

1.ŠT—v

ComWin ,í Windows ŠÂ«« ,ÉŒ† , ,Ä,ç,é,ÆŽv,í,ê,é
fLfff%ofNf^ ŽwŒü,ìVfFf<fvf[]fOf%of€ ,Å, ·[]B
f}fEfX'€[]i,É,,ç,x,Ä[]AfL[]f{[]fh'€[]i,íŽæ,è•t,« ,É,,ç,à,ì,Å,·,ª[]A
Œø—! "I,ÉfjfXf^f}fCfY,³,ê,½ŠÂ«« ,Å,í[]A
fL[]f{[]fh,í[]Å' ¬,ìfifyfŒ[]fVf†f" ,ð'ñ<Ÿ,µ,Ü,·[]B

ComWin ,í[]AŒ© ,½-Ú,í DOS fvf[]f"fvfg,ÉŽ— ,Ä,ç,Ü,·,ª[]A
[]š-ñ,ì'½,ç DOS fvf[]f"fvfg,Æ^á ,Á,Ä[]AWindows fvf[]fOf%of€ ,Å, ,è[]A
Windows ,ì—l[]X,ÈfT[]f[rX,ð—~ —p,µ,Ä[]A
ŠÂ«« ,ìŒü[]ä,ì,½,ß,ÉŽŸ,ì,æ,æ,È<@"\,ð'ñ<Ÿ,µ,Ü,·[]B

- (1) DOS[]AUNIXf%ofCfN,È"à•"fRf}f"fh,ìŽg—p
- (2) Windows fvf[]fOf%of€,ìf[][]f []L,Æ,µ,ÄŽg—p
- (3) fAfvfŠfP[]fVf†f" ,Æ,ìŠÖ~A•t<N" ®[]AfGfCfŠfAfX<@"\,Å<N" ®'€[]i,ð'Z[]k
- (4) f}f<f' fXfe[]f[gf[]f"fg[]Afofbf`ftf@fCf<,É,æ,é<N" ®^—[],ìfofbf`%oo»
- (5) f%ofCf"fgfffBfbfg[]AqfXfgfŠ<@"\[]Aftf@fCf<-¼•âŠ®<@"\
- (6) fhf%ofbfO[]•fhf[]fbfvfT[]f[]fo[][<@"\[]A'ì'ð•¶Žš—ñ<N" ®<@"\
- (7) ftf@f"fNfVf†f"fL[]f%of"f`ff[][<@"\
- (8) ftfHf"f[]g[]A"wŒi[]F,ðŸ'è[]A3-Df_fCfAf[]fO[]Afc[]f<fo[]L,ìŽg—p
- (9) fL[][Š,,è"- ,Ä,ì•ì[]X,ª%oÅ"\
- (10) %oß<Ž,ì[]o—í,ðŽQ[]Æ,Å,« ,é
- (11) Windows,ìshell,Æ,µ,ÄŽg,æ
- (12) fXf^[]f[gfAfbfv<@"\[]A<N" ®ŽžfìfvfVf†f" ,ÅŠÂ««[]®"ö
- (13) fŠf_fCfŒfNfg[]AfpfCfv<@"\,Å[] "î,ÈfefLfXfg[]^—[]
- (14) 'È[]Mf[][]fg,É'î%ož,µ[]Af}f<f`ft[]fU[][]AfŠf,[]f[gfAfNfZfX,ª%oÅ"\
- (15) ŠÂ««•ì[]"fT[]f[]fo[][<@"\
- (16) fEfCf<fX,ìŽ©ŒÈ[]f'f<@"\

,» ,ì'¼[] , "x,È<@"\,Æ,µ,ÄŽŸ,ì,æ,æ,È,à,ì,ª ,è,Ü,·[]B

- (1) ComWin ,ì API ,ðŽg—p,µ,ÄLfff%ofNf^ŒenfRf}f"fh,ðŠg'£,Å,« ,é
- (2) fRf}f"fhŽÀ[]s"•ª,ðŠg'£%oü—Ç,Å,« ,é
- (3) ft[]fU[]fCf"f^[]ftfF[]fX,ì'uŠ,ª%oÅ"\
- (4) DOSfRf}f"fh,ðComWin'<,ÅŽÀ[]s%oÅ"\
- (5) ANSIfGfXfP[]fVfV[]fPf"fX,ªŽg—p%oÅ"\

2. "••ftf@fCf<^è—

ComWin, ðŽg—p, ·, é, ½, ß, É, Í □ A

comwinx.exe, comwld.exe, comwld.pif, vcomwd.386,

comwin.dll, comwin.hlp, comwins.dll, comwtbar.dll,

comwtbar.dll

, ðŠeŽ ©, Ì Windows fffBfĀfNfgfŠ, © □ A Windows, ÌfvfXfef€fffBfĀfNfgfŠ, © □ A

fpfX, ÅŸ'è, ³, ê, ½fffBfĀfNfgfŠ, Ì, ç, , ê, ©, ÉfRfs □ [μ, Ä, ¾, ³, ç □ B

comwinx.exe (ComWin '[--f, fWf... □ [f<(•K □ {))

comwld.exe (DOSfRf}f“fh—pf □ □ [f_ □ [(•K □ {))

comwld.pif (DOSfRf}f“fh—pPIFftf@fCf<(•K □ {))

vcomwd.386 (DOSfRf}f“fh—p%o¼'zfffofCfXfhf%ofCfo(•K □ {))

comwinx.pif (DOSfRf}f“fh—pPIFftf@fCf<(Ver. 2.40 ĀŸŠ·))

comwin.dll (ComWin 't □ •DLL(•K □ {))

comwin.hlp (fIf“f%ofCf“fwf<fvftf@fCf<(•K □ {))

comwins.dll (•W □ €fRf}f“fh, ð'ñ<Ÿ, ·, éDLL(•K □ {))

comwreg.exe (ft □ [fU □ [“o~^—pf, fWf... □ [f<(•K □ {))

comwtbar.dll (fc □ [f<fo □ [—pfRf“fgf □ □ [f<(•K □ {))

comwin32.dll (ComWin32—pfAf_fvf^)

bhole.exe (32bitfSf~” fuf%ofbfNfz □ [f<)

comwin.ini (□ ÌŽÒ, ÌŠÅ««, Å, Ìiniftf@fCf<)

comwin.h (ComWinfAfvfŠ—pfwfbf_ □ [—á)

comwin.lib (comwin.dll—pfCf“f □ [fgf%ofCfuf%ofŠ □ A(“ñ“••))

comwin32.lib (comwin32.dll—pfCf“f □ [fgf%ofCfuf%ofŠ)

readme.txt (fhfLf..f □ [f“fgftf@fCf<)

install.bat (ŠÈ'P, ÈfCf“fXfg □ [f%o)

hello.c (K&R, ÉĀh^Ó, ð•\, · □ Å □ %o, Ìfvf □ [fOf%of€)

hello.def (hello.c, Ì'è<`ftf@fCf<)

hello.exe (hello.c, ÌŽÀ □ sf, fWf... □ [f<(ComWin•K—v))

sample1.c (MakeArgument, Gets, Fputs, ÌŽg—p—á)

sample1.def (sample1.c, Ì'è<`ftf@fCf<)

sample1.exe (sample1.c, ÌŽÀ □ sf, fWf... □ [f<(ComWin•K—v))

sample2.c (Windowsfvf □ [fOf%of€, ©, ç, Ìf □ [fbfZ □ [fW □ o—Í—á)

sample2.def (sample2.c, Ì'è<`ftf@fCf<)

sample2.exe (sample2.c, ĹŽÀ□sf, fWf...□[f<(ComWin•K—v))
sample3.c (Šg' £fRf}f“fh, đ' ñ<Ÿ, ·, éDLL—á)
sample3.def (sample3.c, ì'è<`ftf@fCf<)
sample3.dll (sample3.c, ìDLL(ComWin•K—v))
sample4.bat (ComWin—pfofbf`ftf@fCf<, ìfTf“fvf<)
sample4.cws (ComWin—pfofbf`ftf@fCf<, ìfTf“fvf<)
sample5.c ('[--f\ftfg, ì□ì□¬—á)
sampel5.def (sample5.c ,ì'è<`ftf@fCf<)
sample5.exe (sample5.c , ĹŽÀ□sf, fWf...□[f<(ComWin•K—v))
makefile (fTf“fvf<, đf□□[fN, ·, é, ½, ß, ìmakefile—á)
english.lzh (%opĀĒ”Ā, ìfA□[f]fCfu)

3. "®"if, [fh

ComWin, í, Q, Â, ì "®"if, [fh, ð"ð, !, Ä, ç, Ü, ·B

(1) fRf}f"fhf%oCf"f, [fh

DOS fvf[f"fvfg,Æ"¯—l,ÉfRf}f"fh,ð^ê[s"ü—í,·,é,±,Æ,ÅA

Windowsfvf[fOf%of€ADOSfvf[fOf%of€AWin32sfvf[fOf%of€A

ComWin, ì'ñ<ÿ,·,é"à"·fRf}f"fhAfobf`ftf@fCf<,ðŽÀ[s,μ,Ü,·B

f%ofCf"fGffBfbfgAfqfXfgfŠ[Aftf@fCf<-¼•âŠ®<@"\,ª, ,è,Ü,·B

fGfXfP[fvfV[fPf"fX,ð%oðŽB,·,é,ì,Å

PF,ì•ïXAfj[f\f^Ê'u•ïX,à[s,!,Ü,·B

(2) frf...[f[f, [fh

%oB<Ž, ìo—íCE<%oÊ,ðXfNf[f<fo[,ð—p,ç,ÄŽQAE,·,é,±,Æ,ª,Å,«,Ü,·B

%oB<Ž, ìo—íCE<%oÊ,ð500[s,Ü,Å<L%o¯,μA

ftf@fCf<•Û'¶,âfNfŠfbfvf{[fh"']'—,ª,Å,«,Ü,·B

@@@@"'ð,μ,½•¶Žš—ñ,ðŽÀ[s,μ,½,èAfhf[fbfvftf@fCf<%o»»,Å,«,Ü,·B

,±,ìf, [fh,Å,Ífjif...[fo[,ªoCE»,μAftfHf"fgAF,È,Ç,ð

ŠeŽ©, ìD,Ý,ì,à,ì,É•ïX,·,é<@"\,ð'ñ<ÿ,μ,Ü,·B

f, [fh∅,è'Ö,!,í[ESC]fL[,ð%oÿ,·,©AfVfXfef€fjif...[, ì

[menu Bar],É,æ,Á,Ä∅,è'Ö,!,é,±,Æ,ª,Å,«,Ü,·B

ŽQAE

fRf}f"fhfŠftf@fCf"fX

fjif...[fŠftf@fCf"fX

4. ^ê"Ê"l,ÈŽg—p•û-@

ComWin,đ<N"® , ,é,ÆDOS fvf[]f"fvfg,ÉŽ—,½%œ-Ê,ª, ,ç,í,ê,Û,·[]B
,Æ,è, ,! , []Adir ,Æ"ü—Í,μ,Ä,,¾,¾,ç[]B,Â,¬,É[]Awinmine,Æ"ü—Í,μ,Ä,,¾,¾,ç[]B
,Û,½[]AESCFL[],đ2x3%ň%ÿ,μ,Ä,Ý,Ä,,¾,¾,ç[]B
^ê"Ê"l,ÈŽg—p•û-@,[]fCf[][]fW,ª,Â,©,β,é,ÆŽv,ç,Û,·[]B

