```
{ ĄĀ,čfXf^fCf<,lfufjWfFfNfg,É,Í published •”,đŽw’è,Ā,«,È,č,ì,Ā□C,±,ì—á,ÍfGf%□[,É,È,é }
```

```
{ $TYPEINFO ON }
```

```
program Produce;
```

```
type
```

```
  OldObject = object
```

```
    published
```

```
  end;
```

```
begin
```

```
end.
```

```
{ ĄĀ^,đ object ,©,č class ,É•ĭ□X,·,é,© published •”,đ□í□œ,·,ê,ÍfGf%□[,Í,È,,È,é }
```

```
{ $TYPEINFO ON }
```

```
program Solve;
```

```
type
```

```
  NewClass = class
```

```
    published
```

```
  end;
```

```
begin
```

```
end.
```

Redeclaration of '<name>' hides a member in the base class

á fRf“fpfCf<fGf%o[fbfZ[fW

à-¾

Šî- {fNf%ofX, ì 1 ,Â,ÉŠÜ,Ü,ê,Ä,ç,é•ï”,Æ“¬,¶-¼‘O,ÂfNf%ofX“à,Éfvf[]pfefB,ð[]¬,μ,Ü,μ,½[]B
,½,Æ,î,î[]C[]V,μ,Šî- {fNf%ofXŠK‘w,ð“±“ü,μ[]C,» ,ê,ÉCE»[]ÝŽg,Á,Ä,ç,éfvf[]pfefB-¼,Æ“¬,¶-
¼‘O,îf[]“fo[]•ï”,ª“ü,Á,Ä,ç,é[]ê[]‡,È,Ç,ªCE´^ö,Æ[]l,î,ç,ê,Ü,·[]B

—á

```
{ Derived.v ,Í Base.v ,ðfI□[fo□[f%ofCfh,μ□C,μ,½,ª,Á,Ä%oB,·□BCE^fLfffXfg,ð,μ,È,¯,ê,î Derived  
CE^,ì•î□",©,ç Base.v ,ÖfAfNfZfX,Å,«,È,ç }
```

```
{ $WARNINGS ON }
```

```
program Produce;
```

```
type
```

```
Base = class
```

```
  V: Integer;
```

```
end;
```

```
Derived = class(Base)
```

```
  Ch: Char;
```

```
  property V: Char read Ch write Ch;
```

```
end;
```

```
begin
```

```
end.
```

```
{ "h□¶lfNf%ofX"à,lfvf□pfefB-¼,ð•î□X,·,é,¾,¯,ÅfGf%o□[,Í,È,,È,é }
```

```
{ $WARNINGS ON }
```

```
program Solve;
```

```
type
```

```
Base = class
```

```
  V: Integer;
```

```
end;
```

```
Derived = class(Base)
```

```
  Ch: Char;
```

```
  property ChV: Char read Ch write Ch;
```

```
end;
```

```
begin
```

```
end.
```

Overriding automated virtual method '<name>' cannot specify a `dispid`

á fRf“fpfCf<fGf%o[]f[]bfZ[]fW

à-¾

”h[]fNf%ofX“à,ÅfI[]fo[]f%ofCfh,·,é,·,×,Ä,ìŽè’±,«,í[]CÉ³,ì%o¼’z **automated** Žè’±,«[]éÉ¾—
p,É[]éÉ¾,³,è,½ **dispid** ,đŽg,í,È,·,è,î,È,è,Ü,¹,ñ[]B

—á

{ Derived “à,É, ,é Base Automatic ,lf□[fo□[f%ofCfh□éCE³/₄ (Derived Automatic) ,aŽè'±—
p,É•Ê,Ì dispid ,ð'è<` ,μ,æ,α,Æ,μ,Ä,ϕ,é,ì,ªCEë,è,Å, ,é }

program Produce;

type

Base = **class**

automated

procedure Automatic; **virtual**; **dispid** 151;

end;

Derived = **class**(Base)

automated

procedure Automatic; **override**; **dispid** 152;

end;

procedure Base Automatic;

begin

end;

procedure Derived Automatic;

begin

end;

begin

end.

{ fGf%o□[,ð<N,±,μ,½ dispid □β,ð□□œ,·,ê,î□C,±,lfvf□fOf%of€ ,ðfRf“fpfCf<,Å,« ,é }

program Solve;

type

Base = **class**

automated

procedure Automatic; **virtual**; **dispid** 151;

end;

Derived = **class**(Base)

automated

procedure Automatic; **override**;

end;

procedure Base Automatic;

begin

end;

procedure Derived Automatic;

begin

end;

begin
end.

Published Real property '<name>' must be Single, Double or Extended

á fRf“fpfCf<fGf%o[]f[]bfZ[]fW

à-¾

Real CE^,lfvf[]fpfefB,ÍpfufŠbfVf...,ÉÝ'è,Å,«,Ü,¹,ñ[]BpfufŠbfVf...

,ÉÝ'è,Å,«,é•,“@[]-[]“_vf[]fpfefB,Í Single[]CDouble[]CExtended ,ì,ç,„,ê,©,Å,·B

—á

{ ŽŸ,lfvf[]fOf%of€,Á,í[]CfpfufŠfbjVf...,É[]Ý'è,μ,½ Real fvf[]pfefB,ð[]í[]œ,·,é,©[]CfpfufŠfbjVf...
,É[]Ý'è,μ,È,ç•",Ö^Ú" @,·,é,©[]C,Ü,½,ÍŽó,"ü,ê%oÂ"\,ÈCE^,É•í[]X,μ,È,¯,ê,Î,È,ç,È,ç }

program Produce;

type

Base = **class**

R: Real;

published

property RVal: Real **read** R **write** R;

end;

end.

{ ,±,ì%oðCE^-@,Á,lfvf[]pfefB,ðŽÀ[]"CE^,É•í[]X,μ,½[]B,±
,ê,É,æ,Á,ÄŽÀ[]sžž,ìCE^[]î•ň,ªŽÀ[]Ú,É[]¶[]-,³,ê,é }

program Produce;

type

Base = **class**

R: Single;

published

property RVal: Single **read** R **write** R;

end;

end.

Size of published set '<name>' is >32 bits

á fRf“fpfCf<fGf%o[]f[]fbfZ[]fW

à-¾

published •”,É,Í 32 frfbfg,ð’,,é[W±CE^,ð“ü,ê,ç,ê,Ü,¹,ñ[BW±CE^,lfTfCfY (fofCfg’P^Ê) ,Í
High(setname) div 8 - Low(setname) div 8 + 1 ,ÅCEvŽZ,Å,«,Ü,·B

-á

```
{$TYPEINFO ON}
```

```
program Produce;
```

```
type
```

```
  CharSet = set of Char;
```

```
  NamePlate = class
```

```
    Characters: CharSet;
```

```
  published
```

```
    property TooBig: CharSet read Characters write Characters ;
```

```
  end;
```

```
begin
```

```
end.
```

```
{$TYPEINFO ON}
```

```
program Solve;
```

```
type
```

```
  CharSet = set of 'A'..'Z';
```

```
  NamePlate = class
```

```
    Characters: CharSet;
```

```
  published
```

```
    property TooBig: CharSet read Characters write Characters ;
```

```
  end;
```

```
begin
```

```
end.
```

Unpublished property '<name>' cannot be of type <type>

—á fRf“fpfCf<fGf%o[f]fbfZ[fW

à-¾

fpfufŠfbfVf...fvf[]pfefB,í[]~^[]Csingle[]CDouble[]CExtended[]CComp[]C•¶žš—ñ^[]C32
frfbfg,ÉŽù,Ü,é[]W[]^[]Cf[]fbfhfj[]fCf“f^[]C^,ì,ç
,,è,©,Á,È,~,é,í,È,è,Ü,¹,ñ[]B,» ,é^ÈŠO,ìfvf[]pfefBCE^ ,^a published • ,É, ,Á,½[]ê[]#[]CfRf“fpfCf
%o,í published ‘®[]«,ð[]í[]œ,μ,Ü,·[]B

—á

```
{ "z—ñ,ípfufšfbjVf...,ÉŸ'è,Å,«,È,čff[f^Ĉ^,È,ì,ĀfGf%o[.,ā<N,«,é }
```

```
{ $TYPEINFO ON }
```

```
program Produce;
```

```
type
```

```
  TitleArr = array[0..24] of Char;
```

```
  NamePlate = class
```

```
    TitleStr: TitleArr;
```

```
  published
```

```
    property Title: TitleArr read TitleStr write TitleStr;
```

```
  end;
```

```
begin
```

```
end.
```

```
{ fvf[fpfefB[éĈ¾,đ published •",ìŠO,Öo,¹,ĪfGf%o[.,đ%ñ"đ,Å,«,éB, ,é,č  
,ĪCfvf[fpfefB,ìĈ^,đŽŸ,ĪR[fh,ì,æ,ꝛ,ÉCŽÀŮ,ÉpfufšfbjVf...
```

```
,ÉŸ'è,Å,«,éĈ^,É•ĪX,μ,Ā,à,æ,č }
```

```
{ $TYPEINFO ON }
```

```
program Solve;
```

```
type
```

```
  TitleArr = Integer;
```

```
  NamePlate = class
```

```
    TitleStr: TitleArr;
```

```
  published
```

```
    property Title: TitleArr read TitleStr write TitleStr;
```

```
  end;
```

```
begin
```

```
end.
```


Thread local variables cannot be local to a function

[fRf“fpfCf<fGf%o\[fbfZ\[fW](#)

[à-¾](#)

[fXfEfbfhf\[fjf<•ï”,ÍfOf\[fof<fXfR\[fv,ÁéE¾,µ,È,¯,ê,Î,È,è,Ü,¹,ñB](#)

—á

{ fXfCEfbfh•ï□", íŽè'±,«,É'í,μ,Äf□□[ffj<,É,í□éCE¾,Å,«,È,ç }

program Produce;

procedure NoTLS;

threadvar

X: Integer;

begin

end;

begin

end.

{ ,±,lfGf%□□[É,ÍŠÈ'P,È%ñ"ð•û-@,ª 2 ,Â, ,é□B1 ,Â,í threadvar

fZfNfVf†f",ðf□□[ffj<fXfR□[fv,Ö^Ú" @,·,é•û-@,Å, ,é□B,à,ª 1 ,Â,í□CŽè'±,«"à,ì threadvar ,ð'É□í,ì

var fZfNfVf†f",É•ï□X,·,é•û-@,Å, ,é□BfRf"fpfCf%□

,lfqf"fg,ªflf",ì□ê□†,É,í□C□éCE¾,μ,Ä,àŽg,í,ê,È,ç localX ,É,Â,ç,Ä,lfqf"fg,ª•\Ž!,ª,é,é }

program Solve;

threadvar

X: Integer;

procedure YesTLS;

var

LocalX: Integer;

begin

end;

begin

end.

uFunction needs result typev

á fRf“fpfCf<fGf%o[]f[]bfZ[]fW

à-¾

ŠÖ”,đéE¾,μ,Ü,μ,½,ªC-β,è,ìE^,đŽw’è,μ,Ü,¹,ñ,Å,μ,½B

—á

{ ŠÖ" Sum ,ì-β,è'ICE^,āŽw'è,³,ê,Ä,ç,È,ç }

program Produce;

function Sum(A: **array of** Integer);

var

I: Integer;

begin

Result := 0;

for I := 0 **to** High(A) **do**

Result := Result + A[I];

end;

begin

end.

{ CE<%oÊ,ICE^,δ•K,Žw'è,·,é,³/₄,-,Ä,æ,ç }

program Solve;

function Sum(A: **array of** Integer): Integer;

var

I: Integer;

begin

Result := 0;

for I := 0 **to** High(A) **do**

Result := Result + A[I];

end;

begin

end.

Thread local variables cannot be ABSOLUTE

á fRf“fpfCf<fGf%o[fbfZ[fW

à-¾

fXfÆfbfhf[fjf<•i”,í•Ê,ì•i”,ðŽQÆ,Å,«,.,Câ’f,fŠfAfhfÆfX,àŽQÆ,Å,«,Ü,¹,ňB

—á

{ absolute Žw—β,í threadvar □éCE¾fZfNfVf#f“ ,Á,ÍŽg,ı,È,ç }

program Produce;

threadvar

SecretNum: Integer **absolute** \$151;

begin

end.

{ ,±,)Ží,ı-â'è,É,ÍŠÈ'P,È%oðCE^-@,ª 2 ,Á, ,é□B1 ,Á,Í threadvar fZfNfVf#f“ ,©,ç absolute Žw—
β,đ'P,É□í□œ, ,é•û-@,Á, ,é□B,à,π 1 ,Á,í□â'í•İ□“,đ'È□í,ı var □éCE¾fZfNfVf#f“ ,Ö^Ú“@, ,é•û-
@,Á, ,é }

program Solve;

threadvar

SecretNum: Integer;

var

sNum: Integer **absolute** \$151;

begin

end.

EXPORTS allowed only at global scope

á Rf“fpfCf<fGf%o[]f[]fbfZ[]fW

à-¾

f[]fXfvf[]fOf%of€,ì't,ÉfXfR[]fv,ªfOf[][]fof<,Å,È,ç **exports** []ß,ª, ,è,Ü,µ,½[]B

-á

{ EXPORTS ß,ÍfOf□□[fof<fXfR□[fv,Á,¾,~Žg,!,é }

program Produce;

procedure ExportedProcedure;

exports ExportedProcedure;

begin

end;

begin

end.

{ EXPORTS ß,đ•K,„fOf□□[fof<fXfR□[fv,É,μ□Cß,ì't,ÉŽw'è,μ,½,;,x,Ä,ìŽè'±,«,ìCEă,É'u,~,î
%ođCE^,.,é□B^ê"Ê"l,Ë<K'¥,Æ,μ,Ä□CEEXPORTS ß,Íf□[fXftf@fCf<,ì□%Šú%o»fR□[fh,ì'¼'O,É'u,-
,ì,ª□Á'P,ì•û-@,Á, ,é }

program Solve;

procedure ExportedProcedure;

begin

end;

exports ExportedProcedure;

begin

end.

Constants cannot be used as open array arguments

á fRf"fpfCf<fGf%o[f]fbfZ[fW

à-¾

f[fvf""z-ñfpf%o[f^,ÍŽÀÛ,ì"z-ñ•ï",Ü,½,Í)¬-ï,Ý"z-ñ,Æ^è,ÉŽw'è,·,é,©Cfpf
%of[f^,ì-v'fCE^,ì'P^è•ï",Æ^è,ÉŽw'è,μ,È,¯,ê,Î,È,è,Û,¹,ñB

-á

```
{ ŽŸ, ĭfR [fh, ĀfGf%o [ , ā<N, «, éĈ´^ö, íC"z—ñ, ā"n, ³, ê, é, x, «Žè´±, «, É•¶Žš—ñfŠfef  
%of<, ā'ñ<Ÿ, ³, ê, é, ©, ç, Ā, , éB'è", ©, ç, í"z—ñ, ð^Ā-Ù, Éì□¬, Ā, «, È, ç }
```

program Produce;

procedure TakesArray(S: **array of string**);

begin

end;

begin

 TakesArray('Hello Error');

end.

```
{ , ±, ì%ðĈ^-@, Ā, í"z—ñ, ā-¾Ž! "l, Éì□¬, ³, ê, é, ì, ĀfGf%o [ , ð%ñ"ð, Ā, «, é }
```

program Solve;

procedure TakesArray(S: **array of string**);

begin

end;

begin

 TakesArray(['Hello Error']);

end.

uSlice standard function only allowed as open array argument

á fRf“fpfCf<fGf%o[fbfZ[fW

à-¾

Å’èTfCfY,ì”z—ñ,Ö”z—ñfXf%ofCfX,ð“n,»,α,Æ,μ,Ü,μ,½B”z—ñfXf%ofCfX,Íf[fvf“”z—ñfpf
%of[f^,É,¾,~‘—,ê,Ü,·B

-á

{ ŽŸ, ĺfR□[fh, Å, Í TakesArray , æĈĀ' èfTfCfY, ì"z—ñ, ðŠú'Ò, μ, Ä, ç, é, ½, ß, ÉfGf%□[, □□□□—, ³, ê, é }

program Produce;

type

IntegerArray = **array**[1..10] **of** Integer;

var

SliceMe: **array**[1..200] **of** Integer;

procedure TakesArray(X: IntegerArray);

begin

end;

begin

TakesArray(Slice(SliceMe, 5));

end.

{ ŽŸ, ĺfR□[fh, Å, Í TakesArray , æpf%□f□□[f^ , Æ, μ, Äf□[fvf""z—ñ, ð, Æ, é, ì, ÅfGf
%□[, Í□□□—, ³, ê, É, ç }

program Solve;

type

IntegerArray = **array**[1..10] **of** Integer;

var

SliceMe: **array**[1..200] **of** Integer;

procedure TakesArray(X: **array of** Integer);

begin

end;

begin

TakesArray(Slice(SliceMe, 5));

end.

Cannot initialize thread local variables

á Rf“fpfCf<fGf%o[fbfZ[fW

à-¾

XfÆfbfhf[fjf<•i”,í%Šú%»„Å,«,Ü,¹,ñB

-á

{ ŽŸ, ì tls , ì é Ě ¾, Æ ì % Š ú % » , í, Ā, «, È, ç }

program Produce;

threadvar

tls: Integer = 151;

begin

end.

{ fXfĚfbfhf ì ì [fj]f << L % ^ æ, ð' Ê í, ì < L % ^ æ, Æ, μ, Ā ì Ě ¾, μ, Ā, ", , , í Ě f \ ì [fXftf@fĚf <, ì % Š ú % » • " , Ā ì % Š ú % » , Ā, «, é }

program Solve;

threadvar

tls: Integer;

begin

tls := 151;

end.

Cannot initialize local variables

á fR“fpfCf<fGf%o[fbfZ[fW

à-¾

f[fj<,Á%Šú%»İ,Ý•İ”,ÍŽg,ı,Ü,¹,ñB

-á

{ Show Žè'±,«"à,ì i ,ìéÉ¾,Æ□%Šú%»,"í^á-@,Å, ,é }

program Produce;

var

J: Integer;

procedure Show;

var

I: Integer = 151;

begin

end;

begin

end.

{ fvf□fOj%œ,lfXf^fCf<,đŽg,Á,Ä,·,×,Ä,ì•ï□",É'l,đ□Y'è,Å,«,é }

program Solve;

var

J: Integer;

procedure Show;

var

I: Integer;

begin

I := 151;

end;

begin

J := 0;

end.

Cannot initialize multiple variables

á fRf“fpfCf<fGf%o[]f[]bfZ[]fW

à-¾

•i”i%Šú%»„í•i”„đĈÂ•Ê„ÉéĈ¾„μ„½„Æ„«„É„¾„žÀs„Å„«„Ü„·B

-á

{ ^ê"x,É•i□",)•i□",)□éĀ¼,Æ□%Šú%»},Á,«,È,č }

program Produce;

var

I, J: Integer = 151, 152;

begin

end.

