

MagaDebug32,Æ,Í,H

“®ŠÂ<<

fCf“fXfg[f<•û-@

fAf“fCf“fXfg[f<•û-@

, ±, ì“x, ÌuMagaDebug32v, ðf\_fEf“f[]fh, µ, Ä, ç, ½, ¾, «, , è, ð, Æ, x, ², ´, ç, Ü, ·D

## MagaDebug32, Ì, ²D%oî

@, » , ÌiC, c, n, rfAfvfŠfP[]fVf#f“[]î-ŽžCŽèÇy, Éo—^, éffofbfOŽè-  
@, Æ, µ, Äfvf[]fOf%of€, Ì, , ç, ±, ç, É printf() , ð’}“ü, µC, » , Ì·\Ž! , Äfvf[]fOf%of€  
, Ì“® , « , â·ï” , Ì! , ð·ß, ç, ! , é, ±, Æ, ð, æ, , â, è, Ü, µ, ½, æ, ÉD  
uMagaDebug32v, ÌC, v, %o, Ž, , , , —, “fvf[]fOf%of~f“fO, É, Ä, ±, è, Æ“ , ¶, ±, Æ, ðo  
—^, é, æ, x, É, µ, ½ printf()Ç^ , ÌffofbfOfc[]f<, Ä, ·D  
VisualC++ , É, Ç, Ì“[]ŠÄ« , Ä, àfufÇ[]fNf|fCf“fg, âfEfHfbf` , É, æ, Á, Ä, ±, è, ç, Ì, ±, Æ, ð  
%oÄ“\ , Ä, · , ðC uMagaDebug32v, ðŽg—p, · , è, Ìfvf[]fOf%of€  
, Ì“® , « , ð“r’t , ÄŽ~ , ß, , , ±, è, ç, ÌffofbfO , ðo—^ , é, ½, ßC

E’ÉM\$Çä, È, Ç“r’t , ÄfufÇ[]fN, · , é, Æf^fCf€fAfEfg, µ, Ä, µ, Ü, x  
Ef^fCf} , È, Ç[]è[] , Æ·ï%o» , · , é[]ó’Ô , ð·ß, ç, ! , é  
EWM\_PAINT%oŽ“šŽž , ÉffofbfOfEfBf“fhfE , Æ[]Ø , è’Ö , í, Á, Ä, Ì[]ç , é  
EfVfXfef€ftfbfN , È, Ç“[]ŠÄ« , Ä, ÌffofbfO , Ä, Ì·s^Ä’è  
Ef , f~ , Ä“® , , c, k, k

, È, Ç, ÌffofbfO , É“Á, É—LÇø—~—p[]o—^ , é, ÆŽv, ç, Ü, ·D  
MessageBox() , ðŽg—p, µ, ÄffofbfO , ³ , è, Ä, ç, é·û, É, à”ñí, É—LÇø, Ä, ·D

, Ü, ½[]Cf[]fO , ðftf@fCf< , ÉŽc , · , ±, Æ, ð%oÄ“\ , È, ±, Æ, © , ç[]C

EWindows[]l—¹Žž , ÌfAfvfŠfP[]fVf#f“[]^—[]

, ÌffofbfO , à%oÄ“\ , Æ, È, è, Ü, ·D[]iWM\_QUERYENDSESSION , Ìf[]fbfZ[]fW[]^—  
[] , ð<L~^[]j

, à, ç, è, ñ·É , ÌfEfBf“fhfEfAfvfŠfP[]fVf#f“ , Ä, à“[]ŠÄ« , Ìffj , çfEfBf“fhfE , ð·\  
Ž! , ³ , ¹ , , ÉffofbfO , Ä, « , Ü, · , Ì, Ä[]C, ç, , , è, ð, Æ, Á, Ä, à—L—  
p , ÉffofbfOfc[]f< , Æ, µ, ÄŽg , Ì, Ü, ·D

[“! , ÉÇ¾ , Ì, Ì, P, Ufrfbfg, r, c, j, É·t’® , µ, Ä, ç, ½[]uDBWIN[]v, É—l[]X, È·t%oÄ<@“\ , ð·t , ~  
%oÄ , Ì, ½ffofbfOfc[]f< , Æ, È, Á, Ä, ” , è, Ü, ·D

@- {fvf[]fOf%of€, ÌCVisualC++[]i, l, e, b-çŽg—p[]j, É, ÄŠj” , µ, Ü, µ, ½[]D

“®ŠÂ«

^È%º,ì\¬,Åì¬EfefXfgiffofbfOfc[f<,lffofbfO@^ ^;j,ðs,ç,Ü,µ,½D

Ver1.31^È'O

□EPC-9821Xp + Windows95 + VisualC++4.1

□EPC-9821La10 + Windows95 SP1

Ver1.32^È□~

□EŽ©ì,`sĚÝŠ·<@ + Windows95 OSR2.1 + VisualC++4.1

□EŽ©ì,`sĚÝŠ·<@ + WindowsNT4.0 Workstation SP3

□EPC-9821La10 + Windows95 SP1

Ver1.40^È□~

□EŽ©ì,`sĚÝŠ·<@ + Windows98 + VisualC++4.1

□EŽ©ì,`sĚÝŠ·<@ + WindowsNT4.0 Workstation SP4

□EPC-9821La10 + Windows98

Ver1.41^È□~

□EŽ©ì,`sĚÝŠ·<@ + Windows98 SP1 + VisualC++6.0

□EŽ©ì,`sĚÝŠ·<@ + WindowsNT4.0 Workstation SP5

□EPC-9821La10 + Windows98 SP1

“Á,ÉŠJ”ŠÂ«,Å,·,ª□CìŽÒ,ìŠÂ«,ì“s□#□ã□CVisualC++6.0/4.1—p,ÆBorlandC++  
—p,lƒ%ofCfuf%ofŠ,ð—p^Ó,µ,Ä,“,è,Ü,·□D

,»„è^ÈŠO,lƒRf“ƒpfCf%□C,È,ç,Ñ,É“□#ŠÂ«„É,Â,ç,Ä,Í□C,“'m,ç,¹,ðŽQ□Æ,µ,Ä,-  
,¾,¾,ç□D

,È,“□C^È%º,lƒwƒƒv,Í VisualC++ ,ð'O'ň,Æ,µ,Ä□',©,è,Ä,“,è,Ü,·□DBorlandC+  
+ƒ†□[fU,ì•ù,í□C“K“-„É“Ç,Ý'Ö,¡,ÄŠÂ«„ð□®,¡,Ä,,¾,¾,ç□D

f^□[fQfbgfAfvfŠfP□[fvf†f“„í,l,e,b,ìŽg—p□E-çŽg—p□i,r,c,jf\

□[fX□j□A,d,w,d,â,c,k,k“™ƒAfvfŠfP□[fvf†f“f^ƒCfv,í-â,ç,Ü,¹,ň□D,È,ň,Å,à,n,j,Å,·□D

## fcf“fXfg[]f<•û-@

VisualC++, ì[]Ý'è, ÅŽ!, .fjpfX, É[]C"z•z, μ, ½fwfbf\_[][ftf@fCf<(\*.h), Æf%ofCfuf  
%ofŠftf@fCf<(\*.lib), ð'u, ç, Ä,, ¾, ¾, ç[]D  
[]i'[][]jfwfbf\_[][ftf@fCf<, í VisualC++, BorlandC++<æ'Ê[]Cf%ofCfuf%ofŠftf@fCf<, í  
VisualC++6.0/4.1, ÆBorlandC++—p, É•ª, -, Ä, ,è, Ü, ., Ì, Å[]CŠJ”-  
ŠÅ<«, É[]‡, í, ¹, ÄfCf“fXfg[]f<, μ, Ä,, ¾, ¾, ç[]D  
(VC++, Ì[]ê[]‡, Ì[]CfŠfŠ[]fX[]EfffjfbfO—p, k, %o,,, Ì—¼•û, ðfCf“fXfg[]f<, μ, Ä,, ¾, ¾, ç)

MagaDebug32-{'ì, ÆŠÖ~Aftf@fCf<([ã<L^ÈŠO, Ìftf@fCf<), Ì“K”-  
, ÈftfHf<f\_, ÉŠi”[, μ[]CMagaDbg.exe, ÌfVf‡[]fjgJfbfg, ð“K”-, ÈfXf^[]fjgf[]fj...  
[][, É[]ì[]¬, μ, Ä,, ç, Ä,, ¾, ¾, ç[]D

-{'ì, ÆŠÖ~Aftf@fCf<("Á, Éfwf<fvftf@fCf<), Ì'S, Ä“- , ¶ftfHf<f\_, ÉŠi”[, μ, Ä,, ¾, ¾, ç[]D  
, Å, «, è, Ì[]ê—p, ÌftfHf<f\_, ð—p^O, μ, ½•û,ª, ç, ç, Å, μ, å, æ[]D

## fAf“fCf“fXfg[]f<•û-@

WindowsftfHf<f\_É,Í,h,m,hftf@fCf<“™,ì[]',«[]ž,Ý,đ[]s,Á,Ä,ç  
,Ü,<sup>1</sup>,ñ,ª[]CVer1.35,æ,èvf[]fOf  
%of€[]î•ñ,đfCfWfXfgfŠ,É[]',«[]ž,ñ,Å,“ ,è,Ü,.,ì,Å[]C•t'® ,ìfAf“fCf“fXfg[]f%o  
unreg.exe []ifCfWfXfgfŠ,ì[]í[]œ,ì,Ý[]j,đžÀ[]s,.,é,©[]CfCfWfXfgfŠfGfffBf^,æ,è^È  
%oº,ìfL[][,đ[]í[]œ,μ,Ä,,<sup>3</sup>/<sub>4</sub>,<sup>3</sup>,ç[]D[]ifvf[]fOf%of€  
,ª[]',-,é[]IÆü,-,ìfc[]f<,Å,.,ì,Å[]CfCfWfXfgfŠfGfffBf^,ì'€[]ì,Í,Å,« ,é,Æžv,ç  
,Ü,·[]D^^;[]j

\\HKEY\_CURRENT\_USER\\Software\\MNCT-S\\MagaDebug32

žÀ'ìftf@fCf<,ìfAf“fCf“fXfg[]f%o,Í, ,è,Ü,<sup>1</sup>,ñ,ì,Å[]Cžè“® ,Å[]Á<ž,μ,Ä,,<sup>3</sup>/<sub>4</sub>,<sup>3</sup>,ç[]D