- (1) DOS[]AUNIXf%ofCfN,È"à"•fRf}f"fh,ìŽg—p
- (2) Windows fvf[]fOf%of€,ìf[][]f [][,Æ,μ,ÄŽg—p
- (3) fAfVfŠfP[]fVf#f" ,Æ,ìŠÖ~A•t<N"® []AfGfCfŠfAfX<@"\,Â<N"® '€[]ì,đ'Z[]k
- (4) f}f<f`fXfe[]f[]fgf[]f"fg[]Afofbf`ftf@fCf<,É,æ,é<N"® []^—[],ìfofbf`%»
- (5) f%ofCf"fgfffBfbfg[]AfaqXfgfŠ<@"\[]Aftf@fCf<-¼•âŠ®<@"\
- (6) fhf%ofbfO[]•fhf[]fbfvfT[]fo[]<@"\[]A'í'đ•¶Žš—ň<N"®<@"\
- (7) ftf@f"fNfVf#f"fL[]f%of"f`ff[]<@"\
- (8) ftfHf"fg[]A"wÆi[]F,đY'è[]A3-Df_fCfAf[]fO[]Afc[]f<fo[],ìŽg—p
- (9) fL[]f[Š,,è"-,Ä,ì•ï[]X,ª%oÂ"
- (10) %oβ<Ž,ì[]o—Í,đŽQ[]Æ,Â,«,é
- (11) Windows,ìshell,Æ,μ,ÄŽg,ª
- (12) fXf^[]f[]fgfAfbfv<@"\[]A<N"® Žžf[]fvfVf#f",ÂŠÂ<<[]®"ö
- (13) fŠf_fCfÆfNfg[]AfpfCfv<@"\,Â[] "î,ÈfefLfXfg[]^—[]
- (14) 'Ê[]Mf[][]fg,É'í%ož,μ[]Af}f<f`ft[]fU[][]AfŠf,[]f[]fgfAfNfZfX,ª%oÂ"
- (15) ŠÂ<<•ï"ft[]fo[]<@"\
- (16) fEfCf<fX,ìŽ©ÆÈ[]f'f<@"\

(1) DOS UNIX f%o fCfN, È“à•”fRf}f“fh, ÌŽg—p

DOS f%o fCfN, È“à•”fRf}f“fh

fTf|[]fg

cls, cd, exit, goto, md,

rd, rem, set, shift, type,

ver, a:(fhf%o fCfu•İ[]X)

<@“\,É[]\$CEÀ,ª, ,é,ªfTf|[]fg

break, copy, ctty, date, del,

dir, if, mode, path, pause,

prompt, ren, time, vol

UNIX f%o fCfN, È“à•”fRf}f“fh

<@“\,É[]\$CEÀ,ª, ,é,ªfTf|[]fg

alias, dirs, echo, fg, kill,

history, popd, ps, pushd, pwd,

unalias

NT f%o fCfN, È“à•”fRf}f“fh

<@“\,É[]\$CEÀ,ª, ,é,ªfTf|[]fg

start

“Á•Ê,É[]Ý, ¯, Ä, ç, éfRf}f“fh

help

c:\>help,Æ“ü—Í,·,é,±,Æ,Å[]AfTf|[]fgfRf}f“fh, ÌfŠfXfg, ð•\Ž![]B

Windows API CEn, ÌfRf}f“fh

PostMessage '¼[]Ú PostMessage API , ðCEÄ, Ô[]B

SendMessage '¼[]Ú SendMessage API , ðCEÄ, Ô[]B

SetWindowPos '¼[]Ú SetWindowPos API , ðCEÄ, Ô[]B

SetWindowText '¼[]Ú SetWindowText API , ðCEÄ, Ô[]B

win '¼[]Ú WinExec, LoadModule API , ðCEÄ, Ô[]B

reboot, restart MS-DOS, Windows , ð[]Ä<N“®,·,é[]B

shutdown Windows , ð[]l—^{1,3,1},é[]B

logoff Window NT , ©, çf[]fOfIf,·,é[]B(32frfbfg”Å, Ì, Ý)

(2) Windows fvf fOf %f€ ,lf f f_ ,Æ ,μ ,Ä — ~ — p
— á

> progman
> taskman
> notepad setup.txt

DOS fvf fOf %f€ ,à comwld.exe,comwld.pif,vcomwd.386
,ì<@“\,ð— ~ — p,μ ,ÄDOS f{fbfNfX“à,Å<N“ ® ,μ ,Ü ,· □B
Win32sfvf fOf %f€ ,à Ž © “ ® ” » • Ê ,μ ,Ä<N“ ® ,μ ,Ü ,· □B

’ □ ^ Ó
comwld.pif ,ÍŠeŽ © ,ÌŠÂ<< ,É , ,í ,¹ ,Ä □ Å “K%o» ,ðŽŽ ,Ý ,Ä , ,³/₄ ,³ ,¢ □B
(comwld.pif ,Í 386SX fNf %fX — p ,lf ^ fCf€ fXf %ofCfX’l ,ðŽw’è ,μ ,Ä ,¢
,Ü ,· ,ì ,Å □A

“ ® □ ì ,ÉŽx □ á ,^a , ,é □ ê □ ‡ ,Í dosprmt.pif ’ö“x ,lf ^ fCf€ fXf %ofCfX’l ,ð
Žw’è ,μ ,Ä , ,³/₄ ,³ ,¢ □BDOS/Vft □ [fU □ [,ì • û ,í □A
ftfHf“fg □ ACE³/₄ CEêf ,□ [fh ,à □ Å “K%o» ,μ ,Ä , ,³/₄ ,³ ,¢ □B)
DOS ,ì “à • ”fRf}f“fh ,ðŽg — p ,· , ,é □ ê □ ‡ ,í □A
c:\>command /c type autoexec.bat
c:\>command.com /c type autoexec.bat
,ì ,æ ,x ,ÉŽg — p ,μ ,Ä , ,³/₄ ,³ ,¢ □B

ŽQ □ Æ
fRf}f“fh ,ì — D □ æ □ ‡ ^ Ê

(3) fAfvfŠfP[fVf#f“ ,Æ,ìŠÖ~A•t<N“ ® AfGfCfŠfAfX<@”\,Å<N“ ® ‘€ì,ð’Zk

fAfvfŠfP[fVf#f“ ,Æ,ìŠÖ~A•t<N“ ®

```
ftf@fCf<f}f[fWff,ìufAfvfŠfP[fVf#f“ ,Æ,ìŠÖ~A•t, <@”\v,â  
“o~^ff[f^fx[fX reg.dat ,ÅŠÖ~A•t, ,ç,ê,½Šg’ÉŽq,ð,à,Âftf@fCf<,íA  
ftf@fCf<-¼,ð“ü—í,·,é,¾, ,ÅfAfvfŠfP[fVf#f“ ,ð<N“ ® ,μ,Û,·B
```

—á

```
c:\windows>readme.wri  
f%ofCfg,ð<N“ ® ,μAreadme.wri ,ðŠJ,«,Û,·B
```

(‘^Ó) fAfvfŠfP[fVf#f“ ,ìŠÖ~A•t, ,í win.ini [Extensions] ,Å
Žw’è,³,ê,Ä,ç,é,à,ì,ªAreg.dat ,ÅŠÖ~A•t, ,³,ê,Ä,ç,é,à,ì—Dæ,μ,Û,·B

fGfCfŠfAfX<@”\,Å<N“ ® ‘€ì,ð’Zk

```
fGfCfŠfAfX<@”\,ðŽg—p,·,é,±,Æ,ÅfAfvfŠfP[fVf#f“ ,ì<N“ ® ‘€ì,ð  
‘â•,É’Zk,Å,«,Û,·Balias, unalias fRf}f“fh,ð—~—p,μ,Ä,¾,3,çB
```

—á

```
c:\>alias word c:\word5\winword  
word ,Æ,ç,ª•¶Žš—ñ,Å winword ,ð<N“ ® ,Å,«,Û,·B  
c:\>alias man "write c:\windows\readme.wri"  
man ,Æ“ü—í,·,é,¾, ,Å readme.wri ,ð•Ž!,Å,«,Û,·B  
c:\>alias ls "dir %1 /w"  
ls *.c ,ª dir *.c /w ,Æ“WŠJ,3,ê,Û,·B
```

(4) f}f<f`fXfe[]fgf[]f"fg[]Afofbf`ftf@fCf<,É,æ,é<N"®^—[],lfofbf`%»

f}f<f`fXfe[]fgf[]f"fg

```
fRf}f"fhf%ofCf" ,Éf}f<f`fXfe[]fgf[]f"fg,ì<L[]q,ª,Å,«,Ü,·[]B
ŠefRf}f"fh,ð[]u ;[]v,Å<æ[]Ø,Á,Ä,,¾,³,ç[]B
('; ,ì'O,É<ó"" ,ª•K—v,Å,·[]B)
```

—á

```
c:\>cd c:\bmpdata ;pbrush
fyfCf"fgfuf%ofV,ì[]ì<ÆfffBfÇEfNfgfŠ,ª c:\bmpdata ,É,È,è,Ü,·[]B
,Ü,½ alias fRf}f"fh,Æ•¹—p,·,é,Æ•Ö—~,Å,·[]B
```