{ 'P,ÉĀX,ì•i□",đ'P"Æ,Á□éĀ¼,•,ê,î□%Šú%»},Á,«,é }

program Solve;

var

I: Integer = 151;

J: Integer = 152;

begin

end.

Constant object cannot be passed as var parameter

á fRf“fpfCf<fGf%o[fbfZ[fW

à-¾

•“fpf%of[f^,ÍCEÄ,Ño,³,ê,½Žè’±,«,Ü,½,ÍŠÖ”,É,æ,Á,Ä•ïX,³,ê,é,ì,ð’O’ñ,Æ,μ,Ä,ç
,é,ì,ÅC’è”fjfufWfFfNfg,í“n,¹,Ü,¹,ňBCEÄ,Ño,³,ê,½ŠÖ”,É,»,ìff[f^‘ç,ð•ïX,³,¹,½,-
,È,~,ê,îC,©,í,è,É’è”fpf%of[f^,Žg,!,Ü,·B

—á

```
{ ŽŸ,ĴR[fh,Å,ÍŠÖ",É•Ī"fpf%of[f^,a, ,é,a[C,»ê,É'è",ð"n,μ,Ä,ç,é }
```

```
program Produce;
```

```
{ $AppType Console }
```

```
function Max(var A: array of Integer): Integer;
```

```
var
```

```
  I: Integer;
```

```
begin
```

```
  Result := Low(Integer);
```

```
  for I := 0 to High(A) do
```

```
    if Result < A[I] then
```

```
      Result := A[I];
```

```
end;
```

```
begin
```

```
  Writeln( Max([1,2,3]) ); { <-- ,±,±,ÅfGf%of[f]fbfZ[fW }
```

```
end.
```

```
{ fpf%of[f^,ð'è"fpf%of[f^,Æ,μ,Ä,ÉĈ¾,·,ê,Ī (fpf%of[f^,É•ĪX,ð%Å,Ĵ,é^Ó),Ĵ,È,ç,Ĵ,Å)  
%øðĈ^,·,éB'è",ð"n,³,È,ç,æ,α,ÉĈÄ,Ŋo,μ,ð•ĪX,·,é•û-@,à, ,é }
```

```
program Solve;
```

```
{ $AppType Console }
```

```
function Max(const A: array of Integer): Integer;
```

```
var
```

```
  I: Integer;
```

```
begin
```

```
  Result := Low(Integer);
```

```
  for I := 0 to High(A) do
```

```
    if Result < A[I] then
```

```
      Result := A[I];
```

```
end;
```

```
begin
```

```
  Writeln( Max([1,2,3]) );
```

```
end.
```

Invalid function result type

á fR“fpfCf<fGf%o[]f[]bfZ[]fW

à^{-3/4}

ftf@fCf<E^,íŠÖ”,ìE<%oÊ,ìE^,Æ,μ,Ä,íŽg,|,Ü,¹,ñB

-á

{ ŠÖ", ©, ç, ìftf@fCf<Æ^, ð•Ô, ¹, È, ‡ }

program Produce;

function OpenFile (Name: **string**): **file**;

begin

end;

begin

end.

{ ftf@fCf<Æ^, í•ï"fpf%of[]f^, Æ, µ, Ä•Ô, ¹, éBftf@fCf<, ð"®"l, ÉŠ,, è"-, ÄC, »), ìftf@fCf<, Ö, ìf|
fCf"f^, ð•Ô, •û-@, à, , é }

program Solve;

procedure OpenFile (Name: **string**; var F: **file**);

begin

end;

begin

end.

Procedure cannot have a result type

á fRf“fpfCf<fGf%o[fbfZ[fW

à-¾

Žè'±,«,đéĚ¾,μ,Û,μ,½,ªC,»,ê,ÉĚ<%oÊ,ìĚ^,đŽw'è,μ,Û,μ,½B-{"-,ÍŠÖ",đéĚ¾,·,é^Ó}
,¾,Á,½,©C, ,é,ç,íĚ<%oÊ,ìĚ^,đíœ,μ,È,¯,ê,î,È,è,Û,¹,ñB

—á

{ ,±,±,Á-{"-,Í DotProcut ,đŠÖ",É,·,é^Ó},¾,Á,½,ªCCEë,Á,½fL[f][fh,đŽg,Á,½ }

program Produce;

procedure DotProduct(**const** A,B: **array of** Double): Double;

var

I: Integer;

begin

Result := 0.0;

for I := 0 **to** High(A) **do**

Result := Result + A[I]*B[I];

end;

const

C: **array**[1..3] **of** Double = (1,2,3);

begin

Writeln(DotProduct(C,C));

end.

{ ŠÖ",đé¾,·,é,Æ,«,Í•K,CE<%oÉ,ìCE^,đé¾,μCŽè'±
,«,đé¾,·,é,Æ,«,ÍCE<%oÉ,ìCE^,đé¾,μ,É,¢ }

program Solve;

function DotProduct(**const** A,B: **array of** Double): Double;

var

I: Integer;

begin

Result := 0.0;

for I := 0 **to** High(A) **do**

Result := Result + A[I]*B[I];

end;

const

C: **array**[1..3] **of** Double = (1,2,3);

begin

Writeln(DotProduct(C,C));

end.

Text after final 'END.' - ignored by compiler

á Rf“fpfCf<fGf%o[fbfZ[fW

à-¾

, ±, ìEx, ìfvf fOf%of€ , ì~ _ — ä, ìl, í, è, ð\ - , . , é Å Æ ä, ì **end** , ÆfsfŠfjfh, ì Æ ä, É C, Ü, ¾ f \
 [fXfefLfXfg,ª, , é ê ð †, É • \ Ž |,ª, ê, Ü, · B begin..end , ìfXfg,ª-µ, , µ, Ä, ç, é (, Ç, ±, ©, É —] •ª, È end
,ª, , é) , Æ Ž v, í, è, Ü, · B, » , ì \ [fXfefLfXfg, ð fRf“fpfCf%o, É-³ Ž < ,ª,¹, é ^ Ó } , Å , Á, ½, ©, Ç, x
, ©, ð², x , Ä, , ¾,ª, ç B Ž Ä Ü, É, í, » , ì fefLfXfg,ª” ñ í, É d — v, ©, à, µ, ê, Ü,¹, ñ B

-á

```
program Produce;  
{ $WARNINGS ON }
```

```
begin  
end.
```

```
,±,±,ÉfefLjXfg,a, ,é,Æ 16 frfbfg,ì Delphi ,Å,í-3Ž<,3,ê□C32 frfbfg,ì Delphi ,¨,Ñ C+  
+Builder ,Å,íCEx□□,a•\Ž!,3,ê,é
```

```
//-----
```

```
program Solve;
```

```
begin  
end.
```

```
{ end. ,ìCÉã,Å,àfRf□□“fgfAfEfg,μ,Ä, ,ê,îCEx□□,í•\Ž!,3,ê,È,¢ }
```

Constant expression expected

á fRf“fpfCf<fGf%o[]f[]bfZ[]fW

à^{-3/4}

fRf“fpfCf%o,í,±,±,Á'è"Ž@,đŠú'Ò,μ,Ü,μ,½,ªCÆ©,Â,©,Á,½Ž@,í'è"Ž@,Á,í, ,è,Ü,¹,ň,Á,μ,½
B

—á

```
{ Pos ,ìĀÄ,Ñ□o,μ,í,»,"ì^ø□",á'è□",Å, ,Á,Ä,àfRf"fpfCf%o,É'î,·,é'è□"Ž® ,Á,í,È,□CĀ  
'¥"l,É,ífRf"fpfCf<Žž,É•]‰i,³,ê,é }
```

program Produce;

const

Message = 'Hello World!';

 WPosition = Pos('W', Message);

begin

end.

```
{ ,μ,½,á,Á,Ä,±,ì—á,Á,í□CWPosition ,ì³,μ,ϕ'l,đŠJ"ŽÒŽ©□g,áĀEvŽZ,μ,È,¯,ê,î,È,ç,È,ϕ }
```

program Solve;

const

Message = 'Hello World!';

 WPosition = 7;

begin

end.

Constant expression violates subrange bounds

á fRf“fpfCf<fGf%o[fbfZ[fW

à-¾

,±,lfGf%o[fbfZ[fW,íC'è“,á”í^íŠO,Å, ,é,ÆfRf“fpfCf%o,á”»'f,Å,«,½ê‡,É•\
Ž,³,ê,Ü,·B,½,Æ,¡,îC•”•á”í^íŒ^,ì•ï”,Ö”í^íŠO,ì'è“,ð'ă“ü,µ,½ê‡,È,Ç,Å,·B

-á

program Produce;

var

Digit: 1..9;

begin

Digit := 0; { []u"í^íŠO,)è"Ž®,Á,·[]v,̀f[]fbfZ[][fW,ª•\Ž|,³,ê,é }

end.

program Solve;

var

Digit: 0..9;

begin

Digit := 0;

end.

uDuplicate tag valuev

á fRf“fpfCf<fGf%o[f[]fbfZ[]fW

à-¾

,±,lfGf%o[f[]fbfZ[]fW,ÍfofŠfAf“fgfCfR[]fh,ìéE¾,ìt,Å'è”,ð 2 ,Â^È[]ăŽg,Á,½,Æ,«,É•\
Ž,¾,ê,Ü,·B

-á

program Produce;

type

VariantRecord = **record**

case Integer **of**

0: (IntField: Integer);

0: (RealField: Real); { <-- ,±,±,ÅfGf%o[f[]bfZ[]fW }

end;

begin

end.

program Solve;

type

VariantRecord = **record**

case Integer **of**

0: (IntField: Integer);

1: (RealField: Real);

end;

begin

end.

Unicode Sets may have at most 256 elements

á Rf“fpfCf<fGf%o[fbfZ[fW

à-¾

,±,lfGf%o[fbfZ[fW,Í—v’f,ì”,^a 256 Ą,đ’ ,i,éW±ĉ,đé¼,μ,æ,ϣ,Æ,μ,½,Æ,«,É•\
Ž,³,ê,Û,·B³Šm,É¼,!,ÎCŠî- {ĉ, ðăĀ,Æ%°Ā, ð#”’l,Í 0` 255
,l”í^í,Å,È,̄,ê,î,È,è,Û,¹,ňB

—á

{ ŽŸ,lfR[fh,Á,Í BigSet ,ÉŽÀÛ,É,Í 256 ĄĀ,ì—v'f,μ,©,È,ť,ªC,» ,ê,Ā,à^á-@,Ā, ,é }

program Produce;

type

BigSet = **set of** 1..256; { <-- ,±,±,ĀfGf%o[f]fbfZ[fW,ª•\Ž|,³,ê,é }

begin

end.

{ ĄĀĀ,Ā%ªĀ,ª 0`255 ,ì"í^í,É,È,é,æ,ª,É,·,é•K—v,ª, ,é }

program Solve;

type

BigSet = **set of** 0..255;

begin

end.

u<Token1> expected but <token2> foundv

á fRf“fpfCf<fGf%o[fbfZ[fW

à-¾

,±,lfGf%o[fbfZ[fW,í\•¶lfGf%o[,Å•\Ž|,³,ê,Ü,·Bf\ [fX“à,ÉfXfyf<,l)Eë,è,ª, ,é,©C
%o½,©,ªE‡, ¯,Ä,ç,Ü,·B[s“ª,ÅfGf%o[,ª<N,«,Ä,ç,é,Æ,«,íC’O,ì[s,ÉŽÀÛ,lfGf%o[,ª, ,éê‡,ª
[,È,, ,è,Ü,¹,ñB

—á

```
{ fRf"fpfCf%o, í@ "CE ^, ìCEä, É•ï" "éCE¾, ð|—¹, ·, éfZf~fRf" f", ð'T, ·B, µ, ©, µC, ±, ìs, É, ífZf~fRf" f", º, È, ç, ì, ÅCŽŸ, ìs"ª, Ü, Å"Ç, Ýi, ñ, Å begin fL[f][fh, ðCE©, Å, ¯, éB, ±, ìŽž" _ , ÅfRf"fpfCf%o, ífGf%o[ , Å, , é, Æ"»'f, ·, é }
```

program Produce;

var

I: Integer

```
begin { <-- , ±, ±, ÅfGf%o[f][fbfZ[fW[u' ; ' , ì'ã, í, è, É 'BEGIN' ,ª, , è, Ü, ·v,ª·\Ž|,³,ê,é }
```

end.

```
{ ^ê"É, É%½, ©, ìCE‡—Ž, âfXfyf<, ìCEè, è, ðCE©, Å, ¯, é, É, íCfGf%o[f][fbfZ[fW,ª·\ Ž|,³,ê,½s,Æ,» , ìã, ìs, ðÚ, µ, '², x, é•K—v,ª, , é }
```

program Solve;

var

I: Integer; { fZf~fRf" f",ªCE‡, ¯, Å, ç, ½ }

begin

end.

Identifier redeclared: '<name>'

á Rf“fpfCf<fGf%o[fbfZ[fW

à-¾

fbfZ[fW,É•\Ž|,³,ê,½Ž•ÊŽq,Í,±,ìXfR[fv“à,Å,·,Å,ÉéÆ¾Í,Ý,Å,·B,»,ìŽ•ÊŽq,ì-¼‘O,ð•Ê,ì
%½,©,ÉÄŽg—p,μ,æ,π,Æ,μ,Û,μ,½B

—á

{ ,±,±,Á,Ífvf□fOf%of€-¼,ª•ï□"-¼,Æ"-,¶,Á, ,é□B,Ç,¿,ç,©,ð•ï□X,·,é•K—v,ª, ,é }

program Tests;

var

Tests: Integer;

begin

end.

program Tests;

var

TestCnt: Integer;

begin

end.

uDuplicate case labelv

á fRf“fpfCf<fGf%o[fbfZ[fW

à-¾

,±,lfGf%o[fbfZ[fW,ÍCcase •¶,ì't,É 1 ,Â,ì'l,É'î,µ,Ä•i” ,ì case f%ofxf<,ª, ,é,Æ,«,É•\
Ž,³,ê,Ü,·B

—á

{ ,±,±,Á,Í•s'□^Ó,©,ç case f%ofxf< 0 ,đ 2 %oñŽw'è,μ,½ }

program Produce;

function DigitCount(I: Integer): Integer;

begin

case Abs(I) **of**

 0: DigitCount := 1;

 0 ..9: DigitCount := 1; { <-- ,±,±,ÁfGf%o□[f□fbfZ□[fW } }

 10 ..99: DigitCount := 2;

 100 ..999: DigitCount := 3;

 1000 ..9999: DigitCount := 4;

 10000 ..99999: DigitCount := 5;

 100000 ..999999: DigitCount := 6;

 1000000 ..9999999: DigitCount := 7;

 10000000 ..99999999: DigitCount := 8;

 100000000..999999999: DigitCount := 9;

else DigitCount := 10;

end;

end;

begin

 Writeln(DigitCount(12345));

end.

{ ^è"Ê,É□Ccase f%ofxf<,l'è□",Æ"Í^Í,ÉfVf"f{f<,đŽg,Á,Ä,ç,é,Æ□C-â'è,l%oÓ□Š,đ,Á,«,Æ,β,é,l,Í,±,è,Ù,ÇŠÉ'P,Á,Í,È,ç□BfGf%o□[,đCE©,Á,~,é,É,l'è□",lŽA'l,đf□f,,μ,Ä'²,x,È,~,è,Í,È,ç,È,ç□è□‡,à, ,é }

program Solve;

function DigitCount(I: Integer): Integer;

begin

case Abs(I) **of**

 0 ..9: DigitCount := 1;

 10 ..99: DigitCount := 2;

 100 ..999: DigitCount := 3;

 1000 ..9999: DigitCount := 4;

 10000 ..99999: DigitCount := 5;

 100000 ..999999: DigitCount := 6;

 1000000 ..9999999: DigitCount := 7;

 10000000 ..99999999: DigitCount := 8;

 100000000..999999999: DigitCount := 9;

else DigitCount := 10;

end;

end;

begin

 Writeln(DigitCount(12345));

end.

Label expected

á fRf“fpfCf<fGf%o[f[]fbfZ[]fW

à-¾

,±,lfGf%o[f[]fbfZ[]fW,í[]Cgoto •¶,ì't,ÅŽw'è,µ,½Ž⁻•ÊŽq,Ü,½,lfCf“f%ofCf“fAfZf“fuf%o,ì't,Åf
%oofxf<,Æ,µ,ÄŽg,Á,½Ž⁻•ÊŽq,af%ofxf<,Æ,µ,ÄéCE¾,¾,è,Ä,ç,È,ç[]ê[]†,É•\Ž|,¾,è,Ü,·B

-á

program Produce;

begin

if 2*2 <> 4 **then**

goto Exit; { <-- ,±,±,ÁfGf%o[f]fbfZ[fW]B[uf%ofxf<,ª•K—v,Á,·v,ª•\Ž|,³,ê,é }
 { ... }

Exit: { ,±,±,Á,à,³,ç,ÉfGf%o[f]fbfZ[fW] }
end.

program Solve;

label

 Exit; { Pascal ,Áf%ofxf<,ð[éCE¾,µ,È,¯,ê,î,È,ç,È,ç }
 begin

if 2*2 <> 4 **then**

goto Exit;

 { ... }

Exit:

end.

For loop control variable must be simple local variable

á fRf“fpfCf<fGf%o[fbfZ[fW

à-¾

, ±, ìfGf%o[fbfZ[fW, íCfor •¶, ì\$Eä•ï”, ð’P¶f•ï”, Å, È, ç (, ½, Æ, Ì, ÎCfÆfR[fh, ìRf“f|
[f|f“fg, É, È, Á, Ä, ç, é) , ©Cfor •¶, ð“ü, Á, Ä, ç, éŽè’±, «, ìf[fjfk•ï”, Å, È, çê¶, É•Ž|, ³, è, Ü, ·B
%o^ÊÉÝŠ·«, ì, ½, ß, ÉCfOf[fok•ï”, ð\$Eä•ï”, Æ, µ, ÅŽg, æ, ±, Æ, à, Á, «, Ü, ·, ðRf“fpfCf%o
, íEx¶¶, ð•Ž|, µ, Ü, ·Bf[fjfk•ï”, ðŽg, Á, ½•û, ðÆø—|“l, ÈfR[fh, ð¶¶¬, Á, «, é”_ , É’^Ó, µ, Ä, -
, ¾, ¾, çB

-á

```
program Produce;  
{ $WARNINGS ON }
```

```
var
```

```
  I: Integer;  
  A: array[0..9] of Integer;
```

```
procedure Init;
```

```
begin
```

```
  for I := Low(A) to High(a) do { <-- ,±,±,ÅÇx□□,ª•\Ž|,³,ê,é }  
    A[I] := 0;
```

```
end;
```

```
begin
```

```
  Init;
```

```
end.
```

```
program Solve;
```

```
var
```

```
  A: array[0..9] of Integer;
```

```
procedure Init;
```

```
var
```

```
  I: Integer;
```

```
begin
```

```
  for I := Low(A) to High(a) do  
    A[I] := 0;
```

```
end;
```

```
begin
```

```
  Init;
```

```
end.
```

uFor loop control variable must have ordinal type

á fRf“fpfCf<fGf%o[fbfZ[fW

à-¾

for f<[fv,ì\$Eä•ï”,í~_—CE^CChar CE^CfCfh•¶ŽšCE^C®“CE^C—
ñ<“CE^C•”•a”ííCE^,l,ç,,é,©,Å,È,¯,ê,î,È,è,Ü,¹,ñB

—á

{ ŽŸ,lfR□[fh,lf<□[fv,ì□\$CEä•ï□",É Real CE^,ì•ï□",ðŽg," ,æ,Æ,μ,ÄfGf%□[,É,È,é }

program Produce;

var

X: Real;

begin { □³CE."g,ð•`, }

for X := 0 **to** 2*Pi/0.2 **do**

{ <-- ,±,±,ÅfGf

%□[f□fbfZ□[fW }

Writeln('*' : Round((Sin(X*0.2) + 1)*20) + 1);

end.