VisualC++, ìÿ'è  
fvfWfFfNfg'P^É, ìÿ'è  
fCf" fNf< [fhftf@fCf<  
,b{ {  
,b  
f}fNf  
§CEAZ-€

## VisualC++, iY'è

ŠefvfWfFfNfg<α'È, iY'è, Æ, μ, Äft[fUf%ofCfuf  
%ofŠ, âfwfbf\_[ftf@fCf<, İft[f`fjX, ðY'è, μ, Ä, ,, Æ, », İ-¼'O, ¾, -, ÄŽw'è, Ä, «, é, æ, α  
, È, È, è, Ü, ·DVisualC++, Ä—p^Ó, ³, è, Ä, ç, éf%ofCfuf  
%ofŠ, âfwfbf\_[ftf@fCf<, Æ“-, ¶İêŠ, Èft[fUf%ofCfuf%ofŠ, ð'u, ç, Ä, à-â'è, È, ç  
, Ä, ·, æC, ·, ·, ·, ß, Ä, «, Ü, ¹, ñD

ft[fUf%ofCfuf%ofŠê—p, İftfHf<f\_, ði—, μC, », è, ðVisualC++, İft[f`fjX, È  
%oÄ, İ, Ü, ·D

ft[fUf%ofCfuf%ofŠ, İŠi”[ftfHf<f\_, ðuB:\USR\MSC\USR\LIBv  
fwfbf\_[ftf@fCf<, İŠi”[ftfHf<f\_, ðuB:\USR\MSC\USR\INCLUDEv  
, Æ, μ, ½, Æ, «CVisualC++f[fj...[, İufc[f<v”ufIfvVfj”v, Ä·\  
Ž, ³, è, éf\_cfAfO, İuffBfCefNfgfŠv^fO, Ä^È%o, İ, æ, α, ÈfT[f`fjX, ð'Ç  
%oÄ, μ, Ü, ·D

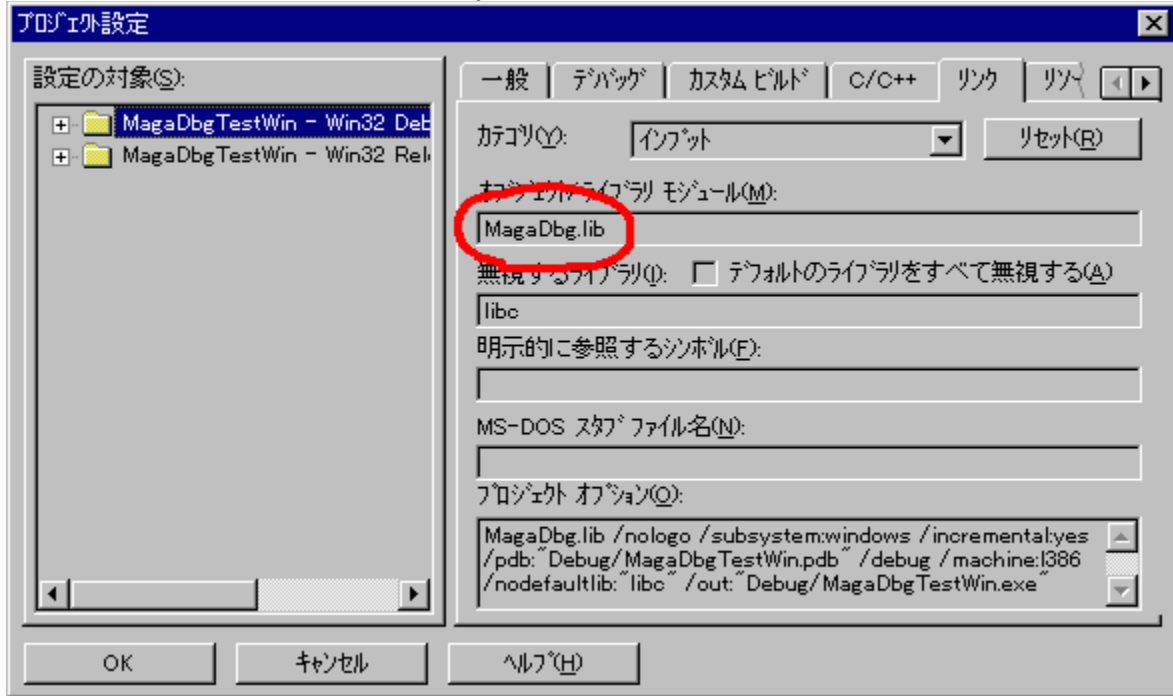


—á, Ä, İfCf“fNf<[fhfjX, İ, Y, Ä, ·, æC“—İ, İ·û-@, Äf%ofCfuf%ofŠjX, àŽw'è, μ, Ü, ·D

BorlandC++ , İê# , İCfj...[ , İufIfvVfj”v”ufvfWfFfNfgv, ©, ç“—  
İ, İY'è, æÄ, Ä, ·D

# fvf[]fwfFfNfg'P^Ê,ì[]Ý'è

MagaDbgf%ofCfuf%ofŠ,đfXf^fefBfbfNfŠf“fN,·,é,æ,ıŻwŽ|,μ,Ü,·[]D  
,r,c,jf^fCfv,lfvf[]fwfFfNfg,È,Ç,í[]C,·,Á,É,½,,³,ñ,lfVfXfef€f%ofCfuf%ofŠ,a-Ô—...  
,³,é,Á,ç,Ü,·[]D,»,,ì--”ö,É'Ç%oÁ,μ,Á,,¾,³,ç[]D

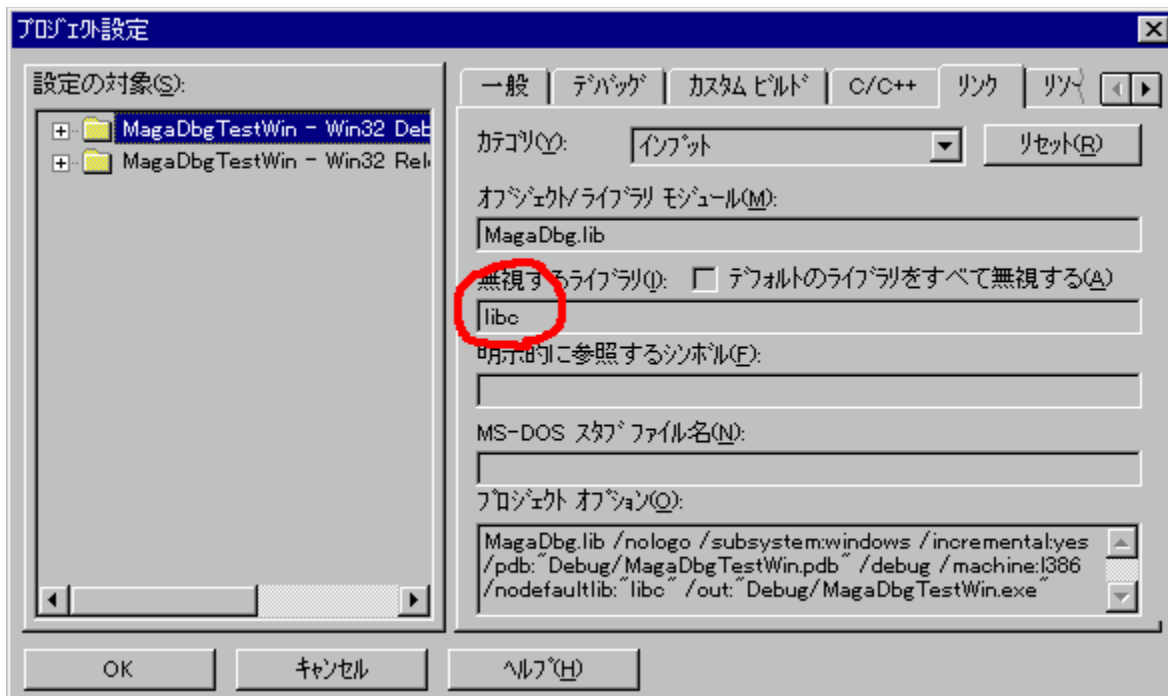


Ver1.40,æ,è'Ó,ìfo[]fwf#“,Á,í[]Cf^[]fQfbfgfvf[]fOf%of€  
,lfR[]fh[]¶[]→,É[]ufffofbfOf[]fwf#“,ì,Ç,é,©[]v,đ<[]\$,·,é,æ,ı,É,È,Á,Ä,ç  
,Ü,μ,½,²[]CVer1.40^Ê[]~,,í[]CfŠfŠ[]fXf,[]fh,lfR[]fh[]¶[]→—p,É,à,k,%o,,ftf@fCf<,đ  
—p^Ó,μ,Á,ç,Ü,·[]D,Á,Ü,è[]CfŠfŠ[]fXf<fh,É,,ç,Á,à MagaDebug32  
,Ö,lf[]fbfZ[]fw'—[]M,²%oÁ“\,Æ,É,è,Ü,μ,½[]D  
[]ä<L,ÁŽw'è,,é,k,%o,,ftf@fCf<,í[]C  
fŠfŠ[]fXf,[]fh []F MagaDbgR.lib  
fffofbfOf,[]fh[]F MagaDbg.lib  
,đŽw'è,μ,Á,,¾,³,ç[]D

frf<fh'[]CfŠf“fN,ì,Æ,±,è,Á[]uLIBC,í'¼,lf%ofCfuf%ofŠ,ìŽg—p,Æ<£[]#,μ,Á,ç  
,Ü,·[]D; /NODEFAULT TLIB:library,đŽg—p,μ,Á,,¾,³,ç[]v,Æ[]o,é[]ê[]#,í[]C<°,ç,-  
[]ä<L,ì[]Ý'è,²ŠÔ^á,Á,Ä,ç,Ü,·[]DŠm”F,μ,Á,,¾,³,ç[]D

,Ü,½,í[]C^È%o°,ì,æ,ı,É-³Ž<,·,éf%ofCfuf%ofŠ,đŽw'è,μ,Á,,¾,³,ç[]D







v, í, , è, Ü, <sup>1</sup>, ñ □ D f v f □ f O f % o f € “ à, Å Ž g — p, μ, È, ¯, ê, î Š f “ f N, <sup>3</sup>, ê, Ü, <sup>1</sup>, ñ □ D

fRf“fXfgf%oofNf^  
f f“foSÖ”  
—á’è

## ifRf“fXfgf%ofNf^

Ší- {fNf%ofX,lfRf“fXfgf%ofNf^,É,Í^È%oº,ìŽí—p,ª, ,è,Û,·□D

```
□ECMagaDbg(void);
□ECMagaDbg(char* lpszHead,
    BOOL fSep = FALSE,
    dbgColor eColor = DBG_BLACK,
    DWORD dwInterval = 0);
□ECMagaDbg(char* lpszHead, dbgColor eColor);
□ECMagaDbg(char* lpszHead, BOOL fSep);
□ECMagaDbg(BOOL fSep);
□ECMagaDbg(dbgColor eColor);
```