—á

```
c:\>alias jxw "cd c:\jslib ;c:\tarowin\jxw"
c:\>jxw
JXW ŠÖ~A,ìfffBfÇEfNfgfŠ,ÉPATH,ª[]Ý'è,³,ê,Ä,ç,È,-
,Ä,à<N"®,Å,«,Ü,·[]B
c:\>alias gv "pushd c:\bmpdata ; c:\gv\gv ;popd"
c:\>gv
ComWin %»æ-É,ìjffÇf"fgfffBfÇEfNfgfŠ,ð•ï[]X,¹,ª,É[]A
gv ,ð"K[]Ø,È[]ì<ÆfffBfÇEfNfgfŠ,Å<N"®,Å,«,Ü,·[]B
```

f}f<f`ftf@fCf<

```
ComWin ,í[]A'Ê[]í,lfofbf`ftf@fCf<,ì^ê[]s-Ú,É "REM BAT FOR COMWIN" ,Æ
<L[]q,³,ê,Ä,ç,éfofbf`ftf@fCf<,ð ComWin —p,lfofbf`ftf@fCf<,Æ,µ,Ä
^—[],µ,Ü,·[]BMS-DOS 3.XX []€<',ì•¶-@,ð,à,¿,Ü,·[]B
(f}f<f`^—[],í Break(Ctrl+Pause)[]ASTOP ,Å'âŽ~,µ,Ü,·[]B)
fGfCfŠfAfX<@"\,ÅŽw'è,Å,«,È,ç,æ,¸,È'·,³,ðŽ[],Åfofbf`^—[],í
fofbf`ftf@fCf<,Å<L[]q,·,é,Æ•Ö—~,Å,·[]B
%0,%1,%2, ... %9 "™ ,ì^ø[]",ðŽg—p,Å,«,Ü,·[]B
%PATH% ,ì,æ,¸,ÉŠÅ<«•ï[]",ð%,ÅŠ‡,é,ÆŠÅ<«•ï[]",ªŽQ[]Æ,Å,«,Ü,·[]B
if, goto, shift ,ªŽg—p%»Å"\,Å,·[]B
```

if ,lŽg—p-@

```
if [not] exist filename command
```

```
if [not] "string1" == "string2" command
```

—á

```
c:\>type word.bat
```

```
REM BAT FOR COMWIN <---- ,±,ê,ð^ê□s-Ú,É<L□q,·,é,¾,¯,Å,·□B
```

```
rem WORD ,ì<N“®—á
```

```
echo WORD ,ð<N“® ,μ,Û,·□B
```

```
pushd c:\word5\sample
```

```
c:\word5\winword %1
```

```
popd
```

```
c:\>word readme.doc
```

```
<N“®Žžf|fvfVf†f“,Æfofbf`ftf@fCf<,ð'g,Ý□†,í,¹,é,±,Æ,É,æ,è
```

```
ComWin ,ðfXfNfŠfVfgfGf“fWf“,Æ,μ,Ä—~—p,·,é,±,Æ,ª%oÂ“\,É,È,è,Û,·□B
```

—á

```
c:\>type script.bat
```

```
REM BAT FOR COMWIN
```

```
echo off
```

```
notepad test.c ;fg
```

```
cl test.c ;fg
```

```
test
```

```
exit /p
```

```
c:\>comwinx /c script.bat
```

```
fofbf`ftf@fCf<,ì•¶-@
```

```
MS-DOS 3.XX ,É□€ ,¶,Û,·,ª□A^È%oº,ì“_ ,É^á,¢,ª, ,è,Û,·□B
```

```
1) echo fRf}f“fh,ì^ø□”,í,·,×,Ä•¶Žš—ñ,Æ,μ,Ä%oðŽß,³,é□A
```

```
on, off f|fvfVf†f“,í, ,è,Û,¹,ñ□B
```

```
2) errorlevel ,ìŠT”O,í, ,è,Û,¹,ñ□B
```

```
(Windows□ã,ÅfGf~f...f□□[fg,·,é,ì,í□¢“i,¾,Æ,¢,ªŽ-□î,à, ,è,Û,·□B)
```

```
3) •¶Žš—ñ,ð”äŠr,·,é□ê□†□A
```

```
•¶Žš—ñ,í•K, ,□u"□v,ÅŠ†,Á,Ä,¾,³,¢□B
```

```
MS-DOS 5.XX ,Æ,ì'Š^á“_
```

```
1) @echo off ,ì,æ,ª,È□u@□v,ìŽg—p,í,Å,« ,Û,¹,ñ□B
```

```
alias @echo rem ,Æ,·,ê,î□A@echo □s,í-³Ž<,Å,« ,Û,·□B
```

'¼,ìê‡,ÍŠeŽ©H•v,μ,Ä,Ý,Ä,,¾,¾,¢B
2) call ,đŽg—p,·,éê‡AZÿ,ì,æ,κ,È'î%žô,â, ,è,Ü,·B
alias call "comwinx /c"

Ú,μ,,Í sample4.bat ,đŽQl,É,μ,Ä,,¾,¾,¢B

(5) f%ofCf“fGfffBfbfg□AfqfXfgfŠ<@”\□Aftf@fCf<-¼•âŠ®<@”\

f%ofCf“fGfffBfbfg□AfqfXfgfŠ<@”\

fj□[fj<fL□[,đ‘€□i,·,é,±,Æ,Å‘ÅŒ®□”,đŒ,·,ç,¹,Û,·□B
(fqfXfgfŠ□s,í10□s,Û,Å)

ftf@fCf<-¼•âŠ®<@”\

ftf@fCf<-¼,đ“r’t,Û,Å“ü—í,μ□A“Á‘è,ìfL□[fRf“fsf□[fVf#f“,đ
□s,π,±,Æ,Åfj□[fj<^Ê‘u,Û,Å,ì“ü—í•¶Žš—ñ,©,ç^ê‘v,·,éftf@fCf<-¼,đ
'T,μ•âŠ®,μ,Û,·□B□fCf<fhfj□[fh,àŽg—p,Å,«,Û,·□B
(ftf@fCf<-¼•âŠ®<@”\,ìfAfNfefBfuŽž,ìfj□[fj<Œ`□ó,ª•ï,í,è,Û,·□B)

fjfbfg□Afrfs□[□Afy□[fXfg<@”\

fNfŠfbfjvf{□[fh,Æ,ìff□[f^,ì,â,èŽæ,è,đ□s,ì,Û,·□B
,»,ê,¼,ê Ctrl + X, Ctrl + C, Ctrl + V ,ÅŽÀ□s,Å,«,Û,·□B
,½,¾,μ□A•¶Žš—ñ,ª‘đ,³,ê,Ä,ç,È,ç□ê□‡,í Ctrl + X, Ctrl + C ,í□A
^ê”Ê•¶Žš,Æ,μ,Ä^μ,í,è,Û,·□B
(Windows 3.0 ,Æ,ìŒÝŠ·,ì,½,β Shift+Del, Ctrl+Ins, Shift+Ins ,à
Žg—p%oÅ”\,Å,·□B)

ŠÅ<«•ï”ŽQ□Æ<@”\

echo %path% ,Æ,·,ê,î□ApathŠÅ<«•ï”,ÉŠY“-·,·,é•¶Žš—ñ,É
•iš·,³,ê,Û,·□B

fj□[fj<^Ê‘u%oE^Ú“® □”□ACtrl+L

fj□[fj<^Ê‘u□¶^Ú“® □©

fj□[fj<^Ê‘u□s“ª Ctrl+HOME

fj□[fj<^Ê‘u□s-- Ctrl+END

fj□[fj<^Ê‘u’¼‘O□í□œ BS□ACtrl+H

fj□[fj<^Ê‘u□í□œ DEL

□s“ª,Û,Å□í□œ Ctrl+BS

□s--,Û,Å□í□œ Ctrl+DEL

fj□[fj<^Ê‘u’OŒó•â □ª□ACtrl+P

fj□[fj<^Ê‘u’ŠŸŒó•â □«□ACtrl+N

ftf@fCf<-¼•âŠ®‘OŒó•â Ctrl+□ª□ACtrl+K

ftf@fCf<-¼•âš®ŽŸĚó•â Ctrl+␣«␣ACtrl+J
 •ŸŽš—ň'í'ð SHIFT + ␣" or ␣©
 fJfbfg Ctrl + X
 fRfs␣[Ctrl + C
 fy␣[fXfg Ctrl + P

ComWin ,lfRf}f“fhf%ofCf“ ,íŽŸ,ì•ŸŽš,ð“ÁŽê•ŸŽš,Æ,μ,Ä^μ,ϕ,Ü,·␣B
 >, < fšf_fCfĚfNfg•ŸŽš
 | fpfCfv•ŸŽš
 ; fRf}f“fhfZfpfĚ␣[f^('¼'O,É<ó"•ŸŽš,ª•K—v)
 " ^ø—p•,,
 % ŠÂ«•Ī␣" ^ø—p•,,
 ^ '¼Ěã,ì“ÁŽê•ŸŽš,ì<@" \,ð␣Á,·

ŽQ␣Æ “®␣if,␣[fh

(6) fhf%fbfO□•fhf□fbfvfT□[fo□[<@”\□A’I’ð•¶Žš—ñ<N“®<@”\
frf...□[f□□[fh,Á’I’ð,μ,½•¶Žš—ñ,ðf}fEfX,Áfhf%fbfO,; ,é,±,Æ,Á□A
fhf□fbfvftf@fCf<%o» ,; ,é,±,Æ,ª,Á,« ,Ü ,·□B
,Ü,½’I’ð•¶Žš—ñ,ðf_fuf<fNfŠfbfN,; ,é,±,Æ,Á□A
fvf□fOf%of€ ,ð<N“® ,Á,« ,Ü ,·□B

(€ë’€□ì,É,æ,éfgf%ofuf<,ð”ð, ¯ ,é,½,β□A’I’ð”í’í,ª•;□” ,ì•¶Žš—ñ,É
,í,½,Á,Ä,ç,é□ê□‡,í’I’ð”í’í†,Á^ê”Ô□¶□ã,ì•¶Žš—ñ,ì,Ý,ð
‘î□û,É,μ,Ä,ç,Ü ,·□B
‘I’ð,μ,½•¶Žš—ñ,íjff€f”fgfffBf€fNfgfŠ,ìftf@fCf<,Æ,μ,Ä
fhf%fbfN□•fhf□fbfv□^—□,μ,Ü ,·,ì,Á□A^Ó□} ,μ,½€<%oÊ,Æ^á,‡
□ê□‡,à , ,è,Ü ,·□B)

(7) ftf@f“fNfVf#“fL[]f%of“f`ff[]<@”\

ftf@f“fNfVf#“fL[][,ÉfRf}}f“fh•¶Žš—ñ,ðŽw’è,·,é,±,Æ,Å
[]#Æv48ÆÂ,lfRf}}f“fh,ðf{f^f“%oÿ%oo[]Af}}fEfXfNfŠfbfN,Å
<N“® ,·,é,±,Æ,ª%oÂ”\,É,È,è,Û,·[]B

“o~^•û-@,í

[]uf[]fj...[]fo[][]v[]“[]uflfvfVf#“[] []“[]uf%of“f`ff[][]v
,Å[]s,ç,Û,·[]B
,Û,½[]A

[]uf[]fj...[]fo[][]v[]“[]uflfvfVf#“[]v[]“[]uŠÂ<«[]v[]“[]uftf@f“fNfVf#“fL[][]v
,Åftf@f“fNfVf#“fL[][,ð•\Ž!,Å,«,Û,·[]B