{ ,±,±,Å,Í Integer CE^,ðŽw'è,·,é,ÆfGf%□[,Í,È,,È,é }

program Solve;

var

X: Integer;

begin { □³CE."g,ð•`, }

for X := 0 **to** Round(2*Pi/0.2) **do**

Writeln('*' : Round((Sin(X*0.2) + 1)*20) + 1);

end.

Types of actual and formal var parameters must be identical

á fRf“fpfCf<fGf%o[fbfZ[fW

à-¾

•i“fpf%of[f^,Æ³Šm,É“¯,Œ^,Å,È,¯,ê,î,È,è,Ü,¹,ñB

—á

{ ^ø" C1 ,Æ C2 ,Í f,f,š,ã,ì·\Œ» ,Æ"í^í,ª Byte ,Æ" ,¶,¾,ª SwapBytes ,É,İžg,í,È,ç }

program Produce;

procedure SwapBytes(**var** B1, B2: Byte);

var

Temp: Byte;

begin

Temp := B1; B1 := B2; B2 := Temp;

end;

var

C1, C2: 0..255; { Byte Œ^,Å,í,È,ç }

begin

SwapBytes(C1,C2); { <-- ,±,±,ÅfGf%o[f,fbfZ[fW }

end.

{ ,±,ì)fr[fh,ðfRf"fpfCf<,·,é,É,Í C1 ,Æ C2 ,ðžÀ[]Ù,É Byte ,Æ,μ,Ä[]éŒ¾,μ,È, ,ê,î,È,ç,È,ç }

program Solve;

procedure SwapBytes(**var** B1, B2: Byte);

var

Temp: Byte;

begin

Temp := B1; B1 := B2; B2 := Temp;

end;

var

C1, C2: Byte;

begin

SwapBytes(C1,C2);

end.

Too many actual parameters

á fRf“fpfCf<fGf%o[f]fbfZ[fW

à-¾

,±,lfGf%o[f]fbfZ[fW,íCŽè‘±,«,Ü,½,ÍŠÖ“,ìĀ,Ño,μ,ÅŽè‘±
,«éĒ¾,Ü,½,ÍŠÖ““éĒ¾,ÉŽw’è,μ,½,æ,è¹½,ƒfpf%o[f]f^,ðŽw’è,μ,½,Æ,«,É•\Ž¹,³,è,Ü,·B
OLE fl[f]gf[f]Vf±f“Ā,Ño,μ,Åfpf%o[f]f^,¹½,·,¬,é (255 ,ð´,|,é) ê±,â-¼‘O•t,«fpf
%o[f]f^,¹½,·,¬,éê±,É,àC,±,lfGf%o[f]fbfZ[fW,ª\Ž¹,³,è,Ü,·B

—á

{ Max ,^a 3 ,Ä, ðpf%of[]f^, ðŽó, "ü, ê, é, æ, x, É, μ, Ä, ", , Î, æ, ©, Á, ½, ^a... }

program Produce;

function Max(A,B: Integer): Integer;

begin

if A > B **then** Max := A **else** Max := B

end;

begin

 Writeln(Max(1,2,3)); { <-- , ±, ±, ÄfGf%o[]f[]fbfZ[]fW }

end.

{ 'Éí, í³, μ, ç", ðpf%of[]f^, ^a<ÿ<<, ³, ê, é, æ, x, ÉÄÄ, Ño, μ, É•í[]X, , é[]B, μ, ©, μ[]C, ±, ±, Ä, í Max
, É-³[]\$ÄÄ, ð", ðŽÄ'•, ., é•û-@, ðŽ|, , []BMax , ð, â, â^Û, É, é•û-
@, ÄÄÄ, Ño, ³, È, , ê, Î, È, ç, È, ç" , É'[]^Ó, , é•K-v, ^a, , é }

program Solve;

function Max(const A: array of Integer): Integer;

var

 I: Integer;

begin

 Result := Low(Integer);

for I := 0 **to** High(A) **do**

if Result < A[I] **then**

 Result := A[I];

end;

begin

 Writeln(Max([1,2,3]));

end.

Not enough actual parameters

á fRf“fpfCf<fGf%o[f^fbfZ[fW

à-¾

,±,lfGf%o[f^fbfZ[fW,íCŽè‘±,«,Ü,½,ÍŠÖ“,ìĀ,Ño,μ,ÅŽè‘±
,«éĒ¾,Ü,½,ÍŠÖ““éĒ¾,ÉŽw’è,μ,½,æ,è,È,ƒpf%of[f^,đŽw’è,μ,½,Æ,«,É•\Ž|,³,è,Ü,·B,±
,lfGf%o[í•W€Žè‘±,«,â•W€ŠÖ“,ìĀ,Ño,μ,Å<N,«,éê‡,à, ,è,Ü,·B

—á

{ •W□€Žè'±,«,ì Val ,ífGf%□□[fR□[fh,ð•Ô,·,½,ß,Éfpf%□f□□[f^,ð 1 ,Â
—]•ª,É,Æ,é□BŽŸ,ìfR□[fh,Â,í,»,)fpf%□f□□[f^,ðŽw'è,μ,Ä,ç,È,ç }

program Produce;

var

X: Real;

begin

Val('3.141592', X); { <-- ,±,±,ÂfGf%□□[f□fbfZ□[fW }

end.

{ 'É□í□CCEÄ,Ñ□o,·Žè'±,«,ì□éCE¾,©fwf<fv,ÆCEÄ,Ñ□o,μ,ð□Æ□‡,μ,Äf`fFfbfN,·,é,Æ□C•K—v,Èfpf
%□f□□[f^,ðŽw'è,μ-Υ,ê,½,±,Æ,ª,í,©,é }

program Solve;

var

X: Real;

Code: Integer;

begin

Val('3.141592', X, Code);

end.

Variable required

á fRf“fpfCf<fGf%o[f[]bfZ[]fW

à-¾

,±,lfGf%o[f[]bfZ[]fW,íCŽ@,Ü,½,í'è",lfAfhfÆfX,ðŽg,“,α,Æ,μ,½,Æ,«,É•\Ž!,³,ê,Ü,·B

—á

```
{ 1 ,ì,æ,α,È'è",É,í,í,í,fšfAfhfĀfX,â,È,ç,ì,Å□C@ %%%%ŽŽŽq,â Addr •W□€ŠÖ□",ð"K—p,Å,«,È,ç }
```

program Produce;

var

I: Integer;

PI: ^Integer;

begin

PI := Addr(1);

end.

```
{ •í□",ìfAfhfĀfX,ðŽg,α•K—v,â, ,é }
```

program Solve;

var

I: Integer;

PI: ^Integer;

begin

PI := Addr(I);

end.

Declaration of <name> differs from previous declaration

á fRf“fpfCf<fGf%o[f]fbfZ[fW

à-¾

, ±, ðfGf%o[f]fbfZ[fW, íCžè‘±, «CŠÖ“Cf[f]fbfhCfRf“fXfgf%ofNf^CffXfgf%ofNf^, ð
, , è, ©, ðé¾, ð’O, ð (forward) ðé¾, Æ^Ù, È, Á, Ä, ç, é, Æ, «, É•Ž, ð, è, Ü, ·B

¼’zf[f]fbfh, ðf[f]fo[f]f%ofCfh, µ, æ, x, Æ, µ, ½, Æ, «, ÉCf[f]fo[f]f%ofCfh, ·, éf[f]fbfh, ðpf
%of[f]f^fŠfXfg, âÆÄ, Ño, µ<K-ñ, È, Ç, ð^Ù, È, Á, Ä, ç, éê±, É, àC, ±, ðfGf%o[f]fbfZ[fW, ð•\
Ž, ð, è, Ü, ·B

—á

{ ŽŸ,ÉŽ|,·,æ,ɱ,É□C,±,ĭfGf%□[f□fbfZ□[fW,ª"□s,³,ê,éĈ^ö,í,ç,,Â,à, ,é }

program Produce;

type

MyClass = class

procedure Proc(Inx: Integer);

function Func: Integer;

procedure Load(const Name: string);

procedure Perform(Flag: Boolean);

constructor Create;

destructor Destroy(Msg: string); override; { <-- ,±,±,ĀfGf%□[f□fbfZ□[fW }

class function NewInstance: MyClass; override; { <-- ,±,±,ĀfGf%□[f□fbfZ□[fW }

end;

procedure MyClass.Proc(Index: Integer); { <-- ,±,±,ĀfGf%□[f□fbfZ□[fW }

begin

end;

function MyClass.Func: Longint; { <-- ,±,±,ĀfGf%□[f□fbfZ□[fW }

begin

end;

procedure MyClass.Load(Name: string); { <-- ,±,±,ĀfGf%□[f□fbfZ□[fW }

begin

end;

procedure MyClass.Perform(Flag: Boolean); cdecl; { <-- ,±,±,ĀfGf%□[f□fbfZ□[fW }

%□[f□fbfZ□[fW }

begin

end;

procedure MyClass.Create; { <-- ,±,±,ĀfGf%□[f□fbfZ□[fW }

begin

end;

function MyClass.NewInstance: MyClass; { <-- ,±,±,ĀfGf%□[f□fbfZ□[fW }

begin

end;

begin

end.

{ □u'O,ĭéĈ³⁄₄□v,ĀfGf%□[,đ<N,±,μ,½□éĈ³⁄₄,đ'□Ó□[,"ăŠr,μ,Ā 2 ,Ā,ĭ'S^á"_,đ">•Ē,·,é•K—
v,ª, ,é }

program Solve;

type

MyClass = class


```

procedure Proc(Inx: Integer);
function Func: Integer;
procedure Load(const Name: string);
procedure Perform(Flag: Boolean);
constructor Create;
destructor Destroy; override; { fpf%oof[]f^,ª,È,¢ }
class function NewInstance: TObject; override; { CE<%oÈ,|CE^ }
end;

procedure MyClass.Proc(Inx: Integer); { fpf%oof[]f^-¼ }
begin
end;

function MyClass.Func: Integer; { CE<%oÈ,|CE^ }
begin
end;

procedure MyClass.Load(const Name: string); { fpf%oof[]f^,|Ží—p }
begin
end;

procedure MyClass.Perform(Flag: Boolean); { CEÄ,Ñ[]o,µ<K-ñ }
begin
end;

constructor MyClass.Create; { fRf“fXfgf%ofNf^ }
begin
end;

destructor MyClass.Destroy;
begin
end;

class function MyClass.NewInstance: TObject; { fNf%ofXŠÖ[]” }
begin
end;

begin
end.

```

Illegal character in input file: '<Char>' (<Hexadecimal value>)

á fRf“fpfCf<fGf%o[fbfZ[fW

à-¾

fRf“fpfCf%o,ª Pascal fvffOf%of€“à,Á,Í^á-@,Æ,È,é•¶Žš,ðŒ©,Â,¯,Ü,µ,½B,±,ÿGf
%o[fbfZ[fW,ª•\Ž,³,ê,éŒ^ö,ì,Ù,Æ,ñ,Ç,Í•¶Žš—ñ’è”,Ü,½,ÿfRf“fg,Å,ÿGf%o[,Å,·B

—á

{ ,±,±,Á,Ívfj[]fOf%of},ª C++ ,ìKŠμ,Á•¶Žš—ñ,ð“ñ[]d^ø—p•,,Á^í,ñ,¾ }

program Produce;

begin

 Writeln("Hello world!"); { <-- ,±,±,ÁfGf%[]f[]fbfZ[]fW }

end.

{ 'P^ø—p•,,ðŽg,|,î%ðCE^,.,é[]B^ê”Ê,É[]C^á-@,È•¶Žš,ðí[]œ,.,é•K—v,ª, ,é }

program Solve;

begin

 Writeln('Hello world!'); { Pascal ,Á,Í'P^ø—p•,,ª•K—v }

end.

u'<name>' is not a type identifier

á fRf“fpfCf<fGf%o[f[]bfZ[]fW

à-¾

,±,lfGf%o[f[]bfZ[]fW,í[]CCE^,ì-¼'O,đŽw'è,·,é,x,«[]ê[]Š,ÅCE^,đ•\,μ,Ä,ç,È,ç-¼'O,đCEÿ[]o,μ,½,Æ,«,É•\Ž!,³,ê,Ü,·[]B

—á

{ ŽŸ, ĺfR□[fh, íĈE^-¼, Å, È, • ĺ"^-¼, ð^ø□", ĺĈE^, Æ, μ, ÄĈEë, Á, ÄŽg, Á, Ä, ç, é }

program Produce;

type

 TMyClass = **class**
 Field: Integer;
 end;

var

 MyClass: TMyClass;

procedure Proc(C: MyClass); { <-- ,±,±,ĀfGf%□[f□fbfZ□[fW }
begin

end;

begin

end.

{ fGf%□[, ð<N, ±, μ, ½Ž^- • ÊŽq, ¢-{"-, ÉĈE^, Å, , é, ©, Ç, x, ©Šm"F, , , é□BfXfyf<, ¢ŠÔ^á, Á, Ä, ç, ½, ©□CŽQ□Æ, μ, ½, çŽ^- • ÊŽq, ¢"^-¼, ĺŽ^- • ÊŽq, É, æ, Á, Ä%B, ³, ê, Á, ç, é%B"□«, ¢, , é }

program Solve;

type

 TMyClass = **class**
 Field: Integer;
 end;

var

 MyClass: TMyClass;

procedure Proc(C: TMyClass);

begin

end;

begin

end.

File not found: <Filename>

á fRf“fpfCf<fGf%o[fbfZ[fW

à-¾

,±,lfGf%o[fbfZ[fW,ÍRf“fpfCf%o,“ü—Ítf@fCf<,ðŒ©,Â,¯,ç,ê,È,ç,Æ,«,É•Ž!,¾,ê,Ü,·B,»,"ü
—Ítf@fCf<,Íf[fXftf@fCf<CfRf“fpfCf<Í,Ý,Ítfjfbfgftf@fCf< (.dcu
ftf@fCf<)CfCf“fNf<[fhftf@fCf<CfIfufWfFfNfgftf@fCf<CfŠf[fXftf@fCf<,ì,ç,,.ê,©,Å,·B-
¼'O,ÆŠÖ~A,ìŒÿöfpfX,lfXfyf<,ðf`fFbfN,µ,À,,¾,¾,çB

-á

```
program Produce;  
uses SysUtils; { <-- ,±,±,ÅfGf%o□[f□fbfZ□[fW }  
begin  
end.
```

```
program Solve;  
uses SysUtils; { fXfyf<,ð□C□3,μ,½ }  
begin  
end.
```

Could not create output file <Filename>

fpfCf<fGf%o[fbfZ[fW

à-¾

fRf“fpfCf%o,ºo—Ítf@fCf<,ð`- ,Á,«,Ü,¹,ñ,Á,µ,½B,»,ìo—
Ítf@fCf<,ÍRf“fpfCf<í,Ý,Ítfjfbfgftf@fCf< (.dcu ftf@fCf<)CŽÀs%oÂ”\
ftf@fCf<Cf}fbfvftf@fCf<CflufWfFfNfgftf@fCf<,ì,ç,,ê,©,Á,·B,à,Á,Æ,àl,!,ç,ê,éE
^ö,ÍffBfÆfNfgfŠ,º¶Y,µ,È,ç,©ftf@fCf<,Ü,½,ÍffBfXfN,º¶,«ž,Ý<ÖŽ~,Á,·B

uSeek error on <Filename>

fRf“fpfCf<fGf%o[ffbfZ[fW

à-¾

fRf“fpfCf%o,“ü—íftf@fCf<,Ü,½,Ío—íftf@fCf<,ÅV[fNfGf%o[,ðEÿo,µ,Ü,µ,½B,±,ìfGf
%o[,<N,«,é,Æ,í[,!,ç,ê,Ü,¹,ñ,ªC-œ^ê<N,«,½ê#C,à,Á,Æ,à[,!,ç,ê,éE´^ö,íff[f^,ì”j¹,Å,·B

uRead error on <Filename>v

fRf“fpcfCf<fGf%o[f fbfZ[fW

à-¾

fRf“fpcfCf%o,ª“ü—íftf@fCf<,Å“Ç,Ýo,µfGf%o[f,ðŒŸo,µ,Ü,µ,½B,±,lfGf
%o[f,ª<N,«,é,Æ,í,l,ç,ê,Ü,¹,ñ,ªC-œ^ê<N,«,½ê#C,à,Á,Æ,à,l,ç,ê,éŒ´^ö,íff[f^,ì”j¹,Å,·B

Write error on <Filename>

fRf“fpfCf<fGf%o[ffbfZ[fW

à-¾

fRf“fpfCf%o,ºo—Íftf@fCf<,Ö‘,«ž,Ý’t,É‘,«ž,ÝfGf
%o[,đĎo,µ,Û,µ,½B,Ù,Æ,ñ,Ç,ìê#C—Íæ,ìffBfXfN,É<ó,«,º,È,ç,ì,ºE´^ö,Å,·B