”h□ifNf%ofX,lfRf“fXfgf%ofNf^,É,Í^È%oº,ìŽí—p,ª, ,è,Û,·□D

```
□ECMagaDbgFile(
    char* lpszFilename,
    BOOL fOverwrite = TRUE,
    BOOL fDisplay = TRUE,
    char* lpszHead = NULL,
    BOOL fSep = FALSE,
    dbgColor eColor = DBG_BLACK,
    DWORD dwInterval = 0
);
□ECMagaDbgFile(MAGADBGOPT* lpMagaDbgOpt);
```

^ø□”

### lpszHead

```
□@MagaDebug32,lfEfBf“fhfE,Öf□fO,ð•\Ží,³,¹,é,Æ,«□C□í,É,±,ì•¶Žš—ñ,ð•t,
%oÁ,ì,é□D
'\n' ^È□~,ì•¶Žš—ñ,í□CflfufWfFfNfg□¶□~Žž,lfXf^□[fgf□fbfZ□[fW,Æ,μ,Ä•\
Ží,³,é,Û,·□D
```

### fSep

```
□@flfufWfFfNfg,ª”jŠü,³,é,é,Æ,«□CMagaDebug32,Å□Ý'è,³,é,½fZfpfÆ□[f^□i<æ□
Ø,è•¶Žš□j,ð
'}“ü(TRUE),·,é,©,μ,È,ç(FALSE),©
```

### eColor

```
□@MagaDebug32,lfEfBf“fhfE,Öf□fO,ð•\
Ží,³,¹,é,Æ,«,ì□F□DenumCE^,Å□CDBG_BLACK, DBG_BLUE, DBG_GREEN,
DBG_CYAN, DBG_RED, DBG_MAGENTA, DBG_YELLOW, DBG_WHITE ,ªŽw'è,Å,«,é
```

*dwInterval*

□@□f□bfZ□[fW•\Ž!Žž,ÉfXfŠ□[fv,·,éŽžŠÔ[ms]

*lpszFilename*

□@□o—Í,·,éf□fO,łftf@fCf<-¼

*fOverwrite*

□@□ã□'(TRUE),·,é,©□C'Ç%oÁ(FALSE),·,é,©

*fDisplay*

□@•\Ž!,à□s,κ(TRUE),©□Cftf@fCf<□o—Í,ì,Ý(FALSE),©

*lpMagaDbgOpt*

□@CMagaDbgFile,ì^ø□",ð,Ü,Æ,ß,½□\‘ç‘ì

%oð□à

^ø□",È,μ,łfRf“fXfgf

%ofNf^,Í□CŽă,É□L^æflfufWfFfNfg□i,·,È,í,¿ŠO•”•İ□”□j,Æ,μ,Ä□éĈ¾□D

^ø□”,·,è,łfRf“fXfgf%ofNf^,Í□CŠeŠÖ□””P^Ê,ÉflfufWfFfNfg,ð□¶□¬,·,é,Æ•Ö—  
~,È,æ,κ,É□ì,ç,è,Ä,ç,Ü,·□D

”h□¶fNf%ofX(CMagaDbgFile),Í□Cf□fO,łftf@fCf<□o—Í,ð“~Žž,É□s,κ□€”ð,ð□s,ç  
,Ü,·□D,Â,Ü,è,±,ê,É’®,·,éf□f“foŠÖ□”,ðŽg—

p,·,é,Æ□iCMagaDbgFilełfufWfFfNfgĈo—R,¾,Æ□jftf@fCf<,Ö,ì□o—

Í,à“~Žž,É□s,ì,Ü,·□D

—á

```
#ifdef _DEBUG // fffofbfOf,□[fh,È,ç
#include "MagaDbg.h" // fCf“fNf<□[fh□i•K□{□j
CMagaDbg g_dbg; // □L^æflfufWfFfNfg,ì□¶□¬
#endif
```

```
int CMainFrame::OnCreate(...)
{
#ifdef _DEBUG
    CMagaDbg dbg("OnCreate", TRUE, DBG_YELLOW); //
    ŠÖ□””P^Ê,łfufWfFfNfg
#endif
    ...
}
```

```

void CMainFrame::OnTimer(...)
{
#ifdef _DEBUG
    CMagaDbgFile dbg("\\tmp\\timer.log", FALSE, FALSE);
    // Timerf[]fO,Íftf@fCf<[]o—Í,Ö[]C,©,Â[]C
    // 'Ç%oÁf,[]fh,Â,È,ç,Æ[]D[]D[]D^^;
    // •\Ž!,Í,ç,Á,Í,ç,É,È,é,©,çf,,f[]
    // ,½,¾[]CCEÄ,Î,ê,é"x,É OPEN-CLOSE ,ðÆJ,è•Ô,·,ì,Å'x,ç[]D[]D
    // ,±,ì[]é[]‡,í[]C,±,ç
    ,Â,ð[]L^æfIfufWfFfNfg[]iŠO•"•ï[]"[]j,É,·,é,ì,ªfxfXfg,Å,·,Ë[]D
#endif
    ...
}

```

## printf "fošÖ"

Ši- {fnf%ofX,lf"fošÖ",É,Í^È%º,İšÖ",ª, ,è,Ü,·D

void printf(char\* szbuf, ...);

```
@'Éí,printf()“—|CŽ®•Źš—ñ,Æ,»,è,É'í%ž,μ,½•İ” ,δ<Lq,Å,«,Ü,·D
'A,μfGfXfP[fv•Źš(\n,È,Ç),İžw'è,μ,Ä,à³,μ,•Ž!,³,è,Ü,¹,ñD
MagaDebug32,lfOfEfBf“fhfEã,Å,Í•K, ,%ü[s,³,è,Ü,·D
[i,±,è,δ<Lq,μ,·,¬,Ä- {•, ,printf(),đŽg,α,Æ,«C,æ,'n',đ-Y,è,Ü,·D ^ ^ ;j
```

void print(char\* szbuf, const BOOL fCR = CR);

```
@Žã,ÉÆÄ'è•Źš—ñ,đ•Ž!,³,¹,éŽž,ÉŽg,φ
,Ü,·D'æ,Q^ø” ,ÉuCRNOv(FALSE),đŽw'è,·,é,Æ%ü[s,³,è, ,ÉfO,ª•
Ž!,³,è,Ü,·D
[i]ã<L,printf(),ª“à•”“l,É,àÆÄ,Ño,μ,Ä,φ,Ü,·Dj
```

void printStruct (LPRECT lpRect);

void printStruct (LPSIZE lpSize);

void printStruct (LPPPOINT lpPoint);

```
@,æ,Žg,í,é,é,Å, ,ë,α\‘φ'İ(RECT, SIZE, POINT),»,è,¼,è,lf“fo•İ” ,đ•\
Ž!,μ,Ü,·D,l,e,b,l“ÆŽ©\‘φ'İ(CRect, CSize, CPoint),Å,à,n,j,Å,·DSIZE ,â
POINT \‘φ'İ,lf“fo•İ” ,ª,Q,Å,È,Ì,Å,»,è,Ü,Ç%ŹÆb,Í, ,è,Ü,¹,ñ,ªCRECT
\‘φ'İ,l,S,Å,lf“fo•İ” ,đ,φ,ι,φ,ι<Lq,μ,È, ,Å,à,æ, ,È,è,Ü,·D
Ver1.3x^È'O,l<Æfo[fWfj” ,©,çšÖ”-¼,ª•İX,³,è,Ä,φ,Ü,·,ªC<ÆšÖ”-
¼,àf}fnf,Æ,μ,ÄéÆ¾,³,è,Ä,φ,Ü,·D
```

BOOL scanf(char\* szbuf, char\* szTitle = NULL);

```
@f_cfAfO,đ•Ž!,μC'l,ì“ü—í,ª%Å”\,É,È,è,Ü,·Dszbuf ,É,Í“ü—
Í,μ,½'l,đšì”[ ,·,é,P,Q,WfofCfĝ ÈãŠm•Ü,μ,½fjfCf“f^ ,đŽw'è,μ,Ü,·DszTitle
,É,İž~•È,·,éf%xf<•Źš—ñ,lfjfCf“f^ ,đŽw'è,μ,Ü,·DİÉ—ª%ÅjD“ü—
lf_cfAfO,Å,n,jf{f^f” ,ª
%Ÿ,³,è,é,Æu0v,đ•Ô,μ,Ü,·D,b,` ,m,b,d,kf{f^f” ,â,»,ì¼,lfGf%o[l,İžž,Íu-
1v,đ•Ô,μ,Ü,·D”l,ÅŽæ“¾,μ,½,φ,Æ,«,ÍC-ß,è'İŠm”FÆãCŠefvfOf%œ
,É,Ä•İŠ·,μ,Ä,¾,³,φD
®C,±,İšÖ” ,đÆÄ,Ño,·,ÆC“ü—lf_cfAfO•Ž!'t,lf^ [fQfbfgfvfOf
%œ'α,ì“ ®İ,Í'S,Ä'âž~ ,μ,Ü,·Dif^fCf}fCxf“fg,à<N,±
,è,Ü,¹,ñ,μfEfBf“fhfE'€İ,à,Å,«,Ü,¹,ñjD
```

void dump(void\* lpStart, unsigned int byte, DWORD dmpflg = 0);

```
@lpStart ,©,ç byte •ª,đf_f“fv•Ž!,μ,Ü,·Df_f“fv•Ž!,İžÍ—p,đ dmpflg
,ÉŽw'è,μ,Ü,·D
dmpflg ,É,Í^È%º,İžÍ—p,ª, ,è,Ü,·D•K—v,Èftf%oO,đ OR%o
%žžžq,Åžwž!,μ,Ä,¾,³,φD
```