“o~^,·,éfRf}}f“fh,í ComWin ,ª%oðŽš,Å,«,éfRf}}f“fh,È,ç,È,ñ,Å,à%oÂ”\
,Å,·[]B

—á,í,î F1 ,É notepad ,ð“o~^,·,é,Æ

F1,ð%oÿ%oo,µ,½,è[]Af}}fEfXfNfŠfbfN,·,é,±,Æ,Å notepad ,ðŽÀ[]s,µ,Û,·[]B
,±,ì,Æ,«,É[]AfRf}}f“fhf%ofCf“ ,â’l’ð•¶Žš—ñ,É readme.txt ,Æ,ç,ª•¶Žš—

ñ,^a

‘¶[]Ý,µ,Ä,ç,ê,î[]Anotepad readme.txt ,ÆÆ<[]#,µ,ÄŽÀ[]s,µ,Û,·[]B

,Û,½[]Aftf@f“fNfVf#“fL[]fo[][,ìŠef{f^f“ ,í

fhf%ofbfO[]•fhf[]fbvfNf%ofCfAf“fg,É,È,Á,Ä,“ ,è[]A

ComWin ,âftf@fCf<f}}f[][]fWff,© ,çftf@fCf<-¼,ðfhf[]fbfv,·,é,±,Æ,Å[]A

,» ,ê,ç,ð^ø” ,Æ,µ,Ä[]A“o~^fRf}}f“fh,ðŽÀ[]s,µ,Û,·[]B

Shift fL[]["™ ,ð%oÿ%oo,µ,½[]ó’Ô,Å<N“® ,·,é,Æ•\Ž!,^a—

[],ê,é[]ê[]#,^a , ,è,Û,·,ª[]A

ŠÂ<«,É^«%oe<ç,ð<y,Ú,·,±,Æ,í , ,è,Û,¹,ñ[]B

ŽQ[]Æ Launcher f[]fj...[]

(8) ftfHf“fgA”wCEiF,đY’èA3-Df_fCfAfO Afc[f<fo[,iŽg—p
ESCfL[,đ%Ÿ,·,±,Æ,Åfjff...[fo[,ºoCE»,μ,Ü,·B
ftfHf“fgA”wCEiF“A<N“®ŽžfTfCfY,đD,Ý,ì,à,ì,É•İ,!,é,±,Æ,º,Å,«,Ü,·B
File->Save Setting ,ÅCE»Y,ìY’è,đ•U’¶,Å,«,Ü,·B
(Windows,iŽd—lã’tŠÔF,í¼,ìfF,É’u,«Š,!,ç,é,éê¶,º, ,è,Ü,·B)

,Ü,½f_fCfAfO,đ3-D%»·,éDLL,É’Î%ž,μ,Ä,ç,Ü,·B
ctl3d.dll,ctl3dv2.dll,đ,“Ž,ç,ì•û,í ComWin ,Å,à,²Žg—p,,¾,³,çB
ComWin ,iŠef_fCfAfO,º 3-D %»μ,Ü,·B

fjfbfg•fy[fXfgAf,[fh•İX Afwf<fvf{f^f“,ì,Ä,ç,½
Windows 95 f%oCfN,Èfc[f<fo[,iŽg—p,º%Å“\,Å,·B

fLffffVf¶f“fo[,đÁ,μ,½,èA¶f} [fWf“,đ,Æ,é,±,Æ,º%Å“\,Å,·B

ŽQÆ fjjf...[fŠftf@fCf“fX Acomwtbar.dll

(9) fL[Š,,è“-,Ä,ì•ïX,â%oÂ”\
 f[]fj...[]fo[], ©,ç[]ufL[Š,,è“-,Äv,đ'í'đ,·,é,Æ
 Še'€[]ì,É'î,μ,Äf+[]fU[],,â“ÆŽ©,ìfL[],đ
 Š,,è“-,Ä,é,±,Æ,â%oÂ”\,É,È,è,Û,·[]B
 Še'€[]ì,É'î,μ,Ä[]A—D[]æfL[[]ACEÅ'èfL[[]A•â[]•fL[[],ì
 3,Â,ìfL[],đŠ,,è“-,Ä,é,±,Æ,â%oÂ”\,Å,·[]B
 “~Ží,ìfL[Š,,è“-,Ä,â[]s,í,ê,½[]ê[]#[]A
 —D[]æ[]ACEÅ'è[]A•â[]•,ì[]#”Ô,É—D[]æ,³,ê,Û,·[]B

ŽQ[]Æ f[]fj...[]fŠftf@f[]f“fX

(10) %oB<Ž,ìo—í,đŽQAE,Å,«,é
ESCfL[,đ%oÿ,·,±,Æ,Å%oB<Ž,ìo—í,đŽQAE,Å,«,Ü,·B
,Ü,½File->Save Log ,Å%oB<Ž,ìo—í,đftj@fCf<,É,·,é,±,Æ,³,Å,«,Ü,·B
Edit->Copy,Å'í'đ"í^í,đfNfŠfbvf{[fh,É"']'—,Å,«,Ü,·B
(%oB<Ž,ìo—í,í500s,Ü,Å)

ŽQAE “®if,fh

(11) Windows, shell, µ, ÄŽg, x

menu Bar --> Option --> environment ,lf_fCfAf□fO,Å
□uUse as the shell□v,lf`fFfbfNf{fbfNfX,đ'ı'đ□ó'Ô,É,·,é,Æ
fVfFf<,Æ,µ,Ä system.ini ,É“o~^,³,ê,Ü,·□B
,Ü,½□Af`fFfbfNf{fbfNfX,đ”ñ'ı'đ□ó'Ô,É,·,é,Æ
'¼'O,ÉŽg—p,³,ê,Ä,ç,½fVfFf<,É-ß,µ,Ü,·□B

'□^Ó Žè□',«,â'¼,lf\ftfg,Å system.ini, comwin.ini ,đ□',«Š·,ı,½□ê□‡
'¼'O,lfVfFf<,ª”½%of,³,ê,È,ç□ê□‡,ª, ,è,Ü,·□B

(Žè□',«•ı□X,ı□ê□‡)

system.ini,ı[boot] shell=progman.exe,ı
<L□q,đshell=comwinx.exe,Æ•ı□X,·,ê,ÎWindows,lfVfFf<,Æ,µ,Ä—~—
p,Å,«,Ü,·□B

fVfFf<,Æ,µ,ÄŽg—p,·,é□ê□‡
comwinx.exe comwld.exe comwld.pif vcomwd.386 comwin.dll
comwin.hlp comwins.dll comwreg.exe comwtbar.dll ,đ
•K, ^È%°□,ıfffBfçfNfgfŠ,ı,ç,ê,©,É'u,ç,Ä,,¾,³,ç□B
windowsfffBfçfNfgfŠ
windowsfVfXfefçfffBfçfNfgfŠ
ŠÅ<«•ı□” PATH ,ÅŽw'è,³,ê,½fffBfçfNfgfŠ

('□^Ó),È,ñ,ç,©,ıfgf%ofuf<,ª”□¶,µ,Ä Windows ,ª<N“® ,Å,«,È,-
,È,Á,½,Æ,«,ı□A

system.ini ,ı [boot] shell= ,ı<L□q,đ□Ashell=progman.exe
,Æ,·,ê,ı□A
□Å^«,ıŽ-'Ô,ı,³,¯,ç,ê,Ü,·□B

(12) fXf^ [fgfAfbfv<@"\A<N" ® ŽžfIfvfVf†f" ,ÅŠÅ<<® "ö

<N" ® ŽžfIfvfVf†f"

comwinx /t fLfffvfVf†f"-¼

,ÆŽw'è,·,é,±,Æ,Å Acomwinx.exe ,lLfffvfVf†f"-¼,đ

•i X,·,é,±,Æ,ª%oÅ"\,Å,· B

•i " ,l ComWin ,đ<æ•Ê,µ,½,†,Æ,« ,ÉŽw'è,µ,Ä,,¾,¾,† B

comwinx /e:"Žš

,ÆŽw'è,·,é,±,Æ,Å AComWin "à,ÅŽg—p,·,éŠÅ<<•i " ,l,½,β,ì—ì^æ,đ

Šm•Û,µ,Û,· BŠù'è'l,í 1024 ,Å,· B

comwinx /c fRf}f"fh-¼ [fIfvfVf†f"]

,ÆŽw'è,·,é,±,Æ,Å ComWin ,l<N" ® Žž,ÉfRf}f"fh,đŽÀ s,µ,Û,· B

ComWin ,l%ođŽβ,Å,« ,éfRf}f"fh,Å ,ê,î,ç,ì,æ,κ,È•¶Žš—ñ,Å,à%oÅ"\,Å,· B

(/c fIfvfVf†f" ,í•K, ,ŠefIfvfVf†f" ,l ÅÆã,ÉŽw'è,µ,Ä,,¾,¾,† B)

Windows ,lVfFf<,Æ,µ,Ä—~—p,·,éêê† A

shell=comwinx.exe /c cwstart.bat ; <--- Æë,è

ã<L,ì,æ,κ,ÉfIfvfVf†f" ,đŽw'è,Å,« ,Û,¹,ñ B

,±,ìêê†¶fj... [,©,ç Option --> Arguments ,đ'l'đ,µ,Ä,,¾,¾,† B

fefLfXfgf{fbfNfX,É [/e:2048 /c cwstart.bat] ,l,æ,κ,É"ü—í,·,é,î A

ComWin ,l<N" ® Žž,lRf}f"fh,Æ,µ,Ä%ođŽβ,µ,Û,· B

comwin.ini ,lŽŸ,ì,æ,κ,É X V,³,ê,Û,· B

—á

[StartUp]

Arguments=/e:2048 /c cwstart.bat

ã<L,ìŽw'è,íVfFf<,Æ,µ,ÄŽg—p,·,éêê†,ì,Ý—LÆø,Å,· B

fXf^ [fgfAfbfv<@"\

fVfFf<,Æ,µ,ÄŽg—p,µ,½êê†fXf^ [fgfAfbfv<@"\,ª—~—p,Å,« ,Û,· B

comwin.ini,ÉŽŸ,ì,æ,κ,É<L q,µ,Ä,,¾,¾,† B

[StartUp]

<<N“ ® ,·,éf,fWf... [f<-¼ [iflfvfVf#f“Žw’è%oÂ) = <N“ ® [ó’Ô>

—á)

[StarUp]

winclock=1

winfile=6

,ìĚ`Ž® ,Å“ü—í,μ,Ä,,¾,³,č□B

<N“ ® [ó’Ô,íŽŸ,ì□”’l,ðŽw’è,Å,«,Ü,·□B

0 (SW_HIDE fEfBf“fhfE,ì”ñ•\Ž!)

1 (SW_SHOWNORMAL fEfBf“fhfE,ðfAfNfefBfu %o»,μĚ³,ì [ó’Ô,Å•œĚ³•\Ž!)