Close error on <Filename>

fRf“fpfCf<fGf%o[f fbfZ[fW

à-¾

fRf“fpfCf%o,“ü—íftf@fCf<,Ü,½,Ío—íftf@fCf<,ð•Â,¶,éÚ,ÉfGf%o[,ðŸo,µ,Ü,µ,½B,±,ìGf
%o[,í,ß,Á,½,É<N,«,Ü,¹,ñ,ªC<N,«,½é#C,à,Á,Æ,àl,ç,ê,éŒ´^ö,íffBfXfN,É<ó,«,ª,È,ç
,©ffBfXfN,ì•s—Ç,Å,·B

uBad file format: <Filename>

fRf"fpfCf<fGf%o[f fbfZ[fW

à-¾

,±,lfGf%o[,í \$L Žw—ß,Ü,½,í \$LINK Žw—

ß,Åf[fh,μ,½flfufWfFfNfgftf@fCf<,³,μ,¢CE`Ž®,Å,È,¢ê¢,É"¶,μ,Ü,·¶B

^È%º,ì\$CEÄŽ-¶€,ð-ž,½,³,È,¯,ê,î,È,è,Ü,¹,ñ¶B

- fwf<fvftf@fCf<"à,lfZfOf[f"fg-¼,É,Â,¢,Ä-¼'O,ì\$CEÄ,ðŠm"F,·,é
- fZfOf[f"fg,ð 10 CEÄ^È%º,É,·,é
- ŠO•"fvf"f{f<,ð 255 CEÄ^È%º,É,·,é
- LNames fCEfR[fh"à,lf[fj<-¼,ð 50 CEÄ^È%º,É,·,é
- LEDATA fCEfR[fh,Æ LIDATA fCEfR[fh,ðlftfZfbfg¢,É,μ,È,¯,ê,î,È,¢,È,¢
- THREAD ftfufCEfR[fh,í FIXU32 fCEfR[fh"à,Å,lfTf[f"fg,³,è,È,¢
- 32 frfbfg,lfiftfZfbfg,¾,¯,ðC³,Å,«,é
- fZfOf[f"fgC³,ÆŽ©CEÈ'S'íC³,¾,¯,ºÅ"\
- C³,lf^lfQfbfg,lfZfOf[f"fgCfOf<[fvCEXTDEF ,ì,¢,·,ê,©,Å,È,¯,ê,î,È,¢,È,¢
- flfufWfFfNfg,í 32 frfbfg,lfifufWfFfNfgftf@fCf<,Å,È,¯,ê,î,È,¢,È,¢
- Šeží,í"à" ^êŠN¶«ðCE,lfifufWfFfNfgftf@fCf<,ºó,è,½ê¢,É,μ,©áŠQ,ð¶,¶,È,¢

Out of memory

[fRf“fpfCf<fGf%o\[f\]fbfZ\[fW](#)

à-¾

fRf“fpfCf%o,af[f],fŠ•s'«,É,È,è,Ü,μ,½B,±,lfGf

%o[,Í,Ù,Æ,ñ,Ç<N,«,Ü,¹,ñB<N,«,½ê‡,ÍCfXf]fbfvftf@fCf<,ª\•ª,È'â,«,³,Å, ,é,©,Ç,κ

,©CfffBfXfN]ã,É<ó,«,ª, ,é,©,Ç,κ,©,đŠm”F,μ,Ä,,¾,³,¢B

uCircular unit reference to <Unitname>v

á fRf“fpfCf<fGf%o□[f□fbfZ□[fW

à-¾

1 ,Â,Ü,½,Í•i□”,)ftfjfbfg,afCf“f^□[ftfF□[fX•”,ÅÆÝ,ç,ÉŽg,ç□‡,Á,Ä,ç,Ü,·□BfRf“fpfCf%o
,afCf“f^□[ftfF□[fX•”,đ•İŠ·,μ,½Æã,Å,È,¯,ê,î□C,»,)ftfjfbfg,đ•Ê,)ftfjfbfg,©,çŽg,!,È,ç
,ì,Å□CfRf“fpfCf%o
,íŠeftfjfbfg,lfCf“f^□[ftfF□[fX•”,)fRf“fpfCf<□‡□~ ,ðÆÿ□o,Å,«,È,¯,ê,î,È,è,Ü,¹,ñ□Buses
□B,ì†,É, ,é,·,×,Ä,)ftfjfbfg,^a-{“-É•K—v,©,Ç,æ,©,Æ□CŽÀÆ»•”,Ö^Ú“® ,Å,«,éftfjfbfg,^a,È,ç
,©,Ç,æ,©,đ’²,×,Ä,,¾,¾,³,ç□B

—á

```
{ A ,Æ B ,afCf“f^[]ftfF[]fX•” ,Å,» ,ê,¼,ê,ðŽg,Á,Ä,ç,é,ì,Å-â‘è,ª<N,« ,é }
```

```
unit A;
```

```
interface
```

```
uses B; { A ,Í B ,ðŽg,ç[]CB ,Í A ,ðŽg,ª }
```

```
implementation
```

```
end.
```

```
unit B;
```

```
interface
```

```
uses A;
```

```
implementation
```

```
end.
```

```
{ ,±,ì[]zŠÅ,Í^ê•û,Û,½,Í—¼•û,ðŽÀÆ»•” ,Ö^Ú“® ,. ,ê,Î[]Ø,ê,é }
```

```
unit A;
```

```
interface
```

```
uses B; { fRf“fpfCf<[]#[]~ ,Í B.interface[]CA[]CB.implementation }
```

```
implementation
```

```
end.
```

```
unit B;
```

```
interface
```

```
implementation
```

```
uses A; { ŽÀÆ»•” ,Ö^Ú“® ,µ,½ }
```

```
end.
```


uBad unit format: <Filename>

fRf"fpfCf<fGf%o[ffbfZ[fW

à-¾

,±,lfGf%o[l,lfRf"fpfCf<ï,Ý,lf+fjfbfgftf@fCf< (.dcu ftf@fCf<) ,lE`Ž®,³,μ,,È,çêê#,É•\
Žl,³,ê,Ü,·B,Ù,Æ,ñ,Ç,ìêê#C.dcu ftf@fCf<,³%ó,ê,Ä,ç,é,ì,³E
^ö,Å,·Bftf@fCf<,ðÄfRf"fpfCf<,:é,© C++Builder ,ðfCf"fXfg[f<,μ'¼,μ,Ä,,¾,³,çB

uPACKED not allowed here

á fR“fpfCf<fGf%o[fbfZ[fW

à-¾

packed fL[f[f[fh,í[W#CE^C”z—ñCE^CfCEfR[fhCE^CfIfufWfFfNfgCE^CfNf
%ofXCE^Cftf@fCf<CE^¾,~,É—LCEø,Å,·B16 frfbfgfo[fWf#f“,ì Delphi ,Æ,Í^Ù,È,è**Cpacked**
,ÍfCEfR[fhCE^CfIfufWfFfNfgCE^CfNf%ofXCE^,ÍfCEfCfAfEfg,É%e<¿,ð<y,Ú,µ,Û,·B

—á

{ packed ,íŽÀ"CE^,É,í"K—p,Å,«,È,ç□B<L%oo^-æ,ð□ß-
ñ,μ,½,ç□ê□‡,í□C,à,Á,Æ,à□¬,³,çŽÀ"CE^,ì Single CE^,ðŽg,α•K—v,ª, ,é }

program Produce;

type

SmallReal = **packed** Real;

begin

end.

program Solve;

type

SmallReal = Single;

begin

end.

Label declaration not allowed in interface part

á Rf“fpfCf<fGf%o[fbfZ[fW

à-¾

,±,lfGf%o[,íftjfbfg,lfCf“f^[[ftfF[fX•”,Åf%ofxf<,ðéE¾,µ,½,Æ,«,É<N,«,Ü,·B

—á

{ ftfjfbfg,lfCf“f^□[ftfF□[fX•”,Åf%ofxf<,ð□éÉ¾,·,é,ì,í^á-@,Å, ,é }

unit Produce;

interface

label 99;

implementation

begin

99:

end.

{ f%ofxf<,ðŽÀÉ»•”,Ö^Ú“®,μ,È,¯,ê,î,È,ç,È,ç }

unit Solve;

interface

implementation

label 99;

begin

99:

end.

-á

{ ,α,Á,©,è,μ,Ä MyProc ,ì-{'ì,ðfCf"f^□[ftfF□[fX•",É'u,ç,½ }

unit Produce;

interface

procedure MyProc;

begin { <-- ,±,±,ÅfGf%□[f□fbfZ□[fW }

end;

implementation

begin

end.

{ -{'ì,ðŽÀÆ»•",Ö^Ú"®,.é,Î,α,Ü,□s, }

unit Solve;

interface

procedure MyProc;

implementation

procedure MyProc;

begin

end;

begin

end.

Unit <Unit1> was compiled with a different version of <Unit2>

[fRf“fpfCf<fGf%o\[f fbfZ\[fW](#)

à-¾

,±,lfGf%o[,íftjfbfg,lfCf“f^[[ftfF[fX•”,É, ,éfVf“f{f<éE¾,ð•ïX,µ,½ê¶,ÉC,»,ìéE¾,É^È
'¶, ,éftjfbfg,lf[fX,ª,»,ìéE¾,ðŽg,!,È,,È,Á,ÄÄfRf“fpfCf<,Á,«,ç,Æ,«,É<N,«,Ü,·B
•;” ,ì%ðE^-@,ª[,!,ç,ê,Ü,·BUnit1 ,ðÄfRf“fpfCf<, ,é (f[fXfR[fh,ª, ,é,Æ‘z’è,µ,½ê¶)
,©CUnit2 ,ìEÄ,çfo[fWf¶f“,ðŽg,ª,©CUnit2 ,ð•ïX, ,é,©CUnit1 ,lf[fXfR[fh,ðŽ,Á,Ä,ç
,é[,©,çV,µ,çfo[fWf¶f“,ì Unit1 ,ð“üŽè,µ,Ä,¾,¾,çB

uUnterminated stringv

á fRf“fpfCf<fGf%o[fbfZ[fW

à-¾

•Ÿš—ñ,ì--"ö,É•Â,Ÿ,é’P^ø—p•,,ª, ,è,Ü,¹,ñ,Å,µ,½B

•Ÿš—ñ,ÍŽŸ,ìs,ÖŒp’±,Å,«,Ü,¹,ñ,ªC□u+□v%o%ŽŽŽq,ðŽg,ꝛ,Æ•ÊX,ìs,É, ,é 2 ,Â,ì•Ÿš—
ñ,ð~ACE<,Å,«,Ü,·B

—á

{ •ŋŽš—ñ,É•Â,ŋ,é^ø—p•,,đ•t,-Y,ê,½□B,æ,, ,éfGf%□[.Å, ,é }

program Produce;

begin

Writeln('Hello world!'); { <-- ,±,±,ÅfGf%□[f□fbfZ□[fW }

end.

{ •Â,ŋ,é^ø—p•,,đŽw'è,μ,Ä%đCE^,μ,½ }

program Solve;

begin

Writeln('Hello world!');

end.

uSyntax error in real numberv

á fRf“fpfCf<fGf%o[f fbfZ[fW

à-¾

,±,lfGf%o[f fbfZ[fW,í“l,ìt,É^ÊŽæ,è^ö“,lŽn,ß (E ,© e ,ì•¶Žš)
,ª, ,Á,ÄC,» ,ìĀă,É“Žš,ª,È,çêĚ,É•\Ž!,³,è,Ü,·B

—á

{ ŽŸ, ĩfR [fh, Å, í 3.0E , ìCEã, ÉfXfy [fX • ĩŽš, ð • t, ¯, ½, ½, ß [CfRf “fpfCf%o, É, Æ, Á, Ä, í [” l, a, » , ±, Å [l—
¹, µ [C • sŠ @ ‘S, È [” l, É, È, é }

program Produce;

const

SpeedOfLight = 3.0E 8; { <-- , ±, ±, ÅfGf%o [f [fbfZ [fW }

begin

end.

{ <ó” , ð [í [œ, µ, Ä, ¨ , ¾, ¯, Å, à, æ, ©, Á, ½, a [C+ • , [t, ð’ “ü, µ, ÄŒ ©, â, ·, µ, ½ }

program Solve;

const

SpeedOfLight = 3.0E+8;

begin

end.

Procedure too long: exceeds 32K

“fRf”fpfCf<fGf%o[f]fbfZ[fW

à-¾

,±,lfGf%o[f]fbfZ[fW,ÍfCf“fef<,lfvf[fZfbfT,Å,ÍŽg,í,ê,Ä,ç,Ü,¹,ñB

Illegal type in Write/Writeln statement

á fRf“fpfCf<fGf%o[]f[]fbfZ[]fW

à-¾

,±,lfGf%o[],í[]†-@,Å,È,çCE^,ð Write •¶,Ü,½,Í Writeln •¶,É³,µ,-
,È,çCE^,ì`ø”,³“n,³,ê,½,Æ,«,É<N,«,Ü,·B

—á

```
{ Color ,đ'¼Ú writeln •¶,ì^ø",É,íŽw'è,Å,«,È,ç }
```

```
program Produce;
```

```
type
```

```
  TColor = (red,green,blue);
```

```
var
```

```
  Color: TColor;
```

```
begin
```

```
  Writeln(Color);
```

```
end.
```

```
{ Color ,đo—í,·,é,É,íC•â"z—ñ,đŽg,í,È,¯,ê,Î,È,ç,È,ç }
```

```
program Solve;
```

```
type
```

```
  TColor = (red,green,blue);
```

```
var
```

```
  Color: TColor;
```

```
const
```

```
  ColorString: array[TColor] of string = ('red', 'green', 'blue');
```

```
begin
```

```
  Writeln(ColorString[Color]);
```

```
end.
```

Illegal type in Read/Readln statement

á fRf“fpfCf<fGf%o[fbfZ[fW

à-¾

,±,lfGf%o[,ÍCE^,ª³,μ,,È,ç•ï”,ð Read •¶,Û,½,Í Readln •¶,Å“Ç,Ýo,»,æ
,Æ,μ,½,Æ,«,É<N,«,Û,·B•ï”,lCE^,ðf`fFfbfN,μC<tŽQÆCfCf“fffbfNfX•t,¯CftfB[f<fh‘l’ð,ì,ç
,,è,©,ì%o%oŽŽŽq,ðCE‡,©,³,È,ç,æ,æ,É,μ,Ä,,¾,³,çB

-á

```
{ -ñ<“Ĉ^,ì•ï□”,í¼□Ú“Ç,Ý□o,¹,È,ç }
```

program Produce;

type

```
TColor = (red,green,blue);
```

var

```
Color: TColor;
```

begin

```
Readln(Color); { <-- ,±,±,ÅGf%□[f□fbfZ□[fW }
```

end.

```
{ •¶Žš—ñ,ð“Ç,Ý□o,μ□C,»ì•¶Žš—ñ,ð•â□•fe□[fuf<“à,ÅŽQ□Æ,·,ê,î  
%øðĈ^,·,é□BŽŸ,ìfR□[fh,Å,ìfGf%□[f`fFbfN,ìŽèŠŌ,ð□É,ç,½,ì,Å□C,·,x,Ä,ì•¶Žš—ñ,í blue  
,Æ,μ,Ä^μ,í,ê,é□BŽÀ□Ū,É,ìfGf%□[f□fbfZ□[fW,ð□o—  
í,μ,Äft□[fU□[É,â,è¼,μ,ð<□,ß,é□ê□‡,ª¼,ç }
```

program Solve;

type

```
TColor = (red,green,blue);
```

var

```
Color: TColor;
```

```
InputString: string;
```

const

```
ColorString: array[TColor] of string = ('red', 'green', 'blue');
```

begin

```
Readln(InputString);
```

```
Color := red;
```

```
while (color < blue) and (ColorString[color] <> InputString) do
```

```
Inc(color);
```

end.

Unicode strings may have at most 255 elements

á fRf"fpfCf<fGf%o[f]fbfZ[fW

à-¾

,±,lfGf%o[f]fbfZ[fW,Í[C-v'f",^a 255 ,ð' ,|,é'Z,ç•ŕŽš—ñĀ^,ðéĀ^¾,μ,½,Æ,«[C, ,é,ç,Í 1
,Â,ì•ŕŽš—ñ,É 255 Ā,ð' ,|,é•ŕŽš,^a"ü,Á,Ä,ç,é,Æ,«,É•Ž!,^¾,ê,Û,·[B

[u+[v%o%ŽŽŽq,ðŽg,Á,Ä•j",ì•ŕŽš—ñŕŠfef%of<,ð~ACE<,·,ê,Î[C•j",)s,É,Û,½,^a,é',ç•ŕŽš—
ñŕŠfef%of<,ð)ì-,Á,«,é,±,Æ,É'^Ó,μ,Ä,,¾,^¾,ç[B

—á

{ ŽŸ, ĺfR□[fh, Å, í□C•ŋŽš—ñ, ì'·,³, íCEÀ"x, ð 1 •ŋŽš'´, |, ½, ¾, -, Å, ,é }

program Produce;

var

LongString: **string**[256]; { <-- ,±,±,ÅfGf%□[f□fbfZ□[fW }

begin

end.

{ '·,ç•ŋŽš—ñCE^, ðŽg, x, ì, à, Á, Æ, à•Ö—~, È%øðCE^-@, Å, ,é□B,», x, ·, é, î□#—
□"l, È□Å'â'·, ð□l, |, ÄŽžŠÓ, ð"i, â, ·K—v, à, È, ç }

program Solve;

var

LongString: AnsiString;

begin

end.

Unexpected end of file in comment started on line <Number>

á fRf“fpfCf<fGf%o[fbfZ[fW

à-¾

,±,lfGf%o[,íRf“f“fg,đŠJ,ç,Ä•Â,¶,È,©,Á,½ê¶,É•\
Ž|,³,ê,Ü,·B{v,ÁŠŽn,μ,½fRf“fg,Íu}v,ÁC(*v,ÁŠŽn,μ,½fRf“fg,Íu*)v,Á•K,,•Â,
¶,È,~,ê,î,È,è,Ü,¹,ñB

—á

{ ,±,ì—á,íRf□f“fg,ð•Â,¶,È,©,Á,½ }

program Produce;

{ ,±,±,ÅfRf□f“fg,ðŠJŽn,μ,½,ª□C•Â,¶,é,ì,ð-Y,ê,½

begin

end.

{ fRf□f“fg,ð•Â,¶,ê,î-â'è,í%oðCE^,³,ê,é }

program Solve;

{ ,±,±,ÅfRf□f“fg,ðŠJŽn,μ,½,ª□C-Y,ê,,É•Â,¶,½ }

begin

end.