DEBUG\_NOHEADERDUMP

```
@@f_f“fv•Ž!,lfwbf_[,đ•Ž!,μ,Ü,¹,ñD
```



□EDBG\_OCTDUMP

□@□@,WfofCfg,Ã,Â,Å□Ü,è•Ô,μ,Û,·□D□iffftfHf<fg,Í,P,U□j

□EDBG\_NOADDRESSDUMP

□@□@□¶'α,ÉfAfhfœfX,ð•Ž!,μ,Û,<sup>1</sup>,ñ□D

□EDBG\_NOCHRDUMP

□@□@%E'α,É 0x20 ,©,ç 0x7e ,Û,Å,lfLfff%ofNf^,ð•Ž!,μ,Û,<sup>1</sup>,ñ□D

□Evoid SetInterval(DWORD *dwInterval*);

□@flfufWfFfNfg□%Šú%»Žž,lfCf“f^□[fof<□Ý'è,ð•ï□X,μ,Û,·□D

”h□¶fNf%ofX(CMagaDbgFile),lf□f“foŠÖ□”,ÍŠî-{fNf  
%ofX,lf□f“foŠÖ□”,ðœp□<sup>3</sup>,μ,Å,ç,Û,·□D,<sup>1</sup>/<sub>2</sub>,<sup>3</sup>/<sub>4</sub>□Cftf@fCf<,É□o—  
Í,<sup>3</sup>,è,é,ì,Æ□CfRf“fXfgf%ofNf^□i□%Šú  
%»Žž□j,lfIfvfVf†f“,É,æ,Á,ÅMagaDebug32,lfEfBf“fhfE,É•\  
Ž!,<sup>3</sup>,è,É,©,Á,<sup>1</sup>/<sub>2</sub>,è,μ,Û,·□D

—á'è

^È%º,ì,æ,α,ÈfefXfgfvf[]fOf%of€„,δ[]¬,μ,Ä,Ý,Ü,μ,½[]DŽQ[]l,É,μ,Ä,-  
,¾,¾,ç[]D[]ifvf[]fWfFfNfgf^fCfv,Í[]ufRf“f[]f<[]i,c,n,r'<ŽÀ[]s—p[]j[]v,Å,·[]D[]j

/\*

    MagaDbg Test

\*/

#include <windows.h>

#include <stdio.h>

#include "MagaDbg.h"

CMagaDbg g\_dbg;                    // fOf[][]f[]f<f[]fufWfFfNfg

void sub(int i) {

    CMagaDbg    dbg(DBG\_RED);  // f[][]f[]f<f[]fufWfFfNfg

    dbg.printf("%d", i);

}

void main(void) {

    static  char  msg[] = {

        "MagaDbgTest(Console)"

    };

    g\_dbg.printf("%s=%d", msg, lstrlen(msg));

    g\_dbg.print("test");

    g\_dbg.printf("%d", 100);

    g\_dbg.print("0x%X", GetDesktopWindow());

    for (int i=0; i<5; i++) {

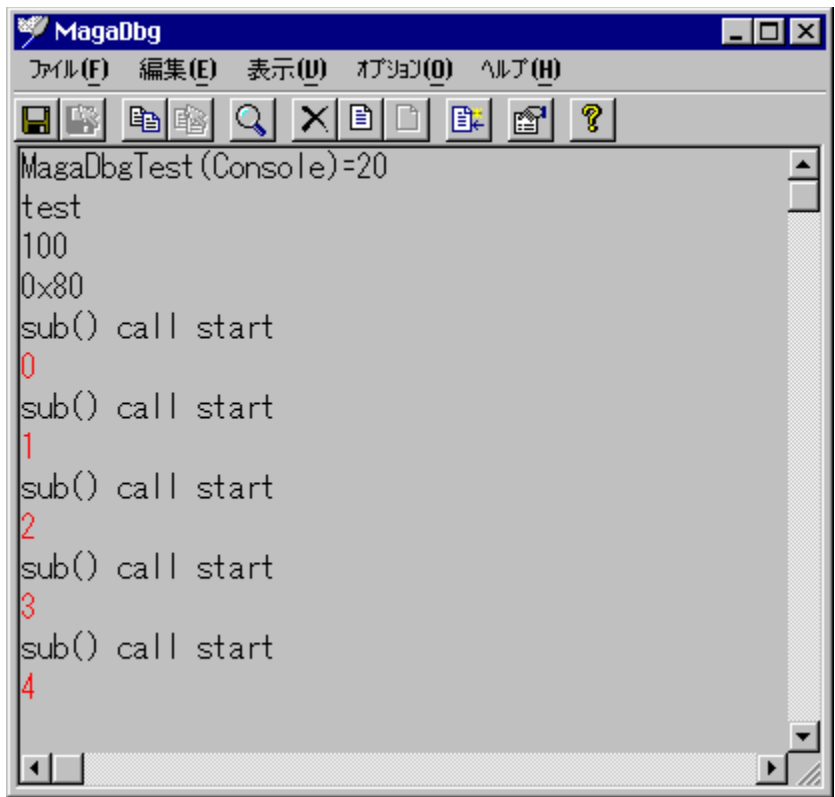
        g\_dbg.print("sub() call start");

        sub(i);

    }

}

[]@,±,ìfvf[]fOf%of€ŽÀ[]s,ÅMagaDebug32,É•\Ž!,¾,è,éf[]fO,Í^È%º,ì'È,è,Å,·[]D  
[]ifTf“fvf<%ºæ-È,ÍĈĀ,çfo[]fWfFfj“,ì,à,ì,Å,·[]D^^;[]j



„bCE¾CEêTf|[fgŠÖ“

**,bĉ¼ĉĕŧf|[]fgšö”**

,bĉ¼ĉĕ, ©, çĉÄ, Ño, ¹, éffofbföšö” ,É, Í^È%º, ìšö” ,ª, ,è, Ü, ·D

```
void Dbg_printf(char *szbuf, ...);
  @'Éí, lprintf()“—|CŽ®•ŧš—ñ,Æ,»,è,É'í
  %ž,µ,½•İ” ,đ<Lq,Å,«,Ü, ·D'A,µfGfXfP[]fv•ŧš(\n,È,Ç), Ížw'è,µ,Ä,à³,µ,•\
  Ž!,³,è,Ü,¹,ñD
  MagaDebug32,lfOfEfBf“fhfEä,Å,Í•K, ,%üs,³,è,Ü, ·D
```

```
void Dbg_sep(void);
  @MagaDebug32,ÅÝ'è,³,è,½fZfpf[]f^(<æØ,è•ŧšj,đ'}“ü,µ,Ü, ·D
```

```
BOOL Dbg_scanf(char *szbuf, char *szTitle);
  @f_cFafO,đ•Ž!,µC'l,ì“ü—í,ª%Å“\,É,È,è,Ü, ·Dszbuf ,É,Í“ü—
  Í,µ,½'l,đŠi”[,·,é,P,Q,WfofCfĝ^ÈāŠm•Ü,µ,½f[]fCf“f^,đžw'è,µ,Ü, ·DszTitle
  ,É,Íž~•Ē,·,é%fxf<•ŧš—ñ,lf[]fCf“f^,đžw'è,µ,Ü, ·D“ü—
  lf_cFafO,Å,n,jf{f^f“ ,ª
  %Ÿ,³,è,é,Æu0v,đ•Ô,µ,Ü, ·D,b,`,m,b,d,kf{f^f“ ,â,»,ì¼,lfGf%[][,ìžž,íu-
  1v,đ•Ô,µ,Ü, ·D“'l,Åžæ“¾,µ,½,ç,Æ,«,ÍC-ß,è'İšm”FĉāCŠefvf[]Of%œ
  ,É,Ä•İš,µ,Ä,,¾,³,çD
  @[]C,±,ìšö” ,đĉÄ,Ño,·,ÆC“ü—lf_cFafO•Ž!'t,lf^[]fQfbfgfvf[]Of
  %œ'œ,ì“®[]i,Í'S,Ä'âž~ ,µ,Ü, ·Dif^fCf}fCxf“fg,à<N,±
  ,è,Ü,¹,ñ,µfEfBf“fhfE'€[],à,Å,«,Ü,¹,ñjD
```

```
void Dbg_dump(void* lpStart, unsigned int byte, DWORD dmpflg);
  @lpStart , ©, ç byte •ª,đf_f“fv•Ž!,µ,Ü, ·Df_f“fv•Ž!,ìží—p,đ dmpflg
  ,Éžw'è,µ,Ü, ·D
  dmpflg ,É,Í^È%º, ìží—p,ª, ,è,Ü, ·D•K—v,Èftf%fo,đ OR%º
  %žžžq,Åžwž!,µ,Ä,,¾,³,çD
```

```
DBG_NOHEADERDUMP
  @[]@f_f“fv•Ž!,lfwbf_[][,đ•Ž!,µ,Ü,¹,ñ
```

```
DBG_OCTDUMP
  @[]@,WfofCfĝ,Å,Å,ÅÜ,è•Ô,µ,Ü, ·DifftfHf<fg,Í,P,Uj
```

```
DBG_NOADDRESSDUMP
  @[]@%œ'œ,ÉfAhfĉfX,đ•Ž!,µ,Ü,¹,ñ
```

```
DBG_NOCHRDUMP
  @[]@[]ŧ'œ,É 0x20 , ©, ç 0x7e ,Ü,Å,lfLfff%ofNf^,đ•Ž!,µ,Ü,¹,ñ
```

,bĉ¼ĉĕ—p,É—p^Ó,µ,½ffofbföšö” ,Å,·,ªC,æ,Ü,Ç,ì— —  
R,ª,È,çĉÄ,è,b[]{}[]fo[]fWf†f“ ,lfffofbfOfNf%ofX,ì•û,đ—~—p,·,é,±,Æ,đ<,-



,b^,b{{x'Êf}fNf

**,b^,b{ {<κ'Éf}fNf**

fTf][fg,<sup>3</sup>,ê,Ä,ç,éŠÖ",É,æ,è—lX,Èfgf%ofbfv,đŽdŠ|, ,é,±,Æ,<sup>a</sup>,Ä,«,Ü,·,<sup>a</sup>C,ç  
,©,ñ,<sup>1</sup>,ñfR[fBf"fo,l"x,É

```
#ifdef _DEBUG
    dbg.printf("hogegege=%s", hoge);
#endif
```