2 (SW_SHOWMINIMIZED fEfBf“fhfE,ðfAfNfefBfu%o»,μfAfCfRf“•\Ž!)

3 (SW_SHOWMAXIMIZED fEfBf“fhfE,ðfAfNfefBfu%o»,μ [Å’â %o»fEfBf“fhfE•\Ž!)

4 (SW_SHOWNOACTIVATE fEfBf“fhfE,ð’O,ì•\Ž! [ó’Ô,Å•\Ž!)

5 (SW_SHOW fEfBf“fhfE,ðfAfNfefBfu%o»,μĚ» [Ý,ì^Ê’u [EfTfCfY,Å•\Ž!)

6 (SW_MINIMIZE fEfBf“fhfE,ìfAfCfRf“•\Ž!)

7 (SW_SHOWMINNOACTIVATE fEfBf“fhfE,ðfAfCfRf“ ,Å•\Ž!)

8 (SW_SHOWNA fEfBf“fhfE,ìĚ» [Ý [ó’Ô,Å

9 (SW_RESTORE SW_SHOWNORMAL,Æ“˘,¶)

[Žš,ª½,,Ä•s•Ö,ð<,č,é,ÆŽv,č,Ü,·,ª□A

,±,ì [Žš,í WinExec API ,É“n,·æ2^ø,« [” ,» ,ì,à,ì,Å,·□B

’Ê [í,íŽŸ,ì3,Å,μ,©•K—v,È,č,ÆŽv,č,Ü,·□B

•W [€<N“ ® winfile=1

[Å’â%o»<N“ ® winfile=3

fAfCfRf“%o»<N“ ® winfile=6

fXf^ [[fgfAfbfv<@”\,í%oß<Ž,Æ,ìĚÝŠ• [«,ì,½,ß,É—p^Ó,μ,Ä, ,è,Ü,·□B

fofbf fXfNfŠfvg,ìŽg—p,Å,«,é<N“ ® ŽžfIfvfVf#f“ ,ð,²Žg—p,,¾,³,č□B

ŽQ [Æ Windows,ìshell,Æ,μ,ÄŽg,ᄁ

(13) fšf_fCfCEfNfg AfpfCfv<@“\,Å_“î,ÈfefLfXfg^—

fšf_fCfCEfNfg AfpfCfv,Æ,ç,æ—pCEê,í•W€“üo—í<@“\,ì<ì—á,Æ,ç,Ä
Žg—p,³,ê,é—pCEê,Å,·BWindows ,É,í DOS ,â UNIX ,Åd—v,È<@“\
,Æ,È,Á,Ä,ç,é

- W€“üo—í,đftf[f,·,é<@“\,đŽ,Á,½fvfFf<,í‘ŋŸ,μ,Ü,¹,ñB
- W€“üo—í<@“\,ì‘f°,ç,μ,³,í‘½,,ì•ŋCE£,Åq,x,ç,ê,“ ,èA
, ,ç,½,β,Äà-¾,·,é•K—v,í,È,ç,ÆŽv,ç,Ü,·,ªA
,±,ìê,ÅAZ,,ª<²,μ,½,ç,±,Æ,íŽÿ,ì“_,Å,·B

u•W€“üo—í,íf[f^[,ì“üo‘•’u,đ’ŠŮ%»,,·,é,±,Æ,ÅA
fvfOf%of}[Af+[fU[,đ-â,í,,Aff[f^[,»,,ì,à,ì,ÉA
^ÓŽ˘,đW’t,³,¹,éBv,Æ,ç,æ,±,Æ,Å,·B

fvfOf%of}[,í—]ª,È,±,Æ,đ[,|,,A[f^,Éff[f^[%ÁH,ìfAf<fSfŠfYf€,đ
,Ç<,Å,«,Ü,·,μAft+[fU[,,í—]ª,È‘€ì,đ,¹,,Éf^,É•K—v,Èff[f^[,đ
Žæ“¾,·,é,±,Æ,ª,Å,«,Ü,·B

,»,±,ÅAComWin ,í Windows ä,É•W€“üo—í<@“\,đŽÀCE»,μ,Ü,μ,½B
Žg—p-@,íŠÈ’P,ÅADOS ,â UNIX ,Å,““éö,Ý,ì ">", ">>", "<", "|", đ
—p,ç,é,¾,˘,Å,·B

,Ü,½‘í%žf\ftfg,ì,è•û,àŠÈ’P,ÅAComWin ,ì‘ñ<ÿ,μ,Ä,ç,é API
Puts, Gets, Fputs, Fgets ,đ DOS f\ftfg,đì,éŠ’Šo,ÅŽg—p,·,é,îA
,»,ìŽž“_,Å•W€“üo—íftf[f\ftfg (ftfBf<f^[]),ª,Å,«, ,ª,è,Ü,·B
,à,ž,è,ñAComWin ,ì API ,đ—p,ç,Äì,ç,ê,½ Ver. 2.01 CEöŠ’O,ìf\ftfg,à
ComWin Ver. 2.01 ^Èä,đ—p,ç,é,±,Æ,Å•W€“üo—í‘í%ž,É,È,è,Ü,·B

‘^Ó

- a)•W€“üo—í,ífefLfXfgftf@fCf<,ì,Ý,đ‘îŮ,É,μ,Ä,ç,Ü,·B
- b)DOSfRf}f“fh,Æ•¹—p,Å,«,È,ç,½,βA
ffftfHf<fg,ìŸ‘è,Å,íŽg—p•s%Å,É,μ,Ä,ç,Ü,·B
Žg—p,·,é,½,β,É,íAufjff...[fo[[]v ---> []uflvfVf#f“[]v --->
[]uŠÂ<<[]v ---> []uftfBf<f^,đŽg—p[]v ,ìf fFbfN,đ ON ,É,μ,Ä,,¾,³,çB
,±,ìê[]#ADOSfRf}f“fh,É‘î,μ,Äfšf_fCfCEfNfg“™ ,í
[]ufind "abc" *.txt ^> find.lst[]v“™ ,Ås,|,Ü,·B

c) "CON", "PRN", "AUX" ,Æ,ç,Á,½fXfyfVfff<ftf@fCf<,ÍŽg—p,Å,«,Ü,¹,ñ□B
Æë,Á,ÄŽg—p,·,é,Æ□AfvfXfef€fnf“fO,đ^ø,«<N,±,μ,Ü,·,ì,Å'□^Ó,μ,Ä,-
,¾,³,ç□B

d) "NUL" ftf@fCf<,í—~—p,Å,«,Ü,·,ì,Å□Afofbf`ftf@fCf<,ì,È,©,Å
—]•^a,Èf□fbfZ□[fW,đ□o—í,μ,½,,È,ç□ê□†“™□A—~—p,μ,Ä,,¾,³,ç□B

(14) 'Ê□Mf|□[fg,É'î%ž,μ□Af}f<f`ft□[fU□[□AfŠf,□[fgfAfNfZfX,ª%oÂ"\

ComWin ,í cttý fRf}f“fh,ðŽg—p,·,é,±,Æ,É,æ,è□A
“ü□o—ÍfffofCfX,ð'Ê□Mf|□[fg,É□Ø,è'Ö,¡,é,±,Æ,ª,Å,«,Ü,·□B
fRf“fsf...□[f^□[,ð•i□”Žg—p,ì•û,í□A
fŠf,□[fg,©,ç RS-232C fCf“f^□[ftfF□[fX,ðœo—R,μ,Ä□A
ComWin ,ì<N“® ,μ,Ä,ç,ézfXfgf}fVf“ ,ì
fn□[fhfEfFfAfŠf□[fX(CPU□Af□f,fŠ□AfffBfXfn“™),ð—~—p,Å,«,Ü,·□B
—~—p,·,é,½,β,É,ÍfŠf,□[fg'α,Å'Ê□Mf|ftfg,ð□€”ð,μ,Ä,,¾,³,ç□B
'Ê□Mf|□[fg,ì□Ý'è,í mode fRf}f“fh,Å□Ý'è,μ,½,à,ì,É, ,í,¹,
f□□[fjf<fGfR□[ON ,ì□ó'Ô,ÅŽg—p,μ,Ä,,¾,³,ç□B

,±,ì<@“\,ð—~—p,·,é,±,Æ,Å Windows ,ì GUI •”•ª^ÈŠO,ÌfT□[frfX,í
fŠf,□[fg'α,Å—~—p%oÂ“\,É,È,è,Ü,·□B
—á,¡,ì□A286f}fVf“ ,ðŽg—p,ì•û,ª Windows f}fVf“ ,ÉfAfNfZfX,·,é,±,Æ,Å
Windows ,ì f□f,fŠŠÇ—□“™ ,ÌfT□[frfX,ð—~—p,Å,«,Ü,·□B

,Ü,½fŠf,□[fg,©,çzfXfgf}fVf“ ,ð□§œä,·,é,±,Æ,Å Windows fvfxfef€,Å
f}f<f`ft□[fU□[ŠÂ«« ,ðŽÀœ»,Å,«,Ü,·□B('¼□I,ªŽg—p't,ÌzfXfgf}fVf“ ,ð
fŠf,□[fgfVfffbfgf_fEf“ ,·,é,Æ,ç,α'É%oð,È—£,è<Æ,àŽÀœ»,Å,«,Ü,·□B)

,½,¾□ACE»ŽÀ-Ê,Æ,μ,Ä,í,Ü,¾,Ü,¾^À'è□« ,Éœ‡,¯ ,é,ì,Å□A
,¯—V,Ñ'ö“x,É—¯ ,β,Ä,¯ ,ç,Ä,,¾,³,ç□B

,Ü,½^È'O,Ìfo□[fWf‡f“ ,Åf,fff€'î%ž,Æ□',« ,Ü,μ,½,ª□A
œ»fo□[fWf‡f“ ,Å,Íf,fff€,É,í'î%ž,μ,Ä,¯ ,è,Ü,¹,ñ□B
,¯~I,Ñ,·,é,Æ“~Žž,É□;œă,ì%oÛ'è,Æ,³,¹,Ä,ç,½,¾,« ,Ü,·□B

ŽQ□Æ cttý, mode

(15) ŠĀ«•ï”fT[f_[]<@”\

, ±, ±, Ā, ìuŠĀ«•ï”fT[f_[]<@”\, Ā, íuŽqvf[]fZfX, ÉŠĀ«•ï” , ð
Āp[]³, Ā, «, éfvf[]fOf%of€f_[]<@”\, Ā, ç, æ^Ó-; , Ā, ·[]B
DOS , Ā, ì command.com , É’Š“- , ·, é<@”\, Ā, ç, Ā, , ¾, ¾, ç[]B
DOS , â UNIX , ìçŠE, Ā, í, ², ·[]Ê, ì<@”\, È, ì, Ā, ·, æ[]A
Windows , ìçŠE, É, ±, ì<@”\, ðfTf[]f_g, µ, Ā, ç, éfvf[]fOf%of€, ì’[]Ý, ð
Ž,, í’m, è, Ü, ¹, ñ[]B