Constant or type identifier expected

á fRf“fpfCf<fGf%o[f[]fbfZ[]fW

à-¾

,±,lfGf%o[f[]fbfZ[]fW,íĈ^,đŠú’Ò,μ,Ä,†,½fRf“fpfCf%o
,‘è”,Å,àĈ^Ž·ÊŽq,Å,à,È,†fVf“f{f<,đĈÿ[]o,μ,½,Æ,«,É·\Ž|,³,è,Ü,
(‘è”,í·”·ª”ííĈ^,ìŽn,ß,É’u,©,é,é[]é[]‡,ª, ,è,Ü,.) []B

—á

```
{ ,±,±,Á,Í ExceptionClass ,íĈ^,Á,È,•ï□",Á, ,é }
```

```
program Produce;
```

```
var
```

```
  C: ExceptionClass; { ExceptionClass ,í System "à,ì•ï□",Á, ,é }
```

```
begin
```

```
end.
```

```
{ •K, ,Ĉ^,đŽw'è,•,é•K—v,ª, ,é□BŽ~•ÊŽq,lfXfyf<,ªŠÔ^á,Á,Ä,ç  
,é,©□C,½,Æ,!,î•Ê,ì†fjfbfg,ìŽ~•ÊŽq,È,Ç,É,æ,Á,Ä%B,ª,è,Ä,ç,é%oÂ"\□«,ª, ,é }
```

```
program Solve;
```

```
uses SysUtils;
```

```
var
```

```
  C: Exception; { Exception ,í SysUtils "à,ìĈ^,Á, ,é }
```

```
begin
```

```
end.
```

Invalid compiler directive: '<Directive>'

—á fRf“fpfCf<fGf%□[f□fbfZ□[fW

□à-¾

,±,lfGf%□[f□fbfZ□[fW,lfRf“fpfCf%Žw—ß,©fRf}f“fhf%ofCf“flfvfVf#f“,ÉfGf%□[.ª, ,é,±,Æ,ð^Ó-¡,µ,Ä,ç,Ü,·□B

^È%□,ì,æ,κ,ÉfGf%□[.ª□l,¡,ç,ê,Ü,·□B

- ŠO•“□éĀ¾,ì□\•¶,ª□³,µ,,È,©,Á,½
 - fRf}f“fhf%ofCf“flfvfVf#f“,Ü,½,Í DCC32.CFG ftj@fCf<“à,lfifvfVf#f“,ªfRf“fpfCf% ,É,æ,Á,Ä“FZ¯,³,ê,È,©,Á,½,©-³Āø,¾,Á,½□B,½,Æ,¡,lfXf^fbfN,ì□Ā□-fTfCfY,Í 1024
 - fRf“fpfCf%ª \$XXXXX Žw—
- ß,ðĀŸ□o,µ,½,ª□C,»ê,ð“FŽ¯,Ā,«È,©,Á,½□BfXfyf<,ìĀë,è,¾,Á,½,ÆŽv,í,ê,é
- fRf“fpfCf%ª \$ELSE Žw—ß,Ü,½,Í \$ENDIF Žw—ß,ðĀŸ□o,µ,½,ª□C‘O,É \$IFDEF□C\$IFNDEF□C\$IFOPT ,ì,ç,,ê,ìŽw—ß,à,È,ç
 - { \$IFOPT } ,ìĀë,É switch flfvfVf#f“,Æ□u+□v,Ü,½,Í□u-□v,ª,È,©,Á,½
 - ‘,çĀ`Ž®,lfXfCfbf` Žw—ß,ìĀë,É ON ,Ü,½,Í OFF ,ª,È,©,Á,½
 - □““lfpf%of□□[f^,ð,Æ,éŽw—ß,ìĀë,É—LĀø,È□“‘l,ª,È,©,Á,½
 - \$DESCRIPTION Žw—ß,ìĀë,É•¶Žš—ñ,ª,È,©,Á,½
 - \$APPTYPE Žw—ß,ìĀë,É CONSOLE ,Ü,½,Í GUI ,ª,È,©,Á,½
 - \$ENUMSIZE Žw—ß ('Z,çĀ`Ž®,ì \$Z) ,ìĀë,É 1□C2□C4 ,ì,ç,,ê,à,È,©,Á,½

—á

```
{ ŽŸ,lfR[fh,í 3 ,Â,ì“TCE^“l,ÈfGf%□[ ,đŽì,μ,Ä,“ ,è□C□ACEä,ì 2 ,Â,lfGf%□[ ,lfRf“fpfCf%□,ª $lf ,đ“FŽ ,Â,« ,È,© ,Á,½,½,ß,É<N,« ,½ }
```

```
{ $Description Copyright Borland International 1996 } { <-- ,±,±,ÄfGf%□[ ] }  
program Produce;  
{ $AppType Console } { <-- ,±,±,ÄfGf%□[ ] }
```

begin

```
{ $If O+ } { <-- ,±,±,ÄfGf%□[ ] }  
  Writeln('Optimizations are ON');  
{ $Else } { <-- ,±,±,ÄfGf%□[ ] }  
  Writeln('Optimizations are OFF');  
{ $Endif } { <-- ,±,±,ÄfGf%□[ ] }  
  Writeln('Hello world!');  
end.
```

```
{ $Description ,É,í^ø—p•,, ,Á^í,ñ,¾•¶Žš—ñ,ª•K—v,Ä, ,è□C$AppType ,lfXfyf<,đ□³,μ,“ü—  
í, ,é•K—v,ª , ,è□Cf`fFbfNf!fVfVfj“ ,É,í $lfOpt ,đŽw`è, , ,é□B,±,ê,ç,ì•í□X,đ%□Á, , ,é,lfR[fh,í□³,μ,-  
fRf“fpfCf<,Ä,« ,é }
```

```
{ $Description 'Copyright Borland International 1996' } { •¶Žš—ñ,ª•K—v }  
program Solve;  
{ $AppType Console } { AppType }
```

begin

```
{ $IfOpt O+ } { IfOpt }  
  Writeln('Optimizations are ON');  
{ $Else } { ,±,ê,Ä,æ,ç }  
  Writeln('Optimizations are OFF');  
{ $Endif } { ,±,ê,Ä,æ,ç }  
  Writeln('Hello world!');  
end.
```

Bad global symbol definition: '<name>' in object file '<Filename>'

frfpCfGf%o[fbfZ[fW

à-¾

, ±, ìEx, í **\$L** Žw—ß, Ü, ½, í **\$LINK** Žw—ß, ÅfŠf“fN, μ, ½fufWfFfNfgftf@fCf<, É Pascal , ì **external** Žè‘±, «, Æ, μ, ÄéÉ¾, ¾, è, Ä, ç, È, ç (, ½, Æ, í, îC•ï“, È, Ç, Æ, μ, ÄéÉ¾, ¾, è, Ä, ç, é) fVf“{f<, ìè<“, ü, Ä, Ä, ç, é, Æ, «, É•Ží, ¾, è, Ü, ·B, ±, ìè#CfufWfFfNfg“à, ìè<“, í-¾Ž<, ¾, è, Ü, ·B

Invalid relocation information

fRf“fpfCf<fGf%o[f[]fbfZ[]fW

à-¾

,±,lfGf%o[f[]fbfZ[]fW,íE»ÝŽg,í,ê,Ä,ç,Ü,¹,ñB

uClass or object types only allowed in type sectionv

á fRf“fpfCf<fGf%o[]f[]fbfZ[]fW

à-¾

fNf%oXCE^,Ü,½,í|fufWfFfNfgCE^,í|í,É type fZfNfVf#f“,Å-¾Ž!“I,ÉCE^éCE¾,µ,È,¯,ê,Î,È,è,Ü,¹,ñ[]BfCEfR[]fhCE^,Æ^Ù,È,è[]C,»ê,ç,ìCE^,É,í-¼‘O,ª•K—v,Å,·[]B-¾Ž!“I,ÈCE^éCE¾,ª•K—v,ÈŽâ,È—[]—R,í[]CCE^-¼,ª,È,ç,½,ß,É,»,)CE^,|f[]\fbfh,ðéCE¾,Å,«,,È,,È,é,©,ç,Å,·[]B

-á

{ ŽŸ, ĩfR□[fh, í•ĩ□"□éĈ^{3/4}, ì†, ÅfNf%ofXĈ[^], ð□éĈ^{3/4}, μ, æ, α, Æ, μ, Ä, ", è□Ĉ[^]á-@, Å, , é }

program Produce;

var

MyClass: **class**
Field: Integer;
end;

begin

end.

{ 'P, É, »,)fNf%ofXĈ[^], ìĈ[^]□éĈ^{3/4}, ð"±"ü, ·, ê, î%oðĈ[^], ·, é□B, ^, é, ç, í□CfNf
%ofXĈ[^], ðfĈ[^]fR□[fhĈ[^], Ö•ĩ□X, μ, Ä, à, æ, ç }

program Solve;

type

TMyClass = **class**
Field: Integer;
end;

var

MyClass: TMyClass;

begin

end.

Local class or object types not allowed

á Rf“fpfCf<fGf%o[]f[]bfZ[]fW

à-¾

fNf%oX,ÆfifufWfFfNfg,Í[][]fj<,É,ÍéE¾,Å,«,Ü,¹,ñB

—á

{ MyProc ,ÍfNf%ofXCE^,ðf□□[fjfk<,É□éCE¾,μ,æ,π,Æ,μ,Ä,¨,è□C^á-@,Å, ,é }

program Produce;

procedure MyProc;

type

 TMyClass = **class**

 Field: Integer;

end;

begin

{ ... }

end;

begin

end.

{ 'P,É,»,)ÍfNf%ofXCE^,Ü,½,ÍfÍfufWfFfNfgCE^,ì□éCE¾,ðfOf□□[fof<fXfR□[fv,Ö^Ú“®,.,ê,Î
%oðCE^,.,é }

program Solve;

type

 TMyClass = **class**

 Field: Integer;

end;

procedure MyProc;

begin

{ ... }

end;

begin

end.

Virtual constructors are not allowed

á Rf“fpfCf<fGf%o[fbfZ[fW

à-¾

fNf%oXCE^,Æ^Ù,È,è[CflufWfFfNfgCE^,Í“lfRf“fXfgf%ofNf^,¾, ¯,šŽ,Ä,Ü,·B

—á

{ ŽŸ,lfR□[fh,lfIfufWfFfNfgCE^,Å,ÍŽ□,Ä,È,č%¼'zfRf"fXfgf%ofNf^,ð□éCE¾,μ,æ,α,Æ,μ,Ä,č,é }

program Produce;

type

 TMyObject = **object**
 constructor Init; **virtual**;
 end;

constructor TMyObject.Init;

begin

end;

begin

end.

{ fRf"fXfgf%ofNf^,ð□Ä"l,É,.,é,©□C%¼'zfRf"fXfgf%ofNf^,ðŽ□,Ä,éfNf%ofXCE^,ðŽg,!,Î
%ðCE^,.,é }

program Solve;

type

 TMyObject = **object**
 constructor Init;
 end;

constructor TMyObject.Init;

begin

end;

begin

end.

Left side cannot be assigned to v

á fRf"fpfCf<fGf%o[f]fbfZ[fW

à-¾

,±,lfGf%o[f]fbfZ[fW,í'è" C'è"fpf%of[f^CŠÖ",ì-ß,è'l,ì,æ,α,È"Ç,Ý[o,μê—
pfIfufWfFfNfg,ð•ïX,μ,æ,α,Æ,μ,½,Æ,«,É•\Ž!,³,ê,Ü,·B

-á

```
{ ŽŸ,İfR[fh,Í'è"fpf  
%of[f^C'è"CSÖ"CEÄ,Ño,μ,İCE<%oÊ,Ö'ã"ü,ðŽÀs,·,éB,»,ê,ç,İ'€İ,Í,·,x,Ä^á-@,Ä, ,é }
```

program Produce;

const

```
C = 1;
```

procedure P(const S: string);

begin

```
S := 'changed'; { <-- ,±,±,ÄfGf%o[f]fbfZ[fW }  
end;
```

function F: PChar;

begin

```
F := 'Hello'; { ,±,ê,Í,æ,çB-ß,è'l,ðŸ'è,μ,Ä,ç,é }  
end;
```

begin

```
C := 2; { <-- ,±,±,ÄfGf%o[f]fbfZ[fW }  
F := 'h'; { <-- ,±,±,ÄfGf%o[f]fbfZ[fW }  
end.
```

```
{ ,±,İŽÍ,İ-â'è,İ%oðCE^-@,Í 2 ,Ä, ,éB'ã"üæ,İ'è<,ð'ã"ü%oÄ"\,É•İX,·,é•û-  
@,Æ'ã"ü,ðíœ,·,é•û-@,Ä, ,é }
```

program Solve;

var

```
C: Integer = 1; { [ ]%oŠú%o»İ,Ÿ•İ" ,ðŽg,α }
```

procedure P(var S: string);

begin

```
S := 'changed'; { •İ"fpf%of[f^,ðŽg,α }  
end;
```

function F: PChar;

begin

```
F := 'Hello'; { ,±,ê,Í,æ,çB-ß,è'l,ðŸ'è,μ,Ä,ç,é }  
end;
```

begin

```
C := 2;
```

```
F^ := 'h'; { ,±,ê,İfRf"fpfCf<,Ä,«,é,ªŽÀ[sŽž,ÉfNf%ofbfVf...,·,é }  
end.
```

Unsatisfied forward or external declaration:
'<ProcedureName>'

á fRf"fpfCf<fGf%o[f]fbfZ[fW

à-¾

,±,lfGf%o[f]fbfZ[fW,lfNf%ofXCE^,âlfufWfFfNfgCE^,l't,ÉŽè'±,«,âŠÖ",l forward
éCE¾,Ü,½,í external éCE¾,â, ,é,©Cf[f]fbfh,l éCE¾,â, ,é,É,à,©,©,í,ç, C,»,lŽè'±
,«CŠÖ" C[f]fbfh,â,ç,±,É,à'è'¾,¾,ê,Ä,ç,È,ç,Æ,«,É•Žl,¾,ê,Ü,·BŽÀÜ,É'è'¾,âCE‡—Ž,µ,Ä,ç
,é,©C'è'¾,lfXfyf<,âŠÖ^á,Ä,Ä,ç,é%oÄ"\«,â, ,è,Ü,·B
ffjfbfg,lfCf" f^ [ftfF[fX•",Å,lŽè'±,«éCE¾,Ü,½,ÍŠÖ" éCE¾,Í forward
éCE¾,Æ"~,¶,Å,·BŽÀCE»•",ÉŽÀCE» (Žè'±,«,Ü,½,ÍŠÖ",l-{l) ,ð—^,!,È,~,é,î,È,è,Ü,¹,ñB" —
l,ÉCfNf%ofXCE^,Ü,½,lfufWfFfNfgCE^,l't,Å,lf[f]fbfh éCE¾,à forward éCE¾,Æ"~,¶,Å,·B

—á

```
{ ŽŸ, Ì Sum , ì'è<` , Å, ÍŠÈ'P, Éf^fCfyf~fX, áĈ©, Â, ©, é, áC□"□ç□s, É<y, ÔŽÀ□Ů, ÌfR□[fh, Å, Í forward  
□éĈÉ¾, ÆŽè'±, «'è<` , Ìæ•É, á, ±, Ì, æ, α, É-¾Šm, Å, É, ç□ê□†, á, , é }
```

program Produce;

type

```
TMyClass = class  
    constructor Create;  
end;
```

function Sum(**const** A: **array of** Double): Double; **forward;**

function Summ(**const** A: **array of** Double): Double;

var

```
I: Integer;
```

begin

```
Result := 0.0;
```

```
for I:= 0 to High(A) do
```

```
    Result := Result + A[I];
```

end;

begin

end.

```
{ , μ, ½, á, Á, Ä□C, ·, x, Ä, ÌŽè'±, «□CŠÖ□"□Cf□f□fbfh, ì'è<` , á'¶□Ÿ, ·, é, ±, Æ, ðŠm" F, μ□CfXfyf<, ð□³, μ, "ü  
—Í, ·, é•K—v, á, , é }
```

program Solve;

type

```
TMyClass = class  
    constructor Create;  
end;
```

constructor TMyClass.Create;

begin

end;

function Sum(**const** A: **array of** Double): Double; **forward;**

function Sum(**const** A: **array of** Double): Double;

var

```
I: Integer;
```

begin

```
Result := 0.0;
```

```
for I:= 0 to High(A) do
```

```
    Result := Result + A[I];
```

end;

begin

end.

Missing operator or semicolon

ŽQ Æ —á fRf“fpfCf<fGf%o[f]fbfZ[fW

à-¾

, ±, ìfGf%o[f]fbfZ[fW, í 2 , Â, ì•”•ž@, ìŠÔ, É%o%oŽŽŽq, ^a, È, çê±, ©C2
, Â, ì•ŕ, ìŠÔ, ÉfZf~fRf[f“^a, È, çê±, É•\Ž, ³, ê, Ü, ·B'½,, ìê±C'O, ìs, ÅfZf~fRf[f“^aCE±—Ž, μ, Ä, ç
, Ü, ·B

—á

{ ŽŸ, ĩfR [fh, Å, í Å %%, ì • ¶, É u + v % % Ž Ž Ž q, Æ f Z f ~ f R f [f “, ì Ç ‡ — Ž, Æ, ç, x 2 , Â, ĩfGf % [, a , , é B Å %%, ĩfGf % [, í, » , ì • ¶, É, Â, ç, Ä • ñ [, 3 , ê C 2 “ Ö - Ú, ĩfGf % [, Í Ž Ÿ, ĩ s, É, Â, ç , Ä • ñ [, 3 , ê, é }

program Produce;

var

I: Integer;

begin

I := 1 2 { <-- , ±, ±, ÅfGf % [f [f b f Z [f W }

if I = 3 **then** { <-- , ±, ±, ÅfGf % [f [f b f Z [f W }

Writeln('Fine')

end.

{ • K — v, È % % Ž Ž Ž q, Æ f Z f ~ f R f [f “, ð • K, , • t, , ê, î % ð Ç È ^ , , é }

program Solve;

var

I: Integer;

begin

I := 1 + 2; { u + v % % Ž Ž Ž q, Æ f Z f ~ f R f [f “, a, È, ©, Á, 1/2 }

if I = 3 **then**

Writeln('Fine')

end.

ŽQÆ
•i•••

□ incompatible types □ v

—á fRf“fpfCf<fGf%□[fbfZ□[fW

□ à^{-3/4}

, ±, ìfGf%□[fbfZ□[fW, ìfRf“fpfCf%□, ^a 2 , Â, ìCE ^, É—v<□, ³, ê, ½CEÝŠ·□«, ^aŽ□, Ä, È, ©, Á, ½, Æ, «, É•\
Ž, ³, ê, Ü, ·□B, ±, ìfGf%□[, ³, Ü, ´, Ü, È□ê□‡, É”□¶, μ, Ü, ·□B, ½, Æ, †, ì□Cfvf□fpfefB“à, ì **read** □ß, ©
write □ß, ÅŽw’è, μ, ½f□\fbfh, ìfpf
%□f□□[f^fŠfXfg, ^a, »), ìfvf□fpfefB, É“K□‡, μ, È, †□ê□‡, â□C•W□€Žè’±, «, Ü, ½, †•W□€ŠÖ□”, Ö, ìfpf
%□f□□[f^, ìCE ^, ^aCEè, Á, Ä, †, é□ê□‡, È, Ç, Å, ·□B

—á

{ •W□€ŠÖ□" Hi ,É,Í□@□"CE^,Ü,½,Íf□□[fhCE^,í^ø□",ª•K—v,¾,ª□C,±,±,Å,í"z—
ñCE^,í^ø□",ðŽw'è,µ,½ }

program Produce;

var

A: **array**[0..9] **of** Char;

I: Integer;

begin

I:= Hi(A);

end.

{ -{"-,Í Hi ,Å,È,•W□€ŠÖ□" High ,ðŽg,ª,Å,à,è,¾,Á,½ }

program Solve;

var

A: **array**[0..9] **of** Char;

I: Integer;

begin

I:= High(A);

end.