,Æ,È,,Æ,à,Rs-^%ñ<Lq,·,é•K—v,<sup>a</sup>, ,èC"ñí,É-É"|,Ä,·D

Ver1.22,æ,è^È%<sup>o</sup>,lf}fNf,đi¬,μ,Ü,μ,½D  
-{f}fNf[fwfBf\_[(MagaDbgMac.h),ÅfTf][fg,<sup>3</sup>,ê,éf}fNf,íCđCEfRf"fpfCf<,đ•K  
—  
v,Æ,μ,Ü,<sup>1</sup>,ñD'P'lfR[fBf"fo,ÅCffofbfOŠÂ««,ì,ÝfRf"fpfCf<,<sup>3</sup>,ê,é,æ,κ<Lq,<sup>3</sup>,ê,Ä,  
ç,Ü,·D

EDBGASSERT(*expr*, *str*);

**%ođà**

@Ž®*expr*,<sup>a</sup><U(FALSE or NULL),ì,Æ,«C*str*,đ•\Ž|,·,éD•\  
Ž|,lf}fNf[fwfBf\_][ftf@fCf<,É<Lq,<sup>3</sup>,ê,Ä,ç,é,Æ," ,èCÔF,Ä "DBGASSERT:"•¶Žš  
—ñ,Æftf@fCf<-¼E"s"Ô†,Æ,Æ,à,É•\Ž|,<sup>3</sup>,ê,éD  
VisualC++,ÅfTf][fg,<sup>3</sup>,ê,Ä,ç,é-{•",lASSERTf}fNf,ì,æ,κ,ÉfvfOf%of€  
,đ'âŽ~,<sup>3</sup>,<sup>1</sup>,Ü,<sup>1</sup>,ñD

—á

```
DBGASSERT(hwnd, "WindowHandle NULL!"); // hwnd ,a NULL  
,ì,Æ,«fBfZ[fW•\Ž|  
DBGASSERT(0, "hogegege OK!"); // í,É•\Ž|
```

EDBGBOOL(*OBJ*, *str*, *expr*)

**%ođà**

@Ž®*expr*,ì'l,đC*str* = "TRUE",©"FALSE" ,Ä•\  
Ž|,·,éDü,Ov,Æ,©ü,Pv,Ä,í¼Š´"l,É%đ,è,Ä,ç,ç,Æ,«,É•Ö—~D  
C++,ì,Æ,«,íC¶i¬,μ,½lfufWfFfNfg-¼,<sup>a</sup>•K—v,Ä,·D  
CCE¾CEè,ì,Æ,«,íC^ø"OBJ,í•K—v, ,è,Ü,<sup>1</sup>,ñD





fifO,ì•Ž!sCEÀ

## f fO,ì\Ž!sCEÀ

E f fO,ì' ~ ì Ì Å ' å s " , í, P, O, O, O s, Å, · D % o z, !, é, Æ, P s - Ú, ©, ç ä ' , «, <sup>3</sup>, ê, Ü, · D

E, P s, ì Å ' å • ¶ Ž š " , í, m, t, k, k Š Ü, p, P, Q, W f o f C f g, Å, · D % o z, !, é, Æ - <sup>3</sup> Ž <, <sup>3</sup>, ê, Ü, · D

f f f ... [f R f} f " f h  
f L [ ' € i

ftf@fCf<  
•O□W  
•\Ž!  
'}“ü  
f!fvfVf#f“

## ftf@fCf<f fjf... [

□E f□fO, ì□o—í(S) Ctrl+S

□@CE>□Y' ~□ĩ, ³, ê, Ä, ç, é f□fO, ðftf@fCf<, É□o—í, μ, Ü, ·□D

□E 'í' ð f□fO □o—í(A) Ctrl+A

□@f} fEfX, Å 'í' ð, μ, ½ f□fO, ¾, ¯, ðftf@fCf<, É□o—í, μ, Ü, ·□D

f□fO, ð□o—í, ·, é f f t f H f < f g, ì f f f B f C E f N f g f Š, ð Ž w ' è, ·, é □ ê □ #, í □ C M a g a D b g . E X E

, ð Ž Ä □ s, ·, é f V f # □ [ f g f j f b f g, Å ^ È % ° °, ì, æ, x

, É □ ì < A e f t f H f < f \_ , ð Ž w ' è, ·, é, î, » , ê, a f f f t f H f < f g, ì f □ f O □ o—

ì f t f H f < f \_ , A E, È, è, Ü, · □ D □ i, Ü, A E, ñ, Ç, ì W i n d o w s f A f v f Š f P □ [ f v f # f " , A E " ¯ , ¶, Å, · □ j



□E ^ ó □ü (P) Ctrl+P

□@·\Z! f□fO, ð ^ ó □ü, μ, Ü, · □ D ^ ó □ü ' O, É □ C

% ° °, ì f y □ [ f W □ Y ' è, Å f } □ [ f W f " , â f t f H f " f g, È, Ç, ð □ Y ' è, μ, Ä, ¯, «, Ü, μ, å, x □ D

□E f y □ [ f W □ Y ' è (U)

□@f} □ [ f W f " □ E f w f b f \_ □ [ □ E f t f b f \_ □ [ □ E f t f H f " f g, È, Ç, ð □ Y ' è, ·, é f \_ f C f A f □ f O, a · \

Z, ³, ê, Ü, · □ D □ ó < μ ^ È ' ¶ f w f < f v, a Ž g — p, Å, «, Ü, · □ D

• **Öwfjff...l**

EfRfs[(C) Ctrl+C

@E»Y'~i,³,ê,Ä,ç,éffO,ðNfŠfbvf{[fh,É"]'—,μ,Û,·D

E'I'ðffOfRfs[(X) Ctrl+X

@f}fEfX,Å'I'ð,μ,½ffO,¾,¯,ðNfŠfbvf{[fh,É"]'—,μ,Û,·D

E'S'I'ð(M) Ctrl+M

@'~iffO'S'ì,ð'I'ðó'Ô,É,μ,Û,·D

E'I'ð%ðœ(D) Ctrl+D

@'I'ðó'Ô,iffO,ð'S,Ä%ðœ,μ,Û,·D

EffO,ìNfŠfA(C) Shift+DEL

@'~iffO,ð'SÁ<Ž,μ,Û,·D

EËÿö(F) Ctrl+F

@ffO,ìËÿö,ðs,ç,Û,·D

Ëÿö,Åfqbfg,μ,½•¶Žš—ñ,ðŠÛ,þs,ªfEfBf"fhfE,ìÅã'i,É^Ê'u,Ä,¯,³,ê,Û,·D

•\Ž!f[]ff...[]

[]Efc[]f<fo[](T)

[]@fc[]f<fo[],đ•\Ž!,·,é,©,μ,È,ç

,©,đŽw'è,μ,Û,·[]Dfc[]f<fo[],ÍŽc"O,È,ª,çftf[][]fefBf"fO,Å,Í, ,è,Û,¹,ñ[]D

[]E[]s"Ô[]+(L)

[]@[]¶'[],É[]s"Ô[]+,đ•\Ž!,·,é,©,μ,È,ç,©,đŽw'è,μ,Û,·[]Dfrf...

[][]fEfBf"fhfE[]ä,Å[]¶f\_fuf<fNfSfbfN,Å,à[]Ø'Ö,ª%oÅ"\,Å,·[]D

[]EftfBf<f^(S) Ctrl+L

[]@•\Ž!,³,ê,Ä,ç,é[]fbfZ[]fW,ÉftfBf<f^,đ,©,¯,Û,·[]BftfBf<f^,Í[]F,ÅŽ¯•Ê,³,ê,Û,·[]D

[]EftfBf<f^%ođ[]œ(R) Ctrl+R

[]@ftfBf<f^•\Ž!,đ%ođ[]œ,μ,Û,·[]D

[]EftfHf"fg(F) Ctrl+O

[]@•\Ž!f[]fO,ÍftfHf"fg,ª•ï[]X,Å,«,Û,·[]D,O(f[]f[]),Æ,n(f[]f[]),ì<æ•Ê,ª,Å,ftfHf"fg,ª-]

,Û,μ,ç,Å,μ,â,æ[]DfTfCfY,à•ï[]X,Å,«,Û,·[]D

[]Efl[]f[]gfXfNf[]f[]f<(A) Ctrl+U

[]@f[]fOŽó[]MŽž,ÉŽ©"®"I,ÉfXfNf[]f[]f<,μ,Û,·[]Bf`fffbfN,μ,Ä,¯,«,Û,μ,â,æ[]D

[]E[]fbfZ[]fWŽó[]MŽž

[]@f[]fbfZ[]fWf[]fOŽó[]MŽž,ÉfEfBf"fhfE,đ,Ç,æ,·,é,©,đŽw'è,μ,Û,·[]D

[]@1)%o½,à,μ,È,ç(N)

[]@[]@Ö¯¾°¼p,đŽó,¯Žæ,Å,Ä,à%o½,à,μ,Û,¹,ñ[]D,Å,Û,è[]CfEfBf"fhfE,ª%oB,ê,Ä,ç,Å,à,»,ì,Û,Û,Å,·[]D

[]@[]@[]iÖ¯¾°¼p,đŽó,¯Žæ,ç,È,ç/•\Ž!,μ,È,ç,Æ,ç,æ^Ó-;Å,Í, ,è,Û,¹,ñ[]D

[]@[]@ —á,¡,Î[]Å[]-%o»[]ó'Ö,ÅŽó[]M,³,¹,é,È,ÇÇ»[]Ý,ì³"YÄp³[]ó'Ö,đ•Û,Å,±

,Æ,đŽw,μ,Û,·[]D[]j

[]@2)fAfNfefBfu(A)

[]@[]@Ö¯¾°¼pŽó[]MŽž[]C[]í,ÉfAfNfefBfu,É,μ,ÄfEfBf"fhfE,đŠJ,«,Û,·[]D

[]@[]@~A'±Ö¯¾°¼p,đ"ç^¬,μ,½,ç,Æ,«,È,Ç,É,Ç,æ,¼[]D

[]@[]@[]i[]Å'â%o»•\Ž!,Å,±,ê,É,·,é,Æ[]CfGf%oofC-Ú,É, ,ç,Û,·[]B^ ^;)

[]@3)fI[]fvf"(O)

[]@[]@Ö¯¾°¼pŽó[]MŽž[]CfEfBf"fhfE,ª[]Å[]-%o»,ìžž,¾,¯fEfBf"fhfE,đŠJ,«,Û,·[]D

[]@'Êí,Í[]ufI[]fvf"[]v,Å,ç,ç,Å,μ,â,æ[]D

[]E[]í,ÉŽè'O,É•\Ž!