ŠĀ«•ï”fT[f_[]<@”\, ðŽg—p, ·, é, ±, Ā, Ā-Ú“l, ìfvf[]fOf%of€, É, , Ā, ½
ŠĀ«•ï” , ð Windows , ðĀĀ<N“ ®, ¹, , É[]Ý’è, ·, é, ±, Ā, æ%oĀ”\, É, È, è, Ü, ·[]B
—á, ì, ì[]AWindows , Ā DOS , Ā[]A“-¼, Ā, ÊĀ, ìfRf}f“fhŽg—p, ·, é[]ê[]#, É
PATH , ð[]Ø, è’Ö, ì, é, ±, Ā, æ%oĀ”\, Ā, ·, µ[]A’Êí128·[]Žš, Ü, Ā, µ, ©[]Ý’è, Ā, «, È, ç
PATH ŠĀ«•ï” , ðŠefAfvfŠ-^ , É•K—v, È•”·æ, ¾, ¾, []Ý’è, ·, é, ±, Ā, Ā[]A
·[]Žš[]” , ì•s’« , ð•â , ì, Ü, ·[]B

ŠĀ«•ï”fT[f_[]<@”\, ð—~—p, ·, é, ½, ß, É, í[]Aenvironment f[]ffj...[] , Ā
[]uŽqvf[]fZfX, ÖŠĀ«Āp[]³[]v, ðf fFfbfN, ·, é, ©[]Awin fRf}f“fh, É
/e f[]fvf[]f[]” , ð•t, , Ā<N“ ®, µ, Ā, , ¾, ¾, ç[]B

’[]^Ó

ŠĀ«•ï”fT[f_[]<@”\, í Windows fvf[]fOf%of€, É, µ, ©—~—p, Ā, «, Ü, ¹, ñ[]B
DOSfvf[]fOf%of€[]AWin32sfvf[]fOf%of€, Ā, í—~—p•s%oĀ, Ā, ·[]B
(LoadModule API , ìŽd—l)

ŠĀ«•ï”fT[f_[]<@”\, ðŽg—p, µ, Ā, ç, é[]ê[]#[]Aefvf[]fZfX, ìŽqvf[]fZfX, Ö
ŠĀ«•ï” —ì^æ, ð’ñ<ÿ, ·, é, ì, Ā^ø, «’Ö, ì, É[]AŽqvf[]fZfX—{—^ , ì
ŠĀ«•ï” —ì^æ, ð^ø, «Žó, , é[]\’ç, É, È, Ā, Ā, ç, é, æ, æ, Ā, ·[]B
(LoadModule API , ì•s%oĀ%oð, ÈŽd—l)

, ±, ìŽd—l, É, æ, è[]efvf[]fZfX, ìŽqvf[]fZfX, ð<N“ ®, ·, é“x, É
[] , µ, , ĀŽg—p[]f, fŠ—ì^æ, ðŠg’â, µ, Ā, ç, «, Ü, ·[]B
“—’R[]A[]efvf[]fZfX, ð[]l—¹, ³, ¹, ê, Ì, » , ì—ì^æ, à%oð•ú, ³, ê, Ü, ·, ì, Ā[]A
-â’è, Ì, È, ç, ì, Ā, ·, æ[]A—B^ê ComWin , æfvf[]f[]ó’Ô, ì[]ê[]#, Ì
Windows , ð<N“ ®, µ, Ā, ç, éŠÔ[]A[] , µ, , Āf[]f, fŠ, ð^³— , µ, Ā, ç, «, Ü, ·, ì, Ā[]A
—^Ó, µ, Ā, , ç, Ā, , ¾, ¾, ç[]B

(fVfFf<□ó'Ô^ÈŠO,Å,Í ComWin ,đ□!—¹,·,é,Æf□f,fŠ,Í%ođ•ú,³,ê,Ü,·□B)

(16) fEfCf<fX, ÌŽ © CE È □ f' f < @ " \
, ½, ç, µ, ½ < @ " \, Å, í, È, ç, ì, Å, ·, º □ A < N " ® Žž, Æ □ | — ¹ Žž, É
Ž © • º, ìftf @ fCf < fTfCfY, ðf` fFfbfN, ·, é < @ " \, ðŽ □, Á, Ä, ç, Ü, · □ B
, µ, ½, º, Á, Ä fEfCfXf <, ÉŠ´ □ õ, µ, ½ □ ê □ †, É, í □ Af_fCfAf□fO, º • \Ž |, ³, ê, Ü, · □ B
, ½, ¾, µ □ AŽ © • º ^ ÈŠO, ìftf @ fCf <, ðf` fFfbfN, ·, é, í, ¯, Å, í, È, ç, ì, Å
%oß " x, ÌŠú' Ò, ÌŽ □, ½, È, ç, Å, , ¾, ³, ç □ Bf □ fNf` f " < @ " \, í, , è, Ü, ¹, ñ □ B
□ i, ,, Ü, Å, àŽ © • º, º Š´ □ õ, µ, ½, ©, Ç, x, ©, µ, ©, í, ©, è, Ü, ¹, ñ, µ □ A
, ·, x, Ä, ìfEfCf<fX, É' í, µ, Ä — LÆø, È, í, ¯, Å, í, , è, Ü, ¹, ñ □ B □ j

5. □, "x, ÈŽg—p•û-@

(1) ComWin ,ì API ,đŽg—p, u, ÄfLfff%oofNf^ĀenfRf}f“fh, đŠg'£, Å, «, é

(2) fRf}f“fhŽÀ□s•”•ā, đŠg'£%oü—Ç, Å, «, é

(3) ft□[fU□[fCf“f^□[ftfF□[fX, ì'uŠ, ā%oÅ”\

(4) DOSfRf}f“fh, đComWin' <, ÅŽÀ□s%oÅ”\

(5) ANSIfGfXfP□[fvfV□[fPf“fX, āŽg—p%oÅ”\

ŽQ□Æ

EXPORTŠÖ□”, ì□à-¾

(1) ComWin ,ì API ,đŽg—p,μ,ÄfLfff%ofNf^CEnfRf}f“fh,đŠg’£,Å,«,é

Windows ,ìfvf[]fOf%of€ ,đ[]ì[]¬ , ,é[]ê[]#[]Å[]%o ,É-â’è ,É ,È ,é ,ì ,í[]A
•K—v ,à ,È ,çfEfBf“fhfE ,đ[]ì[]¬ , ,é ,ì ,É-³’É ,ÈŽžŠÔ ,đ’i ,â , ,± ,Æ ,Å ,·[]B
[]Å<β ,íŠe[]^—[]CEn ,à[]H•v ,μ ,Ä DOS Š’Šo ,Åfvf[]fOf%of~f“fO ,Å ,«,é ,æ ,x ,È
fNf%ofXf%ofCfuf%ofŠ ,đ’ñ<Ÿ ,μ ,Ä ,ç ,Ü , ,· ,ª[]A
[]¶[]¬ , ,³ ,ê ,½fvf[]fOf%of€ ,íŽÀ—p[]« ,ª , ,é ,Æ ,íŽv ,| ,Ü ,¹ ,ñ[]B
, » ,± ,Å ComWin ,ìfLfff%ofNf^CEn ,ìfRf}f“fh ,đ[]ì[]¬ , ,é •K—v ,ì , ,é
ft[]fU[] ,ì ,½ ,β ,É“ü[]o—íCEn ,ì API ,đ’ñ<Ÿ ,μ ,Ä ,ç ,Ü ,·[]B
ŠeAPI ,íŠî-{}“I ,ÉANSI C ,ìŽd—I ,É[]€ ,¶ ,Ä ,” ,è
[]V ,μ ,Šw[]K , ,é[]€—Ú ,í[] ,È , , ,é ,æ ,x ,É“w ,β ,Ä ,ç ,Ü ,·[]B
,Ü ,½ ComWin ,ì API ,ífff[]fCfX”ñ^È’¶ ,đ—ÚŽw ,μ ,Ä ,” ,è[]A
ComWin ‘í%žfjftfg ,ì“ü[]o—í ,ífffBfXfvfCfC[]AfL[]f{[]f[]fh ,Æ ,ç ,x
ŠT”O ,đ’%oz ,μ[]A[]ê-â“Á%o» ,³ ,ê ,½ ComWin —p’[— ,đ—p^Ó , ,é ,± ,Æ ,Å[]A
flfbfgf[][]fN[]ADDE[]AOLE “™ ,É ,à’í%ž ,Å ,«,é ,ÆŽv ,ç ,Ü ,·[]B

ŽŸ ,ì ANSI[]€<’ API ,đ’ñ<Ÿ ,μ ,Ä ,ç ,Ü ,·[]B
LONG FAR PASCAL Puts(LPSTR);
LPSTR FAR PASCAL Gets(LPSTR);
LONG FAR PASCAL Fputs(LPSTR, LPSTR);
LPSTR FAR PASCAL Fgets(LPSTR, LONG, LPSTR);
LONG FAR PASCAL System(LPSTR);
LONG FAR PASCAL Fwrite(LPVOID, LONG, LONG, LPSTR);
LONG FAR PASCAL Fread(LPVOID, LONG, LONG, LONG);

,Ü ,½ŽŸ ,ìfT[]f[]rfX API ,à’ñ<Ÿ ,μ ,Ü ,·[]B
LONG FAR PASCAL Getch(void);
LONG FAR PASCAL Inkey(void);
DWORD FAR PASCAL GetComWinLong(DWORD, DWORD);
int FAR PASCAL

MakeArgument(HINSTANCE, LPSTR, LPSTR, LPINT, LPSTR, int);
LONG FAR PASCAL cwPutevn(LPSTR);
LPSTR FAR PASCAL cwGetenv(LPSTR);
LONG FAR CDECL cwFprintf(LPSTR, LPSTR, ...);

□ã<LŠÖ□",Æ"˘<@"\•Ê-¼,ìŽŸ,ìŠÖ□"ÆQ,à, ,è,Ü,·□B
cwPuts(=Puts), cwGet(=Gets), cwFputs(=Fputs), cwFgets(=Fgets),
cwSystem(=System), cwGetch(=Getch), cwInkey(=Inkey)
cwFwrite(=Fwrite), cwFread(=Fread)

ŽQ□Æ Puts, Gets, Fputs, Fgets, System,
Getch, Inkey, Fwrite, Fread,
GetComWinLong, MakeArgument,
cwPutenv, cwGetenv, cwPrintf,
hello.c, sample1.c, sample2.c