Missing parameter type

á fRf“fpfCf<fGf%o[f[]fbfZ[]fW

à-¾

,±,lfGf%o[f[]fbfZ[]fW,lfpf%o[f[]f^fšfXfg,Å'lfpf%o[f[]f^,ÉCE^,ðŽw'è,μ,È,©,Á,½,Æ,«,É•\
Ž,³,è,Ü,·BCE^,ð[]È—ª,Å,«,é,ì,í'è"fpf%o[f[]f^,Æ•ï"fpf%o[f[]f^,Å,·B

—á

```
{ Žè'±,« P ,É 2 ,Â,ì@''fpf%of[]f^,đŽ,½,¹,æ,ɣ,Æ,μ,½,³C'æ 1 fpf%of[]f^,ìEä,Éfj''f}
,Â,Í,È,fZf~fRf[]f'',đ•t,¯,½BŠÖ'' ComputeHash ,ÍE^,ì,È,ç'æ 1 fpf
%of[]f^,đŽ,Â,Æ,Ý,È,³,è,½,³CCE^,È,μfpf%of[]f^,í•ï''fpf%of[]f^,©'è''fpf
%of[]f^,Â,È,¯,è,Í,È,ç, ,C'lfpf%of[]f^,Â, ,Á,Ä,Í,È,ç,È,ç }
```

program Produce;

```
procedure P(I;J: Integer); { <-- ,±,±,ÄfGf%o[]f[]fbfZ[]fW }
begin
end;
```

```
function ComputeHash(Buffer; Size: Integer): Integer; { <-- ,±,±,ÄfGf
%o[]f[]fbfZ[]fW }
begin
end;
```

```
begin
end.
```

```
{ ,±,ì—á,Â,Í P ,ìfpf%of[]f^fŠfXfg,ÄE^,đC³,μCCComputeHash ,Ö,ì Buffer fpf
%of[]f^,đ'è''fpf%of[]f^,Æ,μ,ÄéCE¾,μ,Ä%öCE^,μ,½BBuffer fpf
%of[]f^,đC³,·,é,Ä,à,è,Í,È,ç,½,ß,Ä, ,é }
```

program Solve;

```
procedure P(I, J: Integer);
begin
end;
```

```
function ComputeHash(const Buffer; Size: Integer): Integer;
begin
end;
```

```
begin
end.
```

Illegal reference to symbol '<name>' in object file '<Filename>'

frf"fpfCf<fGf%o[f]fbfZ[fW

à-¾

,±,lfGf%o[f]fbfZ[fW,í **\$L** Žw—β,Ü,½,í **\$LINK** Žw—
β,Åf[fh,μ,½fIfufWfFfNfgftf@fCf<,ÉCŽè'±
,«CŠÖ" C•i" CCE^•t,«'è" CfXfCf bfhf[f]f<•i",ì,ç,,.ê,À,à,È,ç Pascal
fVf"ff{f<,Ö,İŽQÆ,ª"ü,Á,Ä,ç,éé#É•\Ž!,³,ê,Ü,·B

Line too long (more than 255 characters)

Line too long (more than 255 characters)

à-¾

,±,lfGf%o[f]fbfZ[fW,Í\ [fXftf@fCf<“à,Å 1 s,ì’,¾, 255 •ŕŽš,đ’,ı,Ä,ç,é,Æ,«,É•\

Ž,¾,ê,Û,·B’ÉíC’,ç[s,Í 2 ,Â,ì’Z,ç[s,É•š,,Å,«,Û,·B

’,ç•ŕŽš—ñ’è”,¾-{-,É•K—v,Éêê‡,É,íC,»,ì’è”,đ~A’±,μ,½•j”,ì[s,É•¾, C u+ v%

%oŽŽŽq,Å~ACE<,Å,«,Û,·B

Unknown directive: '<Directive>'

á fRf“fpfCf<fGf%o[f[]fbfZ[]fW

à-¾

,±,lfGf%o[f[]fbfZ[]fW,ÍŽè‘±,«,Ü,½,ÍŠÖ”,l[éÉ¾,ì†,ÅfRf“fpfCf%o,ª-ç’è<`,lŽw=ſ,ðÉÿ[]o,µ,½,Æ,«,É•Ž|,³,ê,Ü,·BŽw—β,lfXfyf<,ªŠÔ^á,Á,Ä,ç,é,©[]CfZf~fRf[]f“,ªÉ‡—Ž,µ,Ä,ç,é,ÆŽv,í,ê,Ü,·B

-á

{ P, ìéÉ¾, ì†, ÅÉÄ, Ñ□o, µ<K-ñ, ìfXfyf<, ðŠÔ^á, Á, Ä, ç, é□BQ, /Æ GetLastError
, ìéÉ¾, ì†, ÈfZf~fRf□f“, ð, È, ç }

program Produce;

procedure P; stcall;
begin
end;

procedure Q **forward;**

function GetLastError: Integer **external** 'kernel32.dll';

begin
end.

{ Žw—ß, ìfXfyf<, ð□³, µ, “ü—Í, µ□C•K—v, ÈfZf~fRf□f“, ð•K, , •t, ¯, ê, Î%oðÉ^, ;, é }

program Solve;

procedure P; **stdcall;**
begin
end;

procedure Q; **forward;**

function GetLastError: Integer; **external** 'kernel32.dll';

procedure Q;
begin
end.

begin
end.

uThis type cannot be initializedv

á fRf“fpfCf<fGf%o[fbfZ[fW

à-¾

ftf@fCf<CE^,ÆfofŠfAf“fgCE^,Í%Šú%»,Å,«,Ü,¹,ñB,Â,Ü,èC,»,ê,ç,ìCE^,ìCE^•t,«'è”,â
%Šú%»İ,Ý•İ”,ÍéCE¾,Å,«,Ü,¹,ñB

-á

{ ŽŸ, ĺfR□[fh, ĺfofŠfAf“fgCE^, ĺ□%Šú%»□ĭ, Ÿ•ĭ□”, đ□éCE^{3/4}, μ, æ, α, Æ, μ, Ä, “, è□C^á-@, Å, , é }

program Produce;

var

V: Variant = 0;

begin

end.

{ 'P, É'Ê□í, ĺ•ĭ□”, đ'ã“ü•¶, Å□%Šú%»., , ê, ĺ%đCE^., , é }

program Solve;

var

V: Variant;

begin

V := 0;

end.

Number of elements differs from declaration

á fRf“fpfCf<fGf%o[fbfZ[fW

à-¾

,±,lfGf%o[fbfZ[fW,Í”z—ñCE^,ìCE^•t,«'è”,Ü,½,í%Šú
%o»[.Ý•ï”,ðéCE¾,µ,Ä“KØ,È”,ì—v'f,ðŽw'è,µ,È,©,Á,½,Æ,«,É•\Ž!,³,ê,Ü,·B

—á

{ ŽŸ, ĺfR [fh, í 10 ĄĀ, ì—v'f, ©, ç, È, é"z—ñ, ðéĄ¼, μ, Ā, ç, é, ¢ĄĄ%Šú%»Ā 9 ĄĀ, ì—v'f, μ, ©—
^, ĺ, Ā, ç, È, ç }

program Produce;

var

A: **array**[1..10] **of** Integer = (1, 2, 3, 4, 5, 6, 7, 8, 9);

begin

end.

{ ĄĄ—Ž, μ, Ā, ç, ½—v'f, ð'Ç%Ā, ·, ê, ĺfRf"fpfCfĄ, Ā, «, éĄB, à, Ā, Ą'â, «, È"z—ñ, ðĄ%Šú
%»·, ·, é, Ą, «, È, ĺĄĄ—v'f, ðĄ³, μ, çĄ", ¾, ~Žw'è, μ, ½, ©, Ç, Ą, ©, ¢, æ, í, ©, ç, È, çĄĄĄ, ¢, éĄB, »ĺ, æ, Ą
, ÈĄĄĄ, È, ĺĄĄ—v'f, ðĄ", ĺ, â, ·, ç·û-@, Ā (, ½, Ą, ĺ, ĺ 1 Ąs, È 10 ĄĀ, ·, Ā) fĺ
Ą[fxftf@fCfĄ, ðfĄfCfAfEfg, ·, é, ©ĄĄ—v'f, ì—x, È—v'f, ĺ"YŽš, ðfRfĄf"fg, Ą, μ, Ā·t, ·, ê, ĺ, æ, ç }

program Solve;

var

A: **array**[1..10] **of** Integer = (1, 2, 3, 4, 5, 6, 7, 8, 9, 10);

begin

end.

Label already defined: '<Labelname>'

á fRf“fpfCf<fGf%o[fbfZ[fW

à-¾

,±,lfGf%o[fbfZ[fW,í•i“,ì•¶,É““,¶f%ofxf<,ðY’è,µ,½,Æ,«,É•Ž|,³,ê,Ü,·B

-á

{ ŽŸ, ĺfR[]fh, ĺf%ofxf< 1 ,đ 2 %oñ[]Ý'è,µ,æ,α,Æ,µ,Ä,ç,é }

program Produce;

label 1;

begin

1:

goto 1;

1: { <-- ,±,±,ÅfGf%o[]f[]bfZ[]fW }

end.

{ ,·,×,Ä, ĺf%ofxf<,đ[]Šm,É 1 %oñ,¾,[]Ý'è,·,é }

program Solve;

label 1;

begin

1:

goto 1;

end.

Label declared and referenced, but not set: '<label>'

á Rf“fpfCf<fGf%o[fbfZ[fW

à-¾

fvfOf%of€,ì†,Á%oofxf<,ðéÉ¾,μ,ĂŽg,ç,Ü,μ,½,ªCf\ [fXfR [fh“à,Áf
%oofxf<'è<`,ªCEŸo,³,ê,Ü,¹,ñ,Á,μ,½B

—á

{ f%ofxf< 10 ,đŽè'±,« Labeled ,ì†,Á□éĈ^{3/4},μ,ÄŽg,Á,½,^a□CfRf“fpfCf%o,^a,»,ìf
%ofxf<,ì'è<` ,đĈËŸ□o,Á,«,È,ç }

program Produce;

procedure Labeled;

label 10;

begin

goto 10;

end;

begin

end.

{ □éĈ^{3/4},μ,ÄŽg,Á,Ä,ç,éf%ofxf<,ì'è<` ,đ•K,„fvf□fOf%of€,ì“˘,¶fXfR□[fv“à,É'u,˘,î-â'è,ÍŠÈ'P,É
%ođĈĈ^,·,é }

program Produce;

procedure Labeled;

label 10;

begin

goto 10;

 10:

end;

begin

end.

uThis form of method call only allowed in methods of derived typesv

á fRf“fpfCf&fGf%o[]f[]bfZ[]fW

à-¾

,±,lfGf%o[]f[]bfZ[]fW,Í[]ã^Ê,ìCE^,ìf[]f[]bfh,ðCEÄ,Ñ[]o,»,x,Æ,μ,½,Æ,«,É[]CŽÀ[]Û,É,Íf[]f[]bfh,ì†,É,ç,È,ç[]ê[]‡,É•\Ž!,³,é,Û,·[]B

—á

```
{ ŽŸ,lfR[fh,íŽè'±,« Create ,l't,ÁĈep³fRf“fXfgf%ofNf^,ðĈĈÄ,Ño,» ,æ,Æ,μ,Ä,ç,é,ªĈĈCreate  
,lf\fbfh,Á,Í,È,ç }
```

```
program Produce;
```

```
type
```

```
  TMyClass = class  
    constructor Create;  
  end;
```

```
procedure Create;
```

```
begin
```

```
  inherited Create; { <-- ,±,±,ÁfGf%o[f\fbfZ[fW }
```

```
end;
```

```
begin
```

```
end.
```

```
{ ,±,lĈĈ`Ž@,lĈĈÄ,Ño,μ,ðŽg,æ,Æ,« ,l•K, ŽÄŸŸ,Éf\fbfh,l't,É,ç,é,æ,æ,É,·,é }
```

```
program Solve;
```

```
type
```

```
  TMyClass = class  
    constructor Create;  
  end;
```

```
constructor TMyclass.Create;
```

```
begin
```

```
  inherited Create;
```

```
end;
```

```
begin
```

```
end.
```

□uThis form of method call only allowed for class methods□v

—á fRf“fpfCf<fGf%oo□[f□fbfZ□[fW

□à-¾

fCf“fXf^f“fX,Å,È,fNf%oofXCE^,ðŽw'è,·,é,¾,¯,Å'Êí,ìf□\fbfh,ðCEÄ,Ñ□o,»,x
,Æ,μ,Ü,μ,½□B,»,è,^a,Å,«,é,ì,ìfNf%oofXf□\fbfh,ÆfRf“fXfgf%oofNf^,ì□é□‡,¾,¯,Å□C'Êí,ìf□\fbfh,ÆfffXfgf%oofNf^,ì□é□‡,í,Å,«,Ü,¹,ñ□B

—á

```
{ ŽŸ,İfR□[fh,Í TMyClass ĄĚ^,»ì,à,ì,đ”pŠü,μ,æ,π,Æ,μ,Ä,č,é }
```

```
program Produce;
```

```
type
```

```
  TMyClass = class  
    { ... }
```

```
  end;
```

```
var
```

```
  MyClass: TMyClass;
```

```
begin
```

```
  MyClass := TMyClass.Create; { ,±,ê,Å,æ,č□BfRf“fXfgf%ofNf^ }
```

```
  Writeln(TMyClass.ClassName); { ,±,ê,Å,æ,č□BfNf%ofXf□\fbfh }
```

```
  MyClass.Destroy; { <-- ,±,±,ÅfGf%□[f□bfZ□[fW }
```

```
end.
```

```
{ ŽÀ□Û,É,ÍĄĚ^,»ì,à,ì,Å,È,ĄĚ^,İfCf“fXf^f“fX,đ”pŠü,μ,È,,Ä,Í,È,č,È,č }
```

```
program Solve;
```

```
type
```

```
  TMyClass = class  
    { ... }
```

```
  end;
```

```
var
```

```
  MyClass: TMyClass;
```

```
begin
```

```
  MyClass := TMyClass.Create; { ,±,ê,Å,æ,č□BfRf“fXfgf%ofNf^ }
```

```
  Writeln(TMyClass.ClassName); { ,±,ê,Å,æ,č□BfNf%ofXf□\fbfh }
```

```
  MyClass.Destroy; { ,±,ê,Å,æ,č□BfCf“fXf^f“fX,ÉÍ,μ,ÄĄĚÄ,Ň□o,³,ê,é }
```

```
end.
```

☐ incompatible types: <text>☐v

ŽQ☐Æ —á fRf“fpfCf<fGf%o☐[f☐fbfZ☐[fW

☐à^{-3/4}

Žè'±,«,ì☐éĚ^{3/4},ÆŽg,ç•û,İŃÔ,É^á,ç,^a, ,è,Ü,μ,½☐B

—á

```
{ ProcedureParm0 Ć^,ª stdcall Žè'±,«,đŠú'Ò,μ,Ä,ϕ,é,É,à,©,©,í,ç,, Ćregister ĆÄ,Ñĭo,μ<K-  
ñ,đŽg,Á,Ä WrongConvention ,đĭéĆ¾4,μ,½,½,ßĆTakesParm0 ,đĆÄ,Ñĭo,·,ÆfGf  
%oĭ[,É,È,éĭB"~—l,ÉĆTakesParm1 ,lĆÄ,Ñĭo,μ,lfpj%ofĭĭ[f^fŠfXfg,l•s^è'v,É,æ,Á,ÄŽ,"s,·,é }
```

program Produce;

type

```
ProcedureParm0 = procedure; stdcall;  
ProcedureParm1 = procedure (var X: Integer);
```

procedure WrongConvention; **register;**

begin
end;

procedure WrongParams(x, y, z: Integer);

begin
end;

procedure TakesParm0(p: ProcedureParm0);

begin
end;

procedure TakesParm1(p: ProcedureParm1);

begin
end;

begin

```
TakesParm0(WrongConvention);  
TakesParm1(WrongParams);
```

end.

```
{ ,±,ì 2 ,Â,ì-â'è,í'P,ÉĆÄ,Ñĭo,μ<K-ñ,Ü,½,lfpj%ofĭĭ[f^fŠfXfg,đĭéĆ¾4,É^è'v,³,¹,é,Î,Ç,ì,ç,à  
%ođĆ^,·,é }
```

program Solve;

type

```
ProcedureParm0 = procedure; stdcall;  
ProcedureParm1 = procedure (var X: Integer);
```

procedure RightConvention; **stdcall;**

begin
end;

procedure RightParams(**var** X: Integer);

begin
end;

procedure TakesParm0(p: ProcedureParm0);

begin
end;


```
procedure TakesParm1 (p: ProcedureParm1);  
begin  
end;  
  
begin  
  TakesParm0 (RightConvention);  
  TakesParm1 (RightParms);  
end.
```

ŽQÆ

Žè'±,«Æ^

ÆÄ.Ñ□o,μ<K-ñ

Variable '<name>' might not have been initialized

á fRf“fpfCf<fGf%o[fbfZ[fW

à-¾

,±,ìĈx,í,l,ª’ã“ü,³,ê,Ä,ç,È,ç•ï”,ðŽg,“,x,Æ,μ,½ê‡,É•\Ž|,³,ê,Ü,·B

—á

```
{ if •¶,Á,Í—¼•û,ì•šò,Á•ř" ,É'í,á"ü,³,ê,é,æ,æ,É,µ,È,¯,ê,Î,È,ç,È,çBcase
•¶,Á,Í,ç,ê,é,·,×,Ä,ìê¶,É•K,·,Ö'í,á"ü,³,ê,é,æ,æCelse •",ð'Ç%oÁ,·,é•K—
v,ª, ,éBtry-except ¶'ç,ìê¶Ctry •",Á,í"ü,ÍC,»,"ü,ª try •",ì-`ª,É, ,Á,Ä—
áŠO,ð¶¶—,·,é,ÆŽv,í,ê,È,ç,Ù,Ç'P¶f,Á, ,Á,Ä,àCŽÄÜ,É,í"ü,ªŽÄs,³,ê,È,ç%oÁ"¶«,ª, ,é,Æ,Ý,
È,³,ê,é }
```

```
program Produce;
```

```
{ $WARNINGS ON }
```

```
var
```

```
  B: Boolean;
```

```
  C: (Red, Green, Blue);
```

```
procedure Simple;
```

```
var
```

```
  I: Integer;
```

```
begin
```

```
  Writeln(I); { <-- ,±,±,ÅÇx¶¶ }
```

```
end;
```

```
procedure IfStatement;
```

```
var
```

```
  I: Integer;
```

```
begin
```

```
  if B then
```

```
    I := 42;
```

```
  Writeln(I); { <-- ,±,±,ÅÇx¶¶ }
```

```
end;
```

```
procedure CaseStatement;
```

```
var
```

```
  I: Integer;
```

```
begin
```

```
  case C of
```

```
    Red..Blue: I := 42;
```

```
  end;
```

```
  Writeln(I); { <-- ,±,±,ÅÇx¶¶ }
```

```
end;
```

```
procedure TryStatement;
```

```
var
```

```
  I: Integer;
```

```
begin
```

```
  try
```

```
    I := 42;
```

```
  except
```

```
    Writeln('Should not get here!');
```

```
  end;
```

```
  Writeln(I); { <-- ,±,±,ÅÇx¶¶ }
```

```
end;
```

```

begin
  B := False;
end.

{ 'ä"ü,ä☒—Ž,μ,Ä,ϕ,½fR[]fhfjX,Ö'ä"ü,ð'Ç%oÁ,·,é,©[]C[]ð☒•¶,â try-except []\ϕ
,l'O,É'ä"ü,ð'Ç%oÁ,·,é,l%oð☒^,·,é }

program Solve;
{$WARNINGS ON}
var
  B: Boolean;
  C: (Red,Green,Blue);

procedure Simple;
var
  I: Integer;
begin
  I := 42;
  Writeln(I);
end;

procedure IfStatement;
var
  I: Integer;
begin
  if B then
    I := 42
  else
    I := 0;
  Writeln(I); { else •",Å I ,Ö,l'ä"ü,a•K—v }
end;

procedure CaseStatement;
var
  I: Integer;
begin
  case C of
    Red..Blue: I := 42;
  else
    I := 0;
  end;
  Writeln(I); { else •",Å I ,Ö,l'ä"ü,a•K—v }
end;

procedure TryStatement;
var
  I: Integer;
begin
  I := 0;
  try
    I := 42;
  except