[]@³"YÄp³[]Å'â%o»[]ó'Ö,Å,Í,μ,È,ç,Û,æ,ª,ç,ç,Å,μ,â,æ

[]E"wEi[]F(F)

[]@"wEi[]F,ì•ï[]X,ª%oÅ"\,Å,·



□E□s"Ô□tÃ·½Ä□F(C)

□@□s"Ô□t,ìÃ·½Ä□F,ì•ï□X,â%oÂ"\,Å,·□D

□@"wœi□F,đ□•,È,Ç,É,μ,½,Æ,«□C,±,ê,Å•ï□X,μ,Ä,,¾,³,ç□D

'}“üf[]fjf...[][

[]E fZf p f C E [] f ^ (Z) Ctrl+Z

[]@ f l f v f V f f f “ , ì < æ [] Ø , è • ¶ Ž š [] i f Z f p f C E [] f ^ [] j , ð ’ } “ ü , µ , Ü , · [] D

[]E • ¶ Ž š — ñ ’ } “ ü (l) Ctrl+l

[]@ “ C ^ Ó • ¶ Ž š — ñ , ð ’ } “ ü , · , é , ½ , ß , ì f , [] [ f h f C E f X f \_ f C f A f [] f O , ¢ , , ç , í , ê , Ü , · [] D

[]@ , » , ì f \_ f C f A f [] f O [] ä , Å , ¶ % ° E , ì • ¶ Ž š — ñ , ð [] Ý ’ è , · , é , Æ [] C [] í , É , » , ê , ð ’ Ç % ° Á , µ , Ä • ¶ Ž š — ñ , ð ’ } “ ü , Å , « , Ü , · [] D [] ó < µ ^ È ’ ¶ f w f < f v , ¢ Ž g — p , Å , « , Ü , · [] D

[]E < [] § Ò ^ ¾ ° ¼ p ’ — [] M (S)

[]@ —

ñ < “ , ¢ , é , ½ f E f B f “ f h f E , © , ç , í [] Û f E f B f “ f h f E , ð ’ ð , µ ( • i [] “ % ° Â ) [] C Ž w ’ è , ¢ , é , ½ f [] f b f Z [] [ f W

[] C w P a r a m [] C l P a r a m , ð f j X f g ’ — [] M , µ , Ü , · [] D

**fifvfVf#f“f[]jf...[]**

[]EŠÂ<<[]Ý'è(S)  
[]@MagaDebug32 ,ìŠÂ<<,ð[]Ý'è,μ,Û,·[]D[]ó<μ^È'¶fwf<fv,ªŽg—p,Â,«,Û,·[]D

[]i,P[]j<N“ @[]|—<sup>1</sup>  
[]@1)<N“ @ Žž[]í,É[]Á[]¬%»(M)  
[]@[]@f`fFfbfN,·,é,Æ[]í,É[]Á[]¬%»μ,Û,·[]D[]ifVf#[][fgfjfbfg,Â,à[]o—^,Û,·,È[]j  
[]@2)'O%ñ[]|—<sup>1</sup>Žž,ìfEjBf“fhfEfTfCfY,Æ^È'u,Â<N“ @ (S)  
[]@[]@,º,Đf`fFfbfN,μ,Â,“,«,Û,μ,â,æ[]D  
[]@3)<N“ @ ŽžftfBf<f^·\Ž,ð—LÆø(F)  
[]@[]@, ,é“ö“x<l,ì,ß,ìfffofbfOŽž,Éf`fFfbfN,ð“ü,ê,Â,“,.,Æ·Ö—~ ,Â,·[]D  
[]@4)Ó°ÄpU½Äp²±Û ,p,ì^È'u,ð·Û'¶(l)  
[]@[]@MagaDebug32 ,ÂŽg—p,·,éÓ°ÄpU½Äp²±Û ,p[]iÆÿ[]ð,ÆŽè“ @ ·¶Žš—  
ñ'“ü[]j,ì^È'u,ð·Û'¶,μ,Û,·[]D

[]i,Q[]jftfBf<f^  
[]@1)f[]fO[]o—í,ì,Æ,«,à—LÆø,É,·,é(F)  
[]@2)^ó[]ü,ì,Æ,«,à—LÆø,É,·,é(P)  
[]@3)fRfs[][,ì,Æ,«,à—LÆø,É,·,é(C)  
[]@ftfBf<f^<@“\,ð,»,ê,¼,ê,ì[]o—í<@“\,É,àŠ,,è“- ,Â,Û,·[]D

[]i,R[]jĭÆ±Û¾ÊßÚ°À  
[]@1)ĭÆ±Û¾ÊßÚ°À·¶Žš—ñ  
[]@[]@Žè“ @ ,Â'}“ü,·,é<æ[]ø,è·¶Žš[]ifZfpfÆ[][f^[]j,ðŽw'è,μ,Û,·[]D  
[]@[]@[]u////////[]v,Æ,©,ª,ç,ç,©,à  
[]@2),P%ñ,ì'€[]ì,Â  
[]@[]@%½%ñfZfpfÆ[][f^,ð'}“ü,·,é,©Žw'è,μ,Û,·[]D  
[]@[]@,Q[]` ,R%ñ,ª,ç,ç,©,à  
[]@3)fZfpfÆ[][f^,ì[]F  
[]@[]@,“,Û,©,¹,Â,·[]D

[]i,S[]jµìp¼pª ,Ä¾ÊßÚ°À[]iC++x²ìp×ø,ðŽg—p,μ,½,Æ,«,ì,Ý—LÆø[]j  
[]@1)Žè“ @ ,Æµìp¼pª ,Ä[]Á-Â,ì¾ÊßÚ°À[]Ý'è,ð·ª,·,é  
[]@[]@µìp¼pª ,Ä[]Á-Âžž,ì[]Ý'è,ÆŽè“ @ ,Â'}“ü,·,é¾ÊßÚ°À,ì[]Ý'è,ð·ª,·,Û,·[]D  
[]@2)µìp¼pª ,Ä[]Á-Â¾ÊßÚ°À·¶Žš—ñ  
[]@[]@1),ìf`fFfbfN,ª“ü,Â,Â,ç,È,ç,Æ[]Ý'è,Â,«,Û,¹,ñ[]D  
[]@3),P%ñ,ì'€[]ì,Â  
[]@[]@“~[]ã  
[]@4)µìp¼pª ,Ä[]Ý'è,Æ,ì^á,æ[]F,ðŽg,æ  
[]@[]@µìp¼pª ,Ä[]Á-Â¾ÊßÚ°À,ðµìp¼pª ,Ä[]¶[]¬,ìžž,É[]Ý'è,μ,½[]F,Æ,ì^á,æ[]F,Â·\  
Ž,³,¹,½,ç,Æ,«,ÉŽg—p,·,é  
[]@5)µìp¼pª ,Ä¾ÊßÚ°À,ì[]F  
[]@[]@,“,Û,©,¹

fVf#[]fgf]fbfgfL[]

## **fVf#[]fjfbfgfL[]**

f[]fj...[][<@”\,Æ,Í•Ê,ÌfVf#[]fjfbfgfL[],ð[]Ð%ô,μ,Û,·[]D

[]E,e,PfL[]

[]@f[]f<fv-ÚŽŸ,ð•\Ž!,μ,Û,·

[]E[]ã%°•ûÆüfL[]

[]@f[]fO,ì,P[]s’P^Ê[]ã%°fXfNf[][]f<

[]E[]¶%E•ûÆüfL[]

[]@f[]fO,ì,P•¶Žš’P^Ê[]¶%EfXfNf[][]f<

[]Efy[]fWfAfbfvf\_fEf“fL[]

[]@f[]fO,ì,P%°æ-Ê’P^ÊfXfNf[][]f<

[]E,g,n,l,dfL[]

[]@[]s,ì[]æ“<sup>ä</sup>,É^Ê’u,Ã,¯,<sup>3</sup>,ê,Û,·

[]E,d,m,c[]i,g,d,k,o[]jfL[]

[]@[]s,ì[]ÅÆã,É^Ê’u,Ã,¯,ç,ê,Û,·

[]E,b,”,’,Æ[]{,g,n,l,dfL[]

[]@f[]fO,ì[]æ“<sup>ä</sup>,É^Ê’u,Ã,¯,<sup>3</sup>,ê,Û,·

[]E,b,”,’,Æ[]{,d,m,cfL[]

[]@’~[]í[]f[]fO,ì--”ö[]s,É^Ê’u,Ã,¯,ç,ê,Û,·

fZfpfCE[]f^  
Žè“®•¶Žš—ň’}“ü  
ftfBf<f^•\Ž!

fZfpfCE[f^,âF,đŽg,“,x

Ver1.11 ,©,çCMagaDbgfNf%ofXfIfufWfFfNfg’P^Ê,ÉF,đŽw’è,Å,«,é,æ,x  
,É,È,èC,Ü,½,»,İfIfufWfFfNfg,ª”jŠü,³,ê,½,Æ,«<æ∅,è•ŕŽšifZfpfCE[f^j,đ’}“ü,  
Å,«,é,æ,x,É,È,è,Ü,µ,½D

,±,ê,í“Á,É,l,e,b,İfİfbfZ[fW^—  
ŠÖ”,Å,»,İŠÖ””P^Ê,ÉffofbfOfIfufWfFfNfg,đŕİ¬,.,é,Æ,«,É•Ö—~,ÉŽg,!,Ü,.D  
,Á,Ü,èCfİfbfZ[fW^—ŠÖ””P^Ê,İfİfO,ÉF,đ•t,~,Ä,æ,è,í,©,è,â,.-  
C,Ü,½A<æ∅,è•ŕŽš,ÅfİfbfZ[fW^—ŠÖ”,İl,í,è,đ,æ,è-¾Šm,É”c^¬,.,é,±  
,Æ,ª%oÅ”\,Æ,È,è,Ü,µ,½D

,³,ç,ÉCŽè“®,Å<æ∅,è•ŕŽš,đŕ”%oñ-,,,ßž,P,±  
,Æ,É,æ,èCİs,Á,½fefXfg“®İ,ªŠù,É’~İ,³,ê,Ä,ç,éffO,Ì,Ç,±,©,çŠJŽn,³,ê,Ä,ç  
,é,Ì,©,à•ß,ç,!,é,±,Æ,ªo—^,é,æ,x,É,È,è,Ü,µ,½D