(2) fRf}f“fhŽÀ□s•”•ª,đŠg'£%ü—Ç,Å,«,é

DOS ,ì□çŠE,É,Í command.com□AUNIX ,ì□çŠE,É,Í csh “™
,» ,ì'¼'½,,ì—D,ê,½fLfff%ofNf^fVfFf<,ª'¶□Ý,μ,Ü,·,ª□A
<æ'Ê,μ,Ä,ç,é'Z□Š,Í□AŽÀ□sÇ`Ž® ,ª^ê,Â,ìftf@fCf<,É,È,Á,Ä,¨ ,è□A
ft□[fU□[,ìŠg'£,ª"ñí,É□ç“i,Å , ,é,Æ,ç,æ,±,Æ,Å,·□B
,» ,ì,½,βft□[fU□[,ªV,μ,fLfff%ofNf^fVfFf<,đ□ì□—,·,é,½,β,É,Í
,·,×,Ä,ì□^—□,đŽ©'O,Å□ì,ç,È,¯ ,ê,î,È,ç, ,□A'ã•ï,È□ç“i,đ"ª,ç,Ü,·□B

ComWin ,íft□[fU□[,ªŽg,ç,â,·,çfLfff%ofNf^fVfFf<,đ
"äŠr“l—e^Ö,É□ì□—,Å,« ,é,æ,æ,ÉŽÿ,ì3,Â,ì□^—□,đ
DLL ,Æ,μ,Ä'Æ—§,³,¹,Ü,μ,½□B

BOOL FAR PASCAL CallInterpreter(FARPROC FAR *, LPSTR, LPLONG);
BOOL FAR PASCAL CallCommand(FARPROC FAR *, LPSTR, LPLONG);
BOOL FAR PASCAL CallScript(FARPROC FAR *, LPSTR, LPLONG);
(^ø,«□"□A-β,è'l,³,ì^ê'v,μ,Ä,ç,ê,îŠÖ□"-¼,í"C^Ó,Å,·□B)

CallInterpreter(%¼ì) (fRf}f“fh•¶Žš—ñ%đŽšŠÖ□")
fRf}f“fh•¶Žš—ñ,đ□ê-â“l,É%đŽš,·,éŠÖ□” ,Å,·□B
command.com ,í•jŽG,È%đŽš,đ□s,ç,Ü,¹,ñ,ª□A
csh ,í,©,È,è•jŽG,È□\•¶,đ□^—□,μ,Ü,·□B
,» ,ê,ç,ì□\•¶,à□®—□,·,é,±,Æ,Å
ÆÂ□X,ì'P□f,ÈfRf}f“fhÆQ,É•ª%đ,·,é,±,Æ,ª%Â"\,Å,·□B
,» ,ì□^—□,đ□ê-â“l,É□s,ç,Ü,·□B

CallCommand(%¼ì) (fRf}f“fhŽÀ□sŠÖ□")
ÆÂ□X,ìfRf}f“fh,íŠO•"fRf}f“fh,Æ,μ,Ä□ì□—,·,é,±,Æ,ª%Â"\,Å,·,ª
□—,³,Èftf@fCf<,ª,½,,³,ñ , ,é□ó'Ô,íŠÇ—□□ã•s•Ö,Å,·□B
□—,³,ÈfRf}f“fh,íCallCommand ŠÖ□” ,ì,È,©,É
fRf“fpfNfg,É,Ü,Æ,β,é,±,Æ,ÅŽg—pÆø—!,ª□,,Ü,è,Ü,·□B
,Ü,½□AŠO•"fRf}f“fh,Æ^á,ç□A^à•"fRf}f“fh,í'[--•” ,Æ
“¯ ,¶f^fXfN,ÅŽÀ□s,³,ê,é,ì,ÅŠÂ«•ï□” ,ì□Ý'èfRf}f“fh□A
fffBfÇfNfgfŠ•ï□XfRf}f“fh,É—L—~ ,Å,·□B

CallScript(%o¼i) (fXfNfŠfvg%ođŽŽÀs•")
ŠefVfFf<,"ÆŽ©,ìfXfNfŠfvgCE¾CEê,đfTf|[]fg,μ,Ä,φ,Û,·B
,μ,©,μŽc"O,È,±,Æ,É,Ù,Æ,ñ,Ç,ìfVfFf<,ªP^ê,ìfXfNfŠfvgCE¾CEê,μ,©
fTf|[]fg,μ,Ä,φ,Û,¹,ñBComWin ,í CallScript ŠÖ" <@"\,đŽ,Á,½ DLL ,đ
Žæ,èž,ρ,±,Æ,Å•;ì",ìfXfNfŠfvgCE¾CEê,đ^μ,π,±,Æ,ª%oÂ"\,Å,·B
iŠefXfNfŠfvgftf@fCf<,ì<æ•Ê,íŠg'£Žq,Ås,φ,Û,·B)

ŽQÆ CallInterpreter(%o¼i), CallCommand(%o¼i),
CallScript(%o¼i), sample3.c

(3) f^ [fU [fCf "f^ [ftfF [fX, l' uŠ, %oÂ "\

'[--,Æ,ç,æ—pÆê,í—lX,È^Ó-; ,ÅŽg,í,ê,Ä,ç,Ü,·,ªA
,±,ì,Â,í'P,ÉŠO•" ,Æ,ìfCf "f^ ftfF [fX•" ,Æ,ç,æ^Ó-; ,ÅŽg,ç,Ü,·B

fRf}f"fhf%ofCf"f, [fh,àAfrf... [f [f, [fh,àA
fŠf, [fgfAfNfZfX<@"\,à,» ,ê,¼,ê•s [•ª,È" _ ,í, ,Á,Ä,à
^ê,Â,ì'Æ—§,μ,½'[--,Â,·B

ComWin ,í "ü—íA"½%žA o—í,ì3,Â,đ'è<` ,μ,½f,fWf... [f<,đ [- , ,é,±,Æ,Å
,³,Ü,´,Ü,È'[--,É'í%ž,Â,« ,Ü,·B

—á,í,îAfbfjgf [fN—p,ì'[--,đ [- , ,é,±,Æ,ÅfŠf, [fgfAfNfZfX,ª
%oÂ "\,É,È,è,Ü,·,μAOLE ,à"È,«l,ß,ê,îA"ÆŽ©,ì"ü—íA o—íA"½%ž,đ
Ž [,Á,½^ê,Â,ì'[--,ÉfpfbfP [fW%o» ,Â,« ,é,à,ì,ÆM,¶,Ä,ç,Ü,·B

'[--fjftfg,íŽŸ,ìŽè'±,« ,đ"¥,p,±,Æ,Å [- , ,Â,« ,Ü,·B
^È%o ,ì10,ìŠÖ [,đ'[--'æ,Â'è<` ,μ,Ü,·B

LONG FAR PASCAL LocalPuts(LPSTR);
LPSTR FAR PASCAL LocalGets(LPSTR);
LONG FAR PASCAL LocalFputs(LPSTR, LPSTR);
LPSTR FAR PASCAL LocalFgets(LPSTR, LONG, LPSTR);
LONG FAR PASCAL LocalSystem(LPSTR);
LONG FAR PASCAL LocalCallCommand(FARPROC FAR *, LPSTR, LPLONG);
LONG FAR PASCAL LocalGetch(void);
LONG FAR PASCAL LocalInkey(void);
LONG FAR PASCAL LocalFwrite(LPVOID, LONG, LONG, LPSTR);
LONG FAR PASCAL LocalFread(LPVOID, LONG, LONG, LPSTR);
(ŠÖ [-¼,í"C^Ó)

FARPROC lpfniO[10] ,ì,æ,æ,ÉŠÖ [,Ö,ìf [fCf "f^ ,l"z—ñ,đ'è<` ,μ,Ü,·B
lpfniO[0] = MakeProclInstance(hInstance, LocalPuts);
lpfniO[1] = MakeProclInstance(hInstance, LocalGets);
lpfniO[2] = MakeProclInstance(hInstance, LocalFputs);
lpfniO[3] = MakeProclInstance(hInstance, LocalFgets);
lpfniO[4] = MakeProclInstance(hInstance, LocalSystem);

```
lpfnIO[5] = MakeProcInstance(hInstance, LocalCallCommand);
lpfnIO[6] = MakeProcInstance(hInstance, LocalGetch);
lpfnIO[7] = MakeProcInstance(hInstance, LocalInkey);
lpfnIO[8] = MakeProcInstance(hInstance, LocalFwrite);
lpfnIO[9] = MakeProcInstance(hInstance, LocalFread);
,Æ□%oŠú%o» ,μ
comwin.dll ,ì CallCommand ,đĀÄ,Ñ□o,μ,Ü,·□B
```

ŽQ□Æ CallCommand, sample5.c

(4) DOS fRf}f"fh,ðComWin'<,ÅŽÀs%oÅ"\

ŠÂ««Ÿ'èf_cCfAfO,ìuŠg'fRf"f[f<,ìŸ'èv,ð•ìX,·,é,±,Æ,Å
DOS fRf}f"fh,ð ComWin ã,ÅŽÀs,·,é,±,Æ,º%oÅ"\,Å,·B
'S<@"\,ðŽg,æ

,½,ß,É,íAWindowsfffBfCEfNfgfŠAWindowsfVfXfef€fffBfCEfNfgfŠA
fpfX,ì'Ê,Á,½fffBfCEfNfgfŠ,ì,ç,,ê,©,É