```

```
    Writeln('Should not get here!');  
  end;  
  Writeln(I); { try ,l'O,Å I ,Ö,l'ä"ü,a•K—v }  
end;  
  
begin  
  B := False;  
end.
```

Value assigned to '<name>' never used

á fRf“fpfCf<fGf%“[f]fbfZ[fW

à-¾

fRf“fpfCf%“í•ï“,Ö“ã“ü,μ,½,l,žg,í,ê,Ä,ç,È,çêê±,É,±,lfqf“fgf]fbfZ[fW,ð•\Ž!,μ,Ü,·BÄ“K
%“»„žg—p%“Ä“\,ÉY“è,³,ê,Ä,ç,éêê±C,»„l“ã“ü,ííœ,³,ê,Ü,·B,»„l“ï“,ð,Ç,±,É,àžg,Á,Ä,ç
,È,©,Á,½,èžg,π‘O,ÉÄ“ã“ü,μ,Ä,ç,é,ÆC,±,lf]fbfZ[fW,ª•\Ž!,³,ê,éêê±,ª, ,è,Ü,·B
,±,lfqf“fgf]fbfZ[fW,lfvf]fOf%“f€,ìœë,è,ðŽ!,μ,Ä,ç,é,ì,Å,Í,È,]C‘P,É•s•K—v,È“ã“ü,ª, ,é,Æ,ç
,xfRf“fpfCf%“,l”»‘f,ð^Ó-i,μ,Ä,ç,Ü,·B‘Êí,í,»„l“ã“ü,ð‘P,Éíœ,Å,«Cíœ,μ,È,Ä,àÄ“K
%“»„ðf]f“,É,μ,ÄfRf“fpfCf<·,é,ÆfRf“fpfCf<Eã,lfR[fh,É,Í‘g,Ýž,Ü,ê,Ü,¹,ñB,½,¾,μCœë,Á,½•í
“,Ö“ã“ü,μ,½êê±C,½,Æ,í,Í,Ö“ã“ü,·,é,Ä,à,è,Å l ,Ö“ã“ü,μ,½êê±,È,Ç,É,í-â“è,ª<N,«„é,±
,Æ,ª, ,è,Ü,·B,μ,½,ª,Á,ÄC-â“è,ì, ,è,»„π,È“ã“ü,í‘^Ó[,’²,x,é%“l,ª, ,è,Ü,·B

—á

```
{ Žè'±,« Propagate ,ì't,ÅfRf“fpfCf%o,í•í“ I ,ª while f<[fv,ìCEã,ÅŽg,í,ê,Ä,ç,È,ç,ì,Å□CI ,ð
while “à,ÅfCf“fNfŠf□f“fg,·,é•K—v,í,È,ç,Æ“FŽ~,µ□C,µ,½,ª,Á,Ä,»),ìfCf“fNfŠf□f“fg,Æ while
f<[fv,ì'O,ì'ã“ü,à•s•K—v,Å, ,é,Æ“FŽ~,·,é□BŽè'±,« TryFinally ,Å,í try-finally □\ç,ì'O,É, ,é I
,Ö,ì'ã“ü,í•K—v,È,ç□B—áŠO,ª”□¶,µ,½□ê□#□C□ÅCEã,ì Writeln •¶,íŽÀ□s,³,ê,È,ç,ì,Å I ,ì'l,í^Ó-
j,ª,È,ç□B—áŠO,ª”□¶,µ,È, ©,Á,½□ê□#□CWriteln •¶,Á•\Ž!,³,ê,é I ,ì'l,íí,É 42
,Å, ,é□B,µ,½,ª,Á,Ä□Å□%o,ì'ã“ü,í,±,ìŽè'±,«,ì“ @□ì,ð•í□X,µ,È,ç,ì,Å□í□œ,Å,« ,é }
```

```
program Produce;
{$HINTS ON}
```

```
procedure Simple;
```

```
var
```

```
  I: Integer;
```

```
begin
```

```
  I := 42; { <-- ,±,±,Åfaj“fgf□fbfZ□[fW }
```

```
end;
```

```
procedure Propagate;
```

```
var
```

```
  I: Integer;
```

```
  K: Integer;
```

```
begin
```

```
  I := 0; { <-- ,±,±,Åfaj“fgf□fbfZ□[fW }
```

```
  Inc(I); { <-- ,±,±,Åfaj“fgf□fbfZ□[fW }
```

```
  K := 42;
```

```
  while K > 0 do
```

```
  begin
```

```
    if Odd(K) then
```

```
      Inc(I); { <-- ,±,±,Åfaj“fgf□fbfZ□[fW }
```

```
      Dec(K);
```

```
  end;
```

```
end;
```

```
procedure TryFinally;
```

```
var
```

```
  I: Integer;
```

```
begin
```

```
  I := 0; { <-- ,±,±,Åfaj“fgf□fbfZ□[fW }
```

```
  try
```

```
    I := 42;
```

```
  finally
```

```
    Writeln('Reached finally');
```

```
  end;
```

```
  Writeln(I); { □í,É 42 ,ð□o—í,·,é□B—áŠO,ª”□¶,µ,½□ê□#□,í,±,±,Ö“Ž'B,µ,È,ç }
```

```
end;
```

```
begin
```

```
end.
```


Return value of function '<Functionname>' might be undefined

á fRf“fpfCf<fGf%o[fbfZ[fW

à-¾

,±,ìĒx,í^ê•”,ìfR[fhfjpfX,ÅŠÖ”,ì-β,è'l,Ö'l,ǎ“ü,³,ê,È,©,Á,½ê‡,É•\
Ž!,³,ê,Ü,·BĒ¾,çŠ,!,ê,îCSÖ”,đŽÀs,μ,Ä,à-β,è'l,Ö%½,à'l,đ“ü,³,ê,È,ç%Å“\«,è,Ü,·B

—á

```
{ Žè'±,« IfStatement ,Æ CaseStatement ,ì-  
â'è" _,"í^ê•",ìfR□[fhfjpfX,ÅÆ<%oÊ,Ö'l,â'ã"ü,³,ê,È,ç" _,"Å, ,é□BTryStatement ,Å,í□CfRf"fpfCf%o,í  
Result ,Ö'l,â'ã"ü,³,ê,é'O,É—áŠO,â"□¶,·,é%oÅ"^\□<,"â, ,é,Æ,Ý,È,· }
```

```
program Produce;
```

```
{ $WARNINGS ON }
```

```
var
```

```
  B: Boolean;
```

```
  C: (Red, Green, Blue);
```

```
function Simple: Integer;
```

```
begin
```

```
end; { <-- ,±,±,ÅÆx□□ }
```

```
function IfStatement: Integer;
```

```
begin
```

```
  if B then
```

```
    Result := 42;
```

```
end; { <-- ,±,±,ÅÆx□□ }
```

```
function CaseStatement: Integer;
```

```
begin
```

```
  case C of
```

```
    Red..Blue: Result := 42;
```

```
  end;
```

```
end; { <-- ,±,±,ÅÆx□□ }
```

```
function TryStatement: Integer;
```

```
begin
```

```
  try
```

```
    Result := 42;
```

```
  except
```

```
    Writeln('Should not get here!');
```

```
  end;
```

```
end; { <-- ,±,±,ÅÆx□□ }
```

```
begin
```

```
  B := False;
```

```
end.
```

```
{ □l,!,ç,ê,é,·,×,Ä,ìfR□[fhfjpfX,ÅÆ<%oÊ,ì"ï□",Ö'l,â'ã"ü,³,ê,é,æ,π,É,·,ê,î%oðÆ^,·,é }
```

```
program Solve;
```

```
{ $WARNINGS ON }
```

```
var
```

```
  B: Boolean;
```

```
  C: (Red, Green, Blue);
```

```
function Simple: Integer;
```

```
begin
```

```
  Result := 42;
```

```
end;

function IfStatement: Integer;
begin
  if B then
    Result := 42
  else
    Result := 0;
  end;
end;

function CaseStatement: Integer;
begin
  case C of
    Red..Blue: Result := 42;
  else Result := 0;
  end;
end;

function TryStatement: Integer;
begin
  Result := 0;
  try
    Result := 42;
  except
    Writeln('Should not get here!');
  end;
end;

begin
  B := False;
end.
```

Procedure FAIL only allowed in constructor

frfpCfGf%o[fbfZ[fW

à-¾

•W€Žè'±,« Fail ,ÍRf“fXfgf%ofNf^,ì†,©,ç,¾,“CEÄ,Ño,¹,Ü,·B,»,ê^ÈŠO,ìCEÄ,Ño,μ,í^á-
©,Å,·B

Procedure NEW needs constructor

á fRf“fpfCf<fGf%o[f[]bfZ[]fW

à-¾

,±,lfGf%o[f[]bfZ[]fW,í New ,Ö,lfpf%of[]f^fŠfXfg,ì†,ÅŽw'è,μ,½Ž⁻•ÊŽq,^afRf“fXfgf
%ofNf^,Å,Ë,ç,Æ,«,É•\Ž,³,ê,Ü,·B

—á

{ •s'□^Ó, ©, çfRf“fXfgf%oofNf^, Å, È, fffXfgf%oofNf^, ðŽw'è, μ, Ä New , ðĈĖÄ, Ñ□o, μ, ½ }

program Produce;

type

```
PMYObject = ^TMYObject;
TMYObject = object
  F: Integer;
  constructor Init;
  destructor Done;
end;
```

constructor TMYObject.Init;

begin

```
F := 42;
```

end;

destructor TMYObject.Done;

begin

end;

var

```
P: PMYObject;
```

begin

```
New(P, Done); { <-- , ±, ±, ÅfGf%o□[f□fbfZ□[fW }
```

end.

{ New •W□€ŠÖ□”, É, Í•K, ,fRf“fXfgf%oofNf^, ðŽw'è, , é, ©□C'Ç%oÁ^ø□”, ð, Ü, Á, ½, Žw'è, μ, È, ç, æ, π, É, , é }

program Solve;

type

```
PMYObject = ^TMYObject;
TMYObject = object
  F: Integer;
  constructor Init;
  destructor Done;
end;
```

constructor TMYObject.Init;

begin

```
F := 42;
```

end;

destructor TMYObject.Done;

begin

end;

var

```
P: PMyObject;
```

```
begin
```

```
  New(P, Init);
```

```
end.
```

Procedure DISPOSE needs destructor

á fR“fpfCf<fGf%□[fbfZ□[fW

à-¾

,±,lfGf%□[fbfZ□[fW,í Dispose ,Ö,lfpf%□□[f^fŠfXfg,ì†,ÅŽw'è,μ,½Ž⁻•Êžq,affXfgf
%ofNf^,Å,Ë,ç,Æ,«,É•\Ž,³,ê,Ü,·□B

—á

{ ŽŸ,ĵR□[fh,Å,í•s'□^Ó,©,ç Dispose ,ÖfRf“fXfgf%ofNf^,đ“n,μ,½ }

program Produce;

type

PMyObject = ^TMyObject;

TMyObject = **object**

F: Integer;

constructor Init;

destructor Done;

end;

constructor TMyObject.Init;

begin

F := 42;

end;

destructor TMyObject.Done;

begin

end;

var

P: PMyObject;

begin

New(P, Init);

{ ... }

Dispose(P, Init); { <-- ,±,±,ÅfGf%□[f□fbfZ□[fW }

end.

{ Dispose ,ÖfffXfgf%ofNf^,đ“n,.,©□C'æ 2 ^ø□”,đ□í□œ,.,ê,Î%ođCE^,.,é }

program Solve;

type

PMyObject = ^TMyObject;

TMyObject = **object**

F: Integer;

constructor Init;

destructor Done;

end;

constructor TMyObject.Init;

begin

F := 42;

end;

destructor TMyObject.Done;

begin

end;

var

P: PMyObject;

begin

New(P, Init);

Dispose(P, Done);

end.

Assignment to FOR-Loop variable '<name>'

—á fRf“fpfCf<fGf%o□[f□fbfZ□[fW

□à-¾

for f<□[fv,ì“à•”,Å for f<□[fv,ì□§CEä•ï□”,Ö'l,ð'ã“ü,·,é,ì,í^á-@,Å,·□B—\`è,æ,è'□, f<□[fv,ð□o,é,ì,ª-
Ú“l,È,ç,î□CBreak ,© **goto** •¶,ðŽg,Á,Ä,,¾4,¾,ç□B

—á

{ ,±,ì—á,Å,ívf□fOf%of},í | ,Ö 99 ,ð'ã"ü,·,ê,ívf□fOf%of€ ,áf<□[fv,©,ç□o,é,Æ□l,|,½ }

program Produce;

var

I: Integer;

A: **array**[0..99] **of** Integer;

begin

for I := 0 **to** 99 **do**

begin

if A[I] = 42 **then**

I := 99;

end;

end.

{ for f<□[fv,ð□o,é,É,Í break •¶,ðŽg,Á,½•û,ª-â'è,ª□,È,ç }

program Solve;

var

I: Integer;

A: **array**[0..99] **of** Integer;

begin

for I := 0 **to** 99 **do**

begin

if A[I] = 42 **then**

Break;

end;

end.

uFOR-Loop variable '<name>' may be undefined after loop

á fRf“fpfCf<fGf%o□[f□fbfZ□[fW

à-¾

, ±, ìĒx□□, í **for** f<□[fv, ì□\$Ēä•ï□”, ì’l, ðf<□[fv, ìĒä, ÉŽg, Á, ½□ê□‡, É•\Ž†, ³, ê, Ü, ·□**for**
f<□[fv, ì□\$Ēä•ï□”, ì□Á□’l, ð“-, Ä, É, μ, Ä, à, æ, ç, ì, í□**goto** •¶, © Exit
•¶, Áf<□[fv, ð□o, ½□ê□‡, ¾, -, Å, ·□B, ±, ê, ìfRf“fpfCf%o, ² **for** f<□[fv, ÉĒø—
l’l, ÉfR□[fh, ð□¶□¬, Å, «, é, æ, x, É, ·, é, ½, ß, ì□\$-ñŽ-□€, Å, ·□B

—á

```
{ ŽŸ,ĴR□[fh,Å,Ĵf<□[fv,ìĈĚä,Å Result •Ĵ□",ā^Ã-Ù,ÉŽg,í,ê,Ä,č,é,ā□Cf<□[fv,đŠ®—  
¹,μ,½□ê□#□CResult ,Í-č'è` ,Æ,È,é□B,» ,ì,½,ß,ÉĈEx□□,ā•\Ž!,³,ê,é }
```

```
program Produce;  
{ $WARNINGS ON }
```

```
function Search(const A: array of Integer; Value: Integer): Integer;  
begin  
  for Result := 0 to High(A) do  
    if A[Result] = Value then  
      Exit;  
end;
```

```
const  
  A: array[0..9] of Integer = (1,2,3,4,5,6,7,8,9,10);
```

```
begin  
  Writeln( Search(A,11) );  
end.
```

```
{ f<□[fv,đŠ®—¹,μ,½□ê□# ,É"đ,!,Ä□Ĉ^Ó□},·,é'!,đ'P,É□$ĈĚä•Ĵ□",Ö'ã"ü,·,ê,Ĵ%đĈĚ^ ,·,é }
```

```
program Solve;  
{ $WARNINGS ON }
```

```
function Search(const A: array of Integer; Value: Integer): Integer;  
begin  
  for Result := 0 to High(A) do  
    if A[Result] = Value then  
      Exit;  
  Result := High(A)+1;  
end;
```

```
const  
  A: array[0..9] of Integer = (1,2,3,4,5,6,7,8,9,10);
```

```
begin  
  Writeln( Search(A,11) );  
end.
```

uTYPEOF can only be applied to object types with a VMT

á fRf“fpfCf<fGf%o[fbfZ[fW

à-¾

,±,lfGf%o[fbfZ[fW,í%¼'zf\fbfhfe[fuf< (VMT) ,ª,È,çflfufWfFfNfgCE^,Ö•W€ŠÖ”
TypeOf ,ð”K—p,µ,æ,π,Æ,µ,½ê‡,É•\Ž,³,ê,Ü,·B’P[f,È%ñ”ð•û-@,Æ,µ,Ä,ÍCf_f~[.ì
%¼'zf\fbfh,ðéCE¾,µ,Ä<§“l,ÉfRf“fpfCf%o,É VMT ,ð¶¬,³,¹,Ü,·B

-á

```
{ ŽŸ, ĺfR [fh, ĺ%¼'zf \fbfhfe [fuf< (VMT) ,đŽ, ½, Ě, ‡ TMyObject Ą^, Ö TypeOf  
•W [€ŠÖ" ,đ"K-p, μ, æ, x, Ą, μ, Ą, ‡, é }
```

```
program Produce;
```

```
type
```

```
  TMyObject = object  
    procedure MyProc;  
  end;
```

```
procedure TMyObject.MyProc;
```

```
begin
```

```
  { ... }
```

```
end;
```

```
var
```

```
  P: Pointer;
```

```
begin
```

```
  P := TypeOf(TMyObject); { <-- , ±, ±, ĄfGf% [f [fbfZ [fW } }
```

```
end.
```

```
{ 'P, Ąf_f~ [ [ ĺ%¼'zf \fbfh, đ" ±"ü, ·, é, © TypeOf , ĺĄĄ, Ń [o, μ, đ [í [œ, ·, ê, ĺ%đĄ^, ·, é }
```

```
program Solve;
```

```
type
```

```
  TMyObject = object  
    procedure MyProc;  
    procedure Dummy; virtual;  
  end;
```

```
procedure TMyObject.MyProc;
```

```
begin
```

```
  { ... }
```

```
end;
```

```
procedure TMyObject.Dummy;
```

```
begin
```

```
end;
```

```
var
```

```
  P: Pointer;
```

```
begin
```

```
  P := TypeOf(TMyObject);
```

```
end.
```


Order of fields in record constant differs from declaration

á fR“fpfCf<fGf%o[fbfZ[fW

à-¾

,±,lfGf%o[fbfZ[fW,ÍĈ^•t,«'è”,Ü,½,Í%Šú
%o»İ.Ý•ï”,lfCFR[fhftfB[f<fh,ªéĈ¾,ì#~ ,Á%Šú%o»,³,ê,Ä,ç,È,çê# ,É•\Ž!,³,ê,Ü,·B

-á

{ ŽŸ, ĺfR[]fh, íéĚ¼, Æ, í<t, ì Y[]CX , ì‡, Å[]%Šú%» , μ, æ, α, Æ, μ, Ä, ç, é }

program Produce;

type

TPoint = **record**
X, Y: Integer;
end;

var

Point: TPoint = (Y: 123; X: 456);

begin

end.