•Ö—~,È<@”\,đ%ž—p,µCCEø—!,æ,çffofbfO,đs,Á,Ä,Ý,Ä,,¾,³,çD

**Žè“®•ŕŽš—ň’}“ü**

Ver1.20^È~CŽè“®•ŕŽš—ň’}“ü,ª%oÂ“\,Æ,È,è,Ü,µ,½DfZfpfÆ[f^,Å,í,È,-  
fRf“fg,ď’}“ü,µ,½,çŽŽ,È,Ç,ÉŽg,ı,Ü,·D



## ftfBf<f^•\Ž!

Ver1.32^È~□CŽó□M,μ,½f□fbfZ□[fW,ì□F,É,æ,Á,Ä•\Ž!□E"ñ•\  
Ž!,đ'!đ,Å,«,éftfBf<f^•\Ž!<@"\,ªÇ%oÁ,³,ê,Û,μ,½□D  
□ufffofbfO,ª□i,ñ,¾ŠÖ□",í,à,xf□fbfZ□[fW,đ•\Ž!,μ,È,,Ä,à—Ç,ç,ª□C#ifdef □`  
#endif ,đŽæ,é,ì,í-Ê"□v  
,Æ,ç,κ,Æ,«,È,Ç,É□C,»,"ŠÖ□",É□Ý'è,μ,½□F,đ"ñ•\Ž!,É,·,é,±  
,Æ,Å□C'¼,ìŠÖ□",©,ç,ìf□fbfZ□[fW,¾,¯,É□W't,·,é,±,Æ,ª%oÄ"\,Æ,È,è,Û,·□D□-  
,μ^á,κ,©,à,μ,ê,Û,¹,ñ,ª□FŽw'è,đ□ufffofbfOfÇfxf<□v,Æ□l,!,Ä,à,ç,ç  
,©,à,μ,ê,Û,¹,ñ□D

□i,Û,ÅŠeŠÖ□",Å"K"-,ÉÇ^,β,Ä,ç,½□F,í□C,±,ê,©,ç□-  
,μ□l,!,Ä□Ý'è,μ,Ä,â,é,ÆftfBf<f^<@"\,ª,æ,è^ê'w•Ö—~,É,È,é,Å,μ,å,κ□D

'~ ò ì € , » , ì ' ¼ , É , Â , ç , Ä  
• ì X – š – ð  
, ' m , ç , ¹



**MagaD,...b,•g32•İX—š—đ**

Ver 1.42 99/10/26

□@□@□E□s"Ô□+Ä½Ä□F,İ•İ□XfİfvfVfƒf""Ç%oÁ  
□@□@□EVer1.41□u"à•" ,x½,ÆÒÓØŠÖÇEW,İ□^—  
□,đ'â•□•İ□X□v,É"º,æ'½□",İfofO□C□³

Ver 1.41 99/10/06

□@□@□EŠJ"ŠÄ<«,đ VC++6.0 ,É•İ□X  
□@□@□E□ä<L,É"º,ç VC++6.0/4.1,BC++ ,İ,RŽí—p,İf%ofCfuf%ofŠ,đ—p^Ó  
□@□@□E,³,ç,ÉfŠfŠ□[fX—pf%ofCfuf%ofŠ,à—p^Ó(VC++ÇEn,İ,Ý)  
□@□@□E<□§Ò<sup>-¾°¼p'</sup>—□Mf\_fCfAf□fO,đf,□[fhfÇfX%o»  
□@□@□E<□§Ò<sup>-¾°¼p'</sup>—□M<@"\,İ□Y'è'l,đ•ÚŽ□□C'¼ŽáŠ±,İ□C□³  
□@□@□E"wÇEi□F,İ•İ□XfİfvfVfƒf""Ç%oÁ  
□@□@□E"à•"fNf%ofX,Æf□f,fŠŠÖÇEW,İ□^—□,đ'â•□•İ□X  
□@□@□E,» ,İ'¼fofO□i•ñ□□,³,ê,Ä,ç,È,çfofO,àŠÜ,p□j□C□³

Ver 1.40 99/07/16

□@□@□E<□§Ò<sup>-¾°¼p'</sup>—□M<@"\  
□@□@□EÒ<sup>-¾°¼p'</sup>—□M,İ□,'—%o»  
□@□@□Eμİp¼p²,Ä□¶□—(ºY½Äx ,Ä<N"®)ŽŽ,É½Ä°ÄÒ<sup>-¾°¼p'</sup>  
□@□@□EVer1.3x ,Ä,İ□"□X,İ□i•ñ□□,³,ê,Ä,ç,È,ç,à,İ,àŠÜ,ß,½□jfofO,đftfBfbfNfX  
□@□@□@□iVer1.4x"Á—L,İfofO,²□ö,ñ,¾,©,à□@^ ^;□j

Ver 1.36 99/01/25

□@□@□E^óü,Ü,í,èŽáŠ±,İ□C□³  
□@□@□E,» ,İ'¼fofO□i•ñ□□,³,ê,Ä,ç,È,çfofO,àŠÜ,p□j□C□³

Ver 1.35 98/12/04

□@□@□EBorlandC++—pf%ofCfuf%ofŠ,İ—p^Ó  
□@□@□EY'èİ•ñ,İfÇfWfXfgfŠ%o»  
□@□@□E,» ,İ'¼fofO□C□³

Ver 1.34 98/09/01

□@□@□EWindows□I—ŽŽ,É³"YÄp³,İ^É'u"™ ,²•Û'¶,³,ê,È,©,Á,½fofO□C□³  
□@□@□E,æ,Žg,æ□'ç'İ(RECT, SIZE, POINT),İf□f"fo,đ•\Ž!,,éŠÖ□",đ'Ç%oÁ

Ver 1.33 98/08/11

□@□@□Ef□fj...□[□\□—,đ□,μ•İ□X

@@@EftfBf<f^<@"\,đfOo—Í^ ^óü^fRfs[,É,à“K—p,·,é,©,Ç,α  
,©,lfvfVf#“’Ç%oA  
@@@Eufí,ÉŽè‘O,É•Ž!v<@"\,đ’Ç%oÁ  
@@@EINiftf@fCf<,ª,É,ç,Æ,«,Í, ,é’ö“x,lfiftfHf<fgflfvfVf#“ ,ªY’è,³,ê,é,æ,α,É,μ,½  
@@@E,»,í’¼fofO C³

Ver 1.32 98/08/07

@@@EftfBf<f^•Ž!,lftf|fg  
@@@E%oEfNfŠfbfNf|fbfvfAfbfvfjff...[,lftf|fg  
@@@Efjff...[[]\¬,đ,μ•iX  
@@@ECMagaDbgfNf%ofX,lfrf“fXfgf%ofNf^,đ,μ’Ç%oÁ  
@@@Ef|fbfZ|[fW•Ž!,í’x%o,,đŽw’è,·,éff“fo SetInterval() ,đ’Ç%oÁ  
@@@EF,lŽw’è,ª BLACK, BLUE... “™ ^ê”É“l,È-¼‘O,È,ì,Å DBG\_  
,lfvfEftfBfbfNfX,đ•t, ,½  
@@@E,»,í’¼fofO C³

Ver 1.31 98/03/05

@@@E^óü<@"\<%o»íí~Àp°/ì~Àp°,ÉCEÂ•Ê,ì«ÝÄ,đŽw’è,Å,«,é,æ,α,É,μ,½j  
@@@Ef%ofCfuf%ofŠf|[fX,lf f...[fjff“fo  
@@@Eã<L,ÉSÖ~A,μACMagaDbgfNf%ofX,ìprint()ff“foŠÖ”,đ^ê•“í|œ,μ,½  
@@@E,»,í’¼fofO C³

Ver 1.30 98/02/05

@@@Ef|fO,ì^óü,đTf|fg  
@@@E•Ž!f|Ofthf“fg,ì•iX,đTf|fg  
@@@Eó<μ^Ê‘lfwf<fv,đ^ê•”,lf\_fCfAf|fO,ÅTf|fg  
@@@E|s”Ô|t•Ž!  
@@@EfXfNf|[f<fo[,đWindows95—<V,É•iX  
@@@EVer1.2x ,Å,ì”X,ìi•ñ|,³,é,Ä,ç,È,ç,à,ì,àŠÜ,ß,½jfofO,đftfBfbfNfX  
@@@EiVer1.3x“Á—L,lfO,ªö,ñ,¾,©,à@^ ^;|j

Ver 1.24 97/10/31

@@@ECEÿ|đ\_fCfAf|fO,ìŽg,ç•ù,đ•iX  
@@@Ef|fO,ª,PŽü,μ,½,Æ,«,ÉCE©,É,,©,Á,½,ì,ÅŽÿ,ìs,íÁ<Ž,·,é,æ,α,É,μ,½  
@@@EHOME,ÆENDfL[,ìŽg,ç•ù,đ,μ•iX(Windows—<V,É|,α)  
@@@ECMagaDbgFilefNf%ofX|VY  
@@@E,bCE¾CEê—pŠÖ” Dbg\_dump ‘Ç%oÁ  
@@@ECMagaDbgExfNf%ofX,ì|íœ,μ,½(dumpff“foŠÖ”,íŠî-{fNf%ofX,Ö)

Ver 1.23 97/10/22

@@@EfZfpfE|[f^Y’è,đf}jff...fAf<,Æ(C++)f|fufWfFfNfg|Á-Á“Æ—š,μ,Ä

□@□@□@□Y'è,Å,«,é,æ,κ,É,μ,½  
□@□@□Ef\_fCfAf□fO,É,Ä□i,Ù,ñ,ì□,μ□jft□[fUfCf“f^ftfF□[fXÆü□ã  
□@□@□E,bÆ¾Æè—p,ìŠÖ□”,í,b□{□{,©,ç,Å,àÆÁ,x,é,æ,κ,É,μ,½  
□@□@□EŽè“®•¶Žš—ñ’}“ü,É,Ä□F,â□¶%oE,ì'Ç%oÁ•¶Žš—ñ,ð□Y'è,Å,«,é,æ,κ  
,É•í□X  
□@□@□@,Ü,½□A,»,é,ç,ð<L%o~,Å,«,é,æ,κ,É,μ,½  
□@□@□EDBGASSERTf}fNf□,ì□o—ÍŽd—I,ðŽáŠ±•í□X  
□@□@□Ef}fNf□fwfbf\_□[,É,P,Á'Ç%oÁ  
□@□@□E,»,ì'¼fofo□C□³