{ 'P, É[]%Šú%» , ì‡[]~ , đéĚ¼ , ì‡[]~ , É'í%ž, ³, ¹, ê, î%đĚ^ , . , é }

program Solve;

type

TPoint = **record**
X, Y: Integer;
end;

var

Point: TPoint = (X: 456; Y: 123);

begin

end.

Unicode incompatible types: '<name>' and '<name>'

á Rf“fpfCf<fGf%□[f□bfZ□[fW

à-¾

,±,lfGf%□[f□bfZ□[fW,lfRf“fpfCf%□,²,Â,ìCE^,ðŒÝŠ: (,Â,Ü,è—pŽ—,μ,Ä,ç,é)
,Æ,μ,ĂŠú‘Ò,μ,Ä,ç,½,É,à,©,©,í,ç,,□C,»ê,ç,ìCE^,²Ü,È,Á,Ä,ç,½,Æ,«É•\Ž!,³,ê,Ü,·□B

—á

{ Pascal ,Á,ÍœŽŽ%%ŽŽŽq□u/□v,Á□@□",ìĈ<%%Ê,ª“¾4,ç,ê,È,ç }

program Produce;

procedure Proc(I: Integer);

begin

end;

begin

Proc(22 / 7); { □u/□v%%ŽŽŽq,ìĈ<%%Ê,íŽÀ□"Ĉ^,É,È,é }

end.

{ ,±,ì—á,Á,Í□@□"□œŽŽ%%ŽŽŽq,ì div ,ðŽg,í,î%%ðĈ^,; ,é□B^ê"Ê“l,É,ífvf□fOf%%f€ ,ð'□^Ó□[-
'2,x,ĀĈ^,ì"ñĈÝŠ·□« ,ð%%ðĈ^,; ,é•û-@,ðĈ^,ß,é•K—v,ª, ,é }

program Solve;

procedure Proc(I: Integer);

begin

end;

begin

Proc(22 **div** 7); { div %%ŽŽŽq,Á□@□"Ĉ^,ìĈ<%%Ê,ª“¾4,ç,ê,é }

end.

Internal error: <ErrorCode>

Internal error: <ErrorCode>

à-¾

,±,lfGf%o[f]fbfZ[fW,ÍRf“fpfCf%o“à,lfvf[f]Of%of~f“fOfGf%o[.,ð^Ó-i,µ,Ä,¨,èC•\
Ž!,³,è,éŽ-‘Ô,Íl,!,ç,è,Ü,¹,ñB-œ^è•Ž!,³,è,½êê±,Íf{[f%of“fh,lfefNfjffj<fTf| [fg,É~A—,ì,x
,!CfGf%o[f]fbfZ[fW,É•\Ž!,³,è,½fGf%o[fR[fh (,½,Æ,!,ÍuC1196v,È,Ç) ,ð’m,ç,¹,Ä,-
,¾,¾,çB,±,lfGf%o[fR[fh,ÄfGf%o[.,ìCE´^ö,¾,¾,ç,½,ç,í,©,è,Ü,·B,±
,lf]fbfZ[fW,¾¶¶¬,³,è,½fvf[f]Of%of€,lfTf“fvf<,ð,²’ñ<ÿ,ç,½,¾,¯,è,ÍCE´^ö<+¾,É,³,ç,É-ð—
š,ž,Ü,·B

Unit name mismatch: '<Unitname>'

á fRf“fpfCf<fGf%o[]f[]bfZ[]fW

à-¾

ffjfbfgŽ•ÊŽq,³ftfjfbfgftf@fCf<-¼,É^ê'v,μ,Ü,¹,ñ□B,±,lfGf%o[]l,í',çftf@fCf<-¼,Æ'Z,çftfjfbfgŽ•ÊŽq,³□-□Ý,μ,Ä,ç,é,Æ,«,É<N,«,é%oÂ"\□«,³, ,è,Ü,·□B

-á

```
{ ,±,ì-á,Å,íftf@fCf<-¼,ª 8 •¶Žš,Å∅,èŽì,Ä,ç,ê,Ä,ç,½,½,ß,ÉfRf“fpfCf%o  
,ªŒË,Á,½ftfjfbfg,ðŒÿ∅o,µ,½,ì,ª-â'è,Å, ,é }
```

```
----- MY_UNIT_.PAS ,ì“à—e -----
```

```
unit My_Unit_With_A_Long_Name;  
interface  
implementation  
end.
```

```
----- MY_UNIT_.PAS ,ì∅I,í,è -----
```

```
program Produce;
```

```
uses My_Unit_With_Another_Long_Name; { -P fRf}f“fhf  
%ofCf“fXfCfbf`,ªfAfNfefBfu,ì∅é∅¶,É MY_UNIT_.PAS  
,ðŒÿ∅o,; ,é,ª∅C,» ,é,íŒË,Á,½ftfjfbfg,Å, ,é }
```

```
begin  
end.
```

```
{ ',çftf@fCf<-¼,ðŽg,α,©∅Å∅%o,ì 8 •¶Žš,ª•K, ,^Ù,È,éftf@fCf<-¼,ðŽg,ì,Î  
%oðŒË^,; ,é∅Bftfjfbfg,íftf@fCf<-¼,Æftfjfbfg-¼,à•K, ,í%ož,ª,¹,é•K—v,ª, ,é }
```

uNo identifiers referenced from unit <unit>v

fRf“fpfCf<fGf%o[f[]fbfZ[]fW

à-¾

,±,lfGf%o[f[]fbfZ[]fW,íE»ÝŽg,í,ê,Ä,ç,Ü,¹,ñB

uType '<name>' is not yet completely defined

á fRf“fpfCf<fGf%o[fbfZ[fW

à-¾

,±,lfGf%o[,íE»Y'è<'t,ìE^,đŽQAE,μ,½ê‡,©Cforward éE¾,μ,½fNf%ofXE^,ª type
fZfNfVf‡f“,É“ü,Á,Ä,ç,Ä,»,ìE^,ìl—¹éE¾,ª,È,çê‡,É”¶,μ,Ü,·B

-á

```
{ ŽŸ, ĩfR [fh, í'è<, ¢Š@-¹, µ, Ä, ç, È, çfCEfR [fhCE^, ðŽQ [Æ, µ, æ, π, Æ, µ, Ä, ç  
, é [Bf^fCfvf~fX, ¢, , é, ì, Å [CfRf "fpfCf%o, í TMyClass , ĩŠ@ 'S, È [éCE¾, àCEŸ [o, Å, «, È, ç }
```

program Produce;

type

```
TListEntry = record  
  Next: ^TListEntry; { <-- , ±, ±, ÅfGf%o [f [fbfZ [fW }  
  Data: Integer;  
end;  
TMyClass = class; { <-- , ±, ±, ÅfGf%o [f [fbfZ [fW }  
TMyClassRef = class of TMyClass;  
TMyClasss = class { <-- f^fCfvf~fX }  
  { ... }  
end;
```

begin

end.

```
{ [Å [%, ì-â'è, í•â [• "l, Èf|fCf "f^CE^, ìCE^ [éCE¾, ðŽg, ì, ĩ%oðCE^, ;, é [B2 "Ô-Ú, ì-â'è, í TMyClass  
, ĩfXfyf<, ð [³, µ, "ü-Í, ·, ê, Ĩ [C [³, ³, ê, é }
```

program Solve;

type

```
PListEntry = ^TListEntry;  
TListEntry = record  
  Next: PListEntry;  
  Data: Integer;  
end;  
TMyClass = class;  
TMyClassRef = class of TMyClass;  
TMyClass = class  
  { ... }  
end;
```

begin

end.

uThis Demo Version has been patchedv

fRf“fpfCf<fGf%o[]f[]bfZ[]fW

à-¾

,±,lfGf%o[]f[]bfZ[]fW,íE»ÝŽg,í,ê,Ä,ç,Ü,¹,ñB

Integer constant or variable name expected

á fRf“fpfCf<fGf%o[f fbfZ[fW

à-¾

,±,lfGf%o[f fbfZ[fW,Í **absolute** Žw—β,ìĈã,É@“”è”,â•ï”-¼,đ’u,ç,Ä,Í,È,ç,È,ç,ì,É
absolute •ï”,đéĈ¾,μ,æ,α,Æ,μ,½ê‡,É•\Ž!,³,ê,Ü,·B

-á

program Produce;

var

I: Integer;

J: Integer **absolute** Addr(I); { <-- ,±,±,ÅfGf%o[f]fbfZ[fW] }

begin

end.

program Solve;

const

Addr = 0;

var

I: Integer;

J: Integer **absolute** I;

begin

end.

Invalid typecast

ŽQÆ —á fRf“fpfCf<fGf%o[fbfZ[fW

à-¾

,±,lfGf%o[fbfZ[fW,Í<K'¥,Å”F,ß,ç,ê,Ä,ç,È,çCE^fLfffXfg,É,Â,ç,Ä•\Ž|,³,è,Ü,·B

^È%oº,iŽí—p,iCE^fLfffXfg,Í”F,ß,ç,ê,Ä,ç,Ü,·B

- ð#~CE^,Ü,½,Íf|fCf“f^CE^” •É,ið#~CE^,Ü,½,Íf|fCf“f^CE^
- •ŕŽšCE^C•ŕŽš—ñCE^C•ŕŽš,Ü,½,Í PChar ,ì”z—ñCE^” •ŕŽš—ñCE^
- ð#~CE^CŽÀ”CE^C•ŕŽš—ñCE^CfofŠfAf“fgCE^” fofŠfAf“fgCE^
- fofŠfAf“fgCE^” ð#~CE^CŽÀ”CE^C•ŕŽš—ñCE^CfofŠfAf“fgCE^
- •í”ŽQÆ “”,ŕfTfCfY,ì”C^Ó,iCE^

ŽÀ”CE^,©,ç®”CE^,Ö,lfLfffXfg,Í•W€ŠÖ”,ì Trunc ,Æ Round

,ÅŽÀs,Å,«,Ü,·B,»,ì,Ü,©,É,à Ord ,â Chr ,ì,æ,ɣ,È•İŠ·ŠÖ”,ª, ,è,Ü,·B

-á

{ C , ì , æ , x , É • , “ @ □ - □ ” “ _ ’ è □ ” , Í □ @ □ ” , É f L f f f X f g , Å , « , È , † }

program Produce;

begin

 Writeln(Integer(Pi));

end.

{ Pascal , Å , Í • , “ @ □ - □ ” “ _ ’ l , ð □ @ □ ” , É • Ĩ Š • , ; , é Š Ö □ ” , ð Ž g - p , · , é }

program Solve;

begin

 Writeln(Trunc(Pi));

end.

ŽQÆ
Ĉ^lfffXfg

␣uUser break - compilation aborted␣v

fRf“fpfCf<fGf%o␣lf␣fbfZ␣lfW

␣à-¾

,±,lf␣fbfZ␣lfW,íĈ»␣ÝŽg,í,ê,Ä,ç,Ü,¹,ñ␣B

uSegment/Offset pairs not supported in Borland 32-bit Pascal

á fRf“fpfCf<fGf%o□[f□fbfZ□[fW

à-¾

32 frfbfgfR□[fh,Á,Í 16 frfbfgfR□[fh,ÅŽg,Á,Ä,ç,½fZfOf□f“fg□^flftfZfbfg,lfAfhfCEfXŽw’è,ðŽg,ç,Ü,¹,ñ□B16 frfbfgfo□[fWf#f“,ì Borland Pascal

,Á,lfZfOf□f“fg,ÆflftfZfbfg,ì‘î,ªâ‘î•ï□”,ìéCE¾,ÉŽg,í,ê□CPtr

•W□€ŠÖ□”,Ö,ì^ø□”,Æ,µ,Ä,àŽg,í,ê,Ä,ç,Ü,µ,½□B

32 frfbfg,lfvf□fefNfgf,□[fhfvf□fOf%of€,Á,Íâ‘îfAfhfCEfX,ðŽg,Á,Ä,Í,ç

,¹,Ü,¹,ñ□B,»,ì,©,í,è,É“K□Ø,È Win32 API ŠÖ□”,ðCEÄ,Ñ□o,µ,Ä,,¾,¾,ç□B

-á

program Produce;

var

VideoMode: Integer **absolute** \$0040:\$0049;

begin

Writeln(Byte(Ptr(\$0040,\$0049)^));

end.

program Solve;

{ fRf"fpfCf<,Á,«,é,žÀ□s,Á,«,È,¢□B□â'ÍfAfhfCEfX,ÍŽg,!,È,¢ }

var

VideoMode: Integer **absolute** \$0040*16+\$0049;

begin

Writeln(Byte(Ptr(\$0040*16+\$0049)^));

end.

ŽĀsŽžfGf%o[]

ŽĀsŽžfGf%o[],Ā,íŽÿ,ìĒ`Ž®ĀfGf%o[]f[]fbfZ[]fW,ª·\Ž|,³,ê[]Cfvf[]fOf%of€,ª[]—¹,μ,Û,·[]B

Run-time error nnn at xxxxxxxxx

nnn,íŽĀsŽžfGf%o[]"Ô[]+[]Cxxxxxxxx,íŽĀsŽžfGf%o[]fAfhfĒfX,Ā,·[]B

SysUtils ftfjfbfg,ðŽg,Ā,½ Delphi fAfvfŠfP[]fVf+f",Ā,í[]C,Û,Æ,ñ,Ç,ìŽĀsŽžfGf%o[],ª—
áŠO,Ö·İŠ·,³,é,é,ì,Ā[]CfAfvfŠfP[]fVf+f",ð[]—¹,³,¹,,ÉfGf%o[],ð%oðĒ^,Ā,«,Û,·[]B,±,é,ð—áŠO[]^
= [],Æ,ç,ç,Û,·[]B

ŽĀsŽžfGf%o[],í^È%o°,ì 3,Ā,lfjfefSfŠ,É·ª—p,Ā,«,Û,·[]B

- "ü[]o—ífGf%o[] (fGf%o[]"Ô[]+ 100[]`149)
- 'v-½"lfGf%o[] (fGf%o[]"Ô[]+ 200[]`255)
- flfyfĒ[]f[]f[]Bf"fofVfXfef€fGf%o[]

"ü[]o—ífGf%o[]

"ü[]o—ífGf%o[],ª<N,«,é,Æ[]C,»,ì·¶,ª { \$|+ } []ó'Ô,ĀfRf"fpfCf<,³,é,Ā,ç,é[]ê[]#,Ífvf[]fOf%of€,ª[]—
¹,μ,Û,·[]B { \$|- } []ó'Ô,Ā,Ífvf[]fOf%of€,ìŽĀs,ª' ±[]s,³,é[]CIOResult SÖ[]",É,æ,Ā,ĀfGf
%o[],ª·ñ[][],³,é,Û,·[]B

"Ô[]+ fGf%o[]

[]à-¾

100	fffBfXfN"Ç,Ý[]o,μfGf%o[]	Ē^·t,«ftf@fCf<,É'í,·,é Read,Āftf@fCf<,ì[]l,í,è,ð %oZ,ì,Ā"Ç,Ý[]o,»,«,Æ,μ,½[]ê[]#,É·\Ž ,³,é,é
101	fffBfXfN[],«[]ž,ÝfGf%o[]	CloseFile[]CWrite[]CWriteIn[]CFlush,ì,ç ,,·,é,©,ĀfffBfXfN,ª,ç,Ā,Ī,ç,É,È,Ā,½[]ê[]#,É·\Ž ,³,é,é
102	ftf@fCf<,ªŠ,,é"—,Ā,ç,é,Ā,ç,Û,¹,ñ	Reset[]CRewrite[]CAppend[]CRename[]CErase,ì,ç ,,·,é,©,Ā AssignFile (,Û,½,Í Assign) ,ìĒĀ,Ñ[]o,μ,É,æ,Ā,Āftf@fCf<·Ī[]",Ö- ¼'O,ª'ă"ü,³,é,Ā,ç,È,ç[]ê[]#,É·\Ž ,³,é,é
103	ftf@fCf<,ªŠ,ç,Ā,ç,Û,¹,ñ	CloseFile[]CRead[]CWrite[]CSeek[]CEof[]CFilePos[]C FileSize[]CFlush[]CBlockRead[]CBlockWrite,ì,ç ,,·,é,©,Āftf@fCf<,ªŠ,ç,Ā,ç,É,ç[]ê[]#,É·\Ž ,³,é,é
104	ftf@fCf<,ª"ü—í—p,ÉŠ,ç,Ā,ç,Û,¹,ñ	fefLfXfgftf@fCf<,É'í,·,é Read[]CReadIn[]CEof[]CEoln[]CSeekEof[]CSeekEoln ,ì,ç,,·,é,©,Āftf@fCf<,ª"ü—í—p,ÉŠ,ç,Ā,ç ,È,ç[]ê[]#,É·\Ž ,³,é,é
105	ftf@fCf<,ª[]o—í—p,ÉŠ,ç,Ā,ç,Û,¹,ñ	fefLfXfgftf@fCf<,É'í,·,é Write,Æ WriteIn,Ā Console fAfvfŠfP[]fVf+f",ð[]¶[]—,μ,È,©,Ā,½[]ê[]#,É·\Ž ,³,é,é
106	""ĪĒ`Ž®,ª-³Ēø,Ā,·	Read,Û,½,Í Readln ,ĀfefLfXfgftf@fCf<,ç"Ç,Ý[]o,μ,½[]"l,ª³,μ,ç""ĪĒ` Ž®,Ā,È,ç[]ê[]#,É·\Ž ,³,é,é

'v-½"lfGf%o[]

'v-½"lfGf%o[],ª<N,«,é,Æ[]Cfvf[]fOf%of€,í,·,®,É[]—¹,μ,Û,·[]B

SysUtils ftfjfbfg,ðŽg,Ā,½fAfvfŠfP[]fVf+f",Ā,í[]C'v-½"lfGf%o[],í—
áŠO,Ö·İŠ·,³,é,Û,·[]BĒĀX,lfGf%o[],ð[]¶[]—,·,éfGf%o[],ðĒĒ,É,Ā,ç,Ā,ì[]Ú[]×,í[]C'í%ož,·,é—