Ver 1.22 97/09/12  
□@□@□E'l,ì“®“lŽæ“¾,ª,Å,«,é,æ,κ,É,È,Á,½□B  
□@□@□@□i,ç,í,ä,é scanf() ,ì'ã,í,è□j  
□@□@□Ef}fNf□fwfbf\_□[,ð'Ç%oÁ

Ver 1.21 97/05/23  
□@□@□EÓ°ÄbÚ½Äb²±Ü\_p,ì^Ê'u,ð•Û'¶,Å,«,é,æ,κ,É,μ,½□B  
□@□@□@□i'Ofo□[fWf#f“,Å,ìfTf{fŠ,Å,·□B^^;□j  
□@□@□E,æ,κ,â,fffofbfOfc□[f<,ç,μ,f\_f“fv•\Ž!,ìfTf|□[fg  
□@□@□E,»,ì'¼□A'Ofo□[fWf#f“,ìfofoftfBfbfNfX

Ver 1.20 97/05/07  
□@□@□E,æ,κ,â, LIBC.LIB/LIBCMT.LIB/MSVCRT.LIB ,ð-³Ž<,·,éÆx□□,ð%oñ”ð  
□@□@□E□ã<L,É”º,ç□Afr□[fh□¶□→,ÉfffofbfOf,□[fh,ì,ç,è,©,ð<□\$  
□@□@□@□i\_DEBUG ftf%ofO,ª'è<`³,è,Ä,ç,é,±,Æ,ª□ðÆ□□j  
□@□@□EŽè“®f□f,□i•¶Žš—ñ□j’}“ü<@”\  
□@□@□Ef□fO□o—í,Å,·,Ä,Éftf@fCf<,ª'¶□Y,·,é,Æ,«□A□ã□/'Ç%oÁ,ª'l'ð,Å,«,é,æ,κ  
,É,È,Á,½  
□@□@□E,»,ì'¼□A'Ofo□[fWf#f“,ìfofoftfBfbfNfX

Ver 1.11 97/04/09  
□@□@□E<æ□Ø,èf}□[fj,ð•\Ž!,Å,«,é<@”\,ð'Ç%oÁ  
□@□@□@□@1)MagaDbg32,ìfEfBf“fhfE□ã,ÅŽè“®’}“ü  
□@□@□@□@2)fìfufWfFfNfg□Á-ÅŽž,ÉŽ©“®’}“ü  
□@□@□Ef□fO,ì□F,ð□ifìfufWfFfNfg’P^Ê,É□jŽw’è,Å,«,é<@”\,ð'Ç%oÁ  
□@□@□E,b□^, b□{□{—p,É•ª,¯,Ä,ç,½fwfbf\_□[ftf@fCf<,ð“□□#  
□@□@□@□i'Ofo□[fWf#f“,Å,ìf`f#f“f{,Å,·□B^^;□j  
□@□@□E,æ,κ,â,,g,k,oftf@fCf<□i□→

Ver 1.10 97/03/13  
□@□@□Ef□[f<fo□[Ç%oÁ

@@@E%ijXfNf[]f<fo[]'Ç%Á  
@@@E'èf\_fCfAf[]fO,lf%WfJf{f^f"[]A  
@@@@Zg,ç•ù,ª,¨,©,µ,©,Á,½,ì,Å[],µ•ï[]X  
@@@EËÿ[]öf[]fWfbfN,ð•ï[]X  
@@@E,bE¾Eê—p,lfCf"f^ftfF[]fX[]i[]~  
@@@Ef}f<f`fXfEfbfh—pf%ofCfuf%ofŠ"pŽ~[]i,P,Á,lf%ofCfuf%ofŠ,É"[]#[]j

Ver 1.02 97/02/24  
@@@E<N"®[]E[]I—¹[]E•\Ž!,ÉŠÖ,·,é[]Y'èf\_fCfAf[]fO,ð'Ç%Á  
@@@EfNf%ofXf%ofCfuf%ofŠ,ìŽáŠ±,ì[]C³

Ver 1.01 97/01/22  
@@@Ef[]fO,ìEÿ[]ö<@"\Ç%Á  
@@@EfNf%ofXf%ofCfuf%ofŠ,lf[]f"foŠÖ[]",É printf() ,ð'Ç%Á  
@@@Ef[]fO,ð'l'ð,µ[]A'l'ð—ì^æ,ì,YfZ[]f[]Efrfs[][,ª[]o—^,é,æ,π,É,È,Á,½[]B

Ver 1.00 97/01/13  
@@@Ef[]fO,ìftf@fCf<[]o—í<@"\Ç%Á  
@@@Ef[]ofOftfBfbfNfX

Ver 1.00fÀ,P 97/01/08[]i"ñEöŠ[]j  
@@@EfNfŠfbfvf{[]f[]h,Ö,ì"l'—<@"\Ç%Á  
@@@EŠÈ—ª"Å,`,o,hfhfLf...f[]f"fg,ð'Ç%Á  
@@@EfAfCfRf",ð•ï[]X[]@^ ^;

@@@Ef[]ofOftfBfbfNfX

Ver 1.00f¿ 97/01/06[]i"ñEöŠ[]j  
@@@E[]%ŠúfŠfŠ[]fXf¿"Å

, 'm, ç, 1

EMagaDebug32fNf%ofXf%ofCfuf%ofŠ,lf\[]fXŒöŠJ,É,Â,ç,Ä  
@[]iŒ»[]Ý VisualC++ ,Æ BorlandC++(Ver1.35 ^È~) ,ÅŽg—p,Å,«,éfNf%ofXf  
%ofCfuf%ofŠ,ð[]i[]¬,μ[]C,»,ì,Q,Â,ì“[][]‡ŠJ”ŠÂ«—  
p,lfffofbfOfc[]f<,Æ,μ,ÄŒöŠJ,μ,Â,ç,Û,·,ª[]CDelphi[]EVB[]C,»,ì'¼,ì“[][]‡ŠJ”-  
ŠÂ««,É,“,ç,Ä,à^è'è,lf<[]f<,É[],ì,Î MagaDebug32 ,lfEfBf“fhfE,Éf[]fbfZ[]fW,ð'—  
[]M[]i•\Ž![]j,³,¹,é,±,Æ,ª%oÂ“\,Å,·[]D  
[]@f%ofCfuf%ofŠf\  
[]fX,ð[]iŽÒ,lfz[]f€fy[]fW,©,çf\_fEf“f[][]fh,Å,«,Û,·,ì,ÅŽQ[]l,É,μ,Ä,,¾,¾,ç[]D  
,Û,½[]C'¼,ì“[][]‡ŠÂ««,Å,lf%ofCfuf%ofŠ,âfpfbfP[]fW%o»,É[]¬Œ÷,μ,½, ,©,Â,«,É,Í[]  
C,º,Đ~A—[],¾,¾,ç[]Dfz[]f€fy[]fW[]ă,Å[]Đ%oî,μ,½,ç,ÆŽv,ç,Û,·[]D

Ef}fNf[]•â[]W  
[]@Ver1.22 ,æ,è—p^Ó,μ,½f}fNf[],ì'¼,É[]F[]X,ÈfAfCffAf}fNf[],ð•â[]W,μ,Û,·[]D

,ç,,é,à,±,±,lf[][]f<^¶,Û,Å,²~A—[],¾,¾,ç[]D



'—□M□æ³"ÝÄp³,ÅŽw'è,μ,½(•;□",ì)³"ÝÄp³,É'Î,μ□CŽw'è,μ,½Ò<sup>-¾</sup>¼p'l/wParam/IParam,đÎß½Ä' —  
□M,μ,Û,·□D

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,Æ,«,ÉŽg—ρ,μ,Ü,·□D

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ŽÀÚ,ÉÒ<sup>-¾¾</sup>¾¾,đíß½Ä,·,é'O,ÉŠm"Œ,ÌÀP²±Û,þ,đ•\Ž!,µ,Û,·D

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ì" ÙÀØÝ, p, ³, ê, é□F, Í'O%ñ, ì'l, ð□ì—p, μ, Û, ·

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,iŠef\_fCfAfO,â’íŮ,Å,.

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ì"ÙÀ<@"\,ð,Ø-ìßíþ°Äþ°Ëß°Žž,É,à"K—p,μ,½,ϕ,Æ,«,ÉÁ<sup>a</sup>,μ,Ü,·

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,±  
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Ú°À,ÉŽg—p,³,ê,Û,·C

Ò<sup>-3/4</sup>°<sup>1/4</sup>ρ<sup>3</sup>·ÝÄρ<sup>3</sup>,É·\Ž<sub>1</sub>,·,é·¶Žš(°ÖÝÄ),đ“ü—Í,μ,Û,·

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Ò<sup>-3/4</sup>°<sup>1/4</sup>p<sup>3</sup>·YÄp<sup>3</sup>,ÉŽw'è,μ,<sup>1/2</sup>•¶Žš—ñ,đ•\Ž<sub>i</sub>("]—),μ,Û,·

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,Æ,«,É,»,ê,ð•\Ž!,µ,Ü,·□D

ŠeŠ,İİ¼pÝ,đ[mm]P^Ê,ÅŽw'è,μ,Û,·D•—□“l,É—pŽt,ì[,©,ç,ìŽw'è•û-@,È,½,ß□C, ,ç,©,¶,ß^ó□  
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s"Ôt,đ^óü,·,é,©,Ç,ꝛ,©Žw'è,μ,Û,·D s"Ôt,íMagaDebug32,É•\Ži,<sup>3</sup>,ê,Ä,ç  
,é s"Ôt,<sup>a</sup>Žg,í,ê,Û,·D^óüŠŽn s,©,ç,ĩ"Á"Ö,Ä,í, ,è,Û,<sup>1</sup>,ñD



ŠeŠ,ì«ÝĀ,đŽw'è,μ,Ü,·DŠeŠ“Æ—š,Ā,·D

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Í`Àp°□Eì`Àp°•¶Žš,đ^ó□ü,·,é,©,Ç,κ,©Žw'è,μ,Û,·

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,©,đŽw'è,μ,Û,·DŽc"O,É,<sup>ª</sup>,çftfH[f}fbfg,Í'í'đ,Å,«,Û,<sup>1</sup>,ñD[uPage:v,É"è,μ,Ä,ç,Û,·D

Í`Àp°Eì`Àp°,É'Ç%Á,·,éfy[fW"Ó+ì^Ê'u,ðŽw'è,μ,Û,·D¶E'+%>E%E,ì,RŽí—p,©,ç'l'ð,μ,Ä,-  
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