comwld.exe, comwld.pif, vcomwd.386 ,ðfRfs[·,µA

ŠÂ««Ÿ'èf_cCfAfO,ìu•W€PIFv,ð comwld.pif ,É,µ,Ä,,¾,³,çB

,Ü,½Asystem.ini ,ì [386Enh] fZfNfVf+f" ,É

device=vcomwd.386 ,ìLq,ð%oÁ,ì,é•K—v,ª, ,è,Ü,·B

1. DOS fEfBf"fhfE

DOS fRf}f"fh,ð•ÊEfBf"fhfE,ÅŽÀs,µ,Ü,·B

•W€,ìŸ'è,Å,·B

2. DOS o—íŽæ,èž,Ý

DOS ,ìo—í,ðftf@fCf<,É—Ž,Æ,µA,»,ìftf@fCf<,ð

ComWin ' <,Éo—í,·,é,±,Æ,Å ComWin ' <,ÅŽÀs,µ,Ä,ç,é,æ,æ,É

Œ©,¹,©,¯,éf,[fh,Å,·B

"®ì,í"äŠr"l^À'è,µ,Ä,ç,Ü,·,ªA"ü—í,ð<·,ß,é DOSfRf}f"fh,ð

ŽÀs,µ,½êê,ÍŠ" ,ÆŒoŒ±,ÅfŠJfJofŠ,µ,È,¯,ê,î,È,è,Ü,¹,ñB

3. DOS "üo—í"Šú

DOS fRf}f"fh,Æ"üo—í,ì"Šú,ðŽæ,éf,[fh,Å,·B

,±,ìf,[fh,Å,í vcomwd.386 ,ð'Ê,µ,Ä DOS ,ìff[f^,ðŽæ,èž,Ü,·B

,Ü,½AComWin ,©,ç DOS ,Ö,ìfNfŠfbfvf{[fh,ð'Ê,µ,Ä

ff[f^,ð'—,è,Ü,·B

command.com ,ª"®,,±,Æ,ðŠm"F,µ,Ä,ç,Ü,·,ªA

'S,Ä,ìP[fX,Å^À'è"®ì,·,é,±,Æ,Í•UØo—^,Ü,¹,ñB

,±,ì<@"\,ð—~—p,µ,Ä"®ì,ª^À'è,µ,È,çêê,Í config.sys ftf@fCf<,É

files=255 ,ÆŽw'è,µ,Ä,,¾,³,çB

(5) ANSIfGfXfP□[fvfV□[fPf“fX,Žg—p%oÂ”\

ŽŸ,ì•¶Žš—ñ,đ ComWin‘<,É“ü—í,·,é,±,Æ,Å%oæ-Ê□§CEä,ª,Å,«,Ü,·□B
ESC•¶Žš,í ComWin ,ìfRf}f“fhf%ofCf“,©,ç,í□uCtrl+[□v,Å“ü—í,Å,«,Ü,·□B
‘¼,ìfGfffBf^□[“™,Å,í,»,,ì,ç,ìf}fjf...fAf<,É,μ,½,ª,Á,Ä,,¾,³,ç□B
echo fRf}f“fh,â□AFputs API “™,đŽg—p,μ,ÄŽŸ,ì•¶Žš—ñ,đ ComWin ,É
□o—í,·,é,Æ—l□X,È%oæ-Ê□§CEä,ª,Å,«,Ü,·□B

ESC [pl;pch fj□[fvf<,đ(pc,pl)^Ê^u,É^U“®
ESC [pl;pcf fj□[fvf<,đ(pc,pl)^Ê^u,É^U“®
ESC [pnA fj□[fvf<,đpn□sfAfbfv
ESC [pnB fj□[fvf<,đpn□sf_fEf“
ESC [pnC fj□[fvf<,đpn•¶Žš%oE,É^U“®
ESC [pnD fj□[fvf<,đpn•¶Žš□¶,É^U“®
ESC D fj□[fvf<,đ^ê□s%oº,É^U“®
ESC E %oü□s
ESC M fj□[fvf<,đ^ê□s□ä,É^U“®

ESC[0] fj□[fvf<^Ê^u,©,ç□Å□l□s,ì%oE‘[,Ü,Å,đfNfŠfA
ESC[1] □æ“ª□s,ì□¶‘[,©,çfj□[fvf<^Ê^u,Ü,Å,đfNfŠfA
ESC[2] fNfŠfA□EfXfNfŠ□[f“
ESC[0K fj□[fvf<^Ê^u,©,ç□s,ì%oE‘[,Ü,Å,đfNfŠfA
ESC[1K □s,ì□¶‘[,©,çfj□[fvf<^Ê^u,Ü,Å,đfNfŠfA
ESC[2K fj□[fvf<□s,ì•¶Žš,đ‘S,ÄfNfŠfA
ESC* fNfŠfA□EfXfNfŠ□[f“

ESC[ps;...;psm •\Ž!•¶Žš,ì’®□«,đŽwŽ!□Aps,ì^Ó-i,íŽŸ,ì,Æ,“,è
0 <K’è’l
7 fŠfo□[fX
8 fV□[fNfCEfbfg
30 □•, 40 □•”½“]
31 □Ô, 41 □Ô”½“]
32 —í, 42 —í”½“]
33 %o©, 43 %o©”½“]
34 □Â, 44 □Â”½“]

35 Ž†, 45 Ž†"½"
 36 □..., 46 □..."½"
 37 " ", 47 ""½"

```
fj[f\<^É'u,ì•ïX,đ,Æ,à,È,xfGfXfP[fvfR[fh,đŽg—p,·,éê#A
^È%œ,ì"_,É—^Ó,μ,Ä,,¾,¾,çB
```

```
echo fRf}f"fh,â Puts API ,đŽg—p,·,éê#I'[,É•K, , '\n' ,ª•t%Á,·,é,ì,Å
fj[f\<^É'u,ªŽŸ,ìs,ìæ"ª,É,È,è,Ü,·B
```

```
fj[f\<^É'u,đ•ïX,·,éfR[fh,đ•i" A^ê,Â,ì•¶Žš—ñ,Æ,μ,Ä'—,éê#
%œ-Ê•`%œ,ª³,μ,,",±,È,í,ê,Ü,¹,ñ,ì,ÅA•i"%ň,Éª,¯,Ä'—,Á,Ä,,¾,¾,çB
("^[" = "ESC" = '\x1b' ,Æ,·,é)
```

```
œë) echo ^[[1;1Habc^[[2;2Hdef
```

```
³) echo ^[[1;1Habc ; echo ^[[2;2Habc
```

6. <ZpÚxASÈŽ-€

(1) Šj"•ûj

(2) "®ìŠÂ««

(3) OS/2ANT ŠÂ««,ÅŽg—pŽž,ì'î^Ó

(4) •K—v,Èftf@fCf<v

(5) fRf}f"fh,ì—Dæ#^ÊAEXCEL4,^a•s'²,ìŽž

(6) fXfNf[f<Žž,ì•\Ž!—,ê

(7) "ú-{Èê^—

(8) ComWin ,ì•j" <N"®

(9) ftfHfAfOf%ofEf"fh<N"®,ÆfofbfNfOf%ofEf"fh<N"®

(10) fffBfEfNfgfŠfZfpfÈ[f^u\v/u/v

(11) j;Èä,ì-Ú•W

(1) Šj" •û□j

ComWin ,íŽÿ,ì•û□j,ÉŠî,Ã,ç,ÄŠj" ,³,ê,Ä,ç,Û,·□B

(a) MS-Windows 3.1 ^È□ã,ª" ®□ì,·,é,à,Á,Æ,à"ñ—í,Èf}fVf" ,Å,à□A
,» ,±,» ,±Žg,!,é□B
,±,ê,í□ìŽÒ,ìŠj"ŠÂ«« ,ª "Cx486SLC 16MHz + CfofX—p'□□Ýf□f,fŠ 6M"
,Æ,ç,ª" _ ,© ,ç,àŽ©□M,ð,à,Á,Ä,ç,!,Û,·□B

(b) ComWin ŠÂ«« ,ðŽg—p,·,é,½,ß,É"ÆŽ© ,ìf<□[f<,ð%oÿ,µ•t,¯ ,È,ç□B
ComWin ŠÂ«« ,ðŽg—p,·,é,½,ß,É,í□A
,Å,« ,é,¾,¯ DOS, UNIX, (□ê□‡,É,æ,Á,Ä NT,OS/2) ,ìfRf}f"fh,¾,¯ ,Å
%o^—p,Å,« ,é,æ,ª,É,µ,Û,·□B

(c) %oß<Ž,ì ComWin fVfXfef€ ,Æ,ìŒÝŠ·□« ,ð□dŽ<,·,é□B
□V<@"\,ð•t,¯%oÁ,!,é,½,Ñ,É□A"ª,ð"Y,Û,¹,Ä,ç,Û,·□B
□T□d,ÉŽd—l,ðŒ^ ,ß,Ä,ç,Û,·,ª□A,½,Û,ÉŽ , "s,à , ,è,Û,·,ì,Å□A
,²—¹□³ , ,¾,³,ç□B

(2) “®”ŠÂ««

ComWin ,Í MS-Windows 3.1 ^È“ã fGf“fnf“fXfgf,[]fh,Å“ ®”ì,μ,Ü,·□B

^È%º,ìŠÂ««,Å,ÍŽŸ,ì§ÆÀ,ª, ,è,Ü,·□B

MS-Windows 3.1 fXf^f“f_[]fhf,[]fh
DOS fRf}f“fh,ªŽg—p,Å,«,Ü,¹,ñ□B

MS-Windows 3.0
commdlg.dll ,ª•K—v,Å,·□B
'Ê□M<@“\,ÍŽg—p,Å,«,Ü,¹,ñ□B

□Å<ß,ì Windows 95 fu□[f€,Å 3DWin ,Æ•¹—p,ìft□[fU□[,à'½,ç,ÆŽv,ç
,Ü,·□B

ComWin Ž©'ì,Í 3DWin ,Æ,ì'Š□«,Í^«,È,ç,ì,Å,·,ª□A
comwreg.exe ,Æ,ç,ªComWinfÆfWfXfg—pfvf□fOf%of€
,ÍfEfBf“fhfE,ì□ì,è,ª

3DWin,É'Í,μ,Ä'Š□«,ª,æ,,È,ç,æ,ª,Å,·□B
ComWin ŽŽ—pŽž,Í comwreg.exe ,ð 3DWin ,ì'î□ÛŠOfjftfg,É,μ,Ä,-
,¾,¾,ç□B

,È,“□A□³<K“o~^,ð□ì,Ü,¹,½f,fWf...□[f<,Í comwreg.exe ,ðŽg—
p,μ,Ü,¹,ñ,ì,Å□A

□³□í,É%º^—p,Å,«,Ü,·□B(3DWin ,ì□Å□Vfo□[fWf†f“ ,Å,í%ºðÆ^ ,¾,è,½,æ,ª
,Å,·□B)

(3) OS/2 □ ANT ŠĀ<« , ĀŽg—pŽž, ì' □ ^ Ó

ComWin , í Windows , ì • W □ € API □ ADOS , ì • W □ € f V f X f e f € f R □ [f < , μ , ©
Žg—p , μ , Ā , ç , Ü , ¹ , ñ , ì , Ā □ A
— ~ — p % o ĵ ' l , í , Ā , è , à , © , OS/2 , â NT □ Ā , Ā , à " ® , « , Ü , · □ B

, ¹/₂ , ³/₄ , μ ^ È % o o , ì " _ , É ' □ ^ Ó , μ , Ā , , ³/₄ , ³ , ç □ B

DOS f R f } f " f h , í f V f X f e f € f R □ [f < , ì % o ð Ž Ž B , ^a OS/2 , â NT , Ā DOS , Ā
^ Ù , È , Á , Ā , " , è □ A comwld.pif , Ā < N " ® , μ , È , ç □ ê □ ‡ , ^a , , è , Ü , · □ B
, ± , ì □ ê □ ‡ □ A command.com , Ā " ü — í , μ , Ā , , ³/₄ , ³ , ç □ B

FAT f t f @ f C f < f V f X f e f € ^ È Š O , Ā , í " ® □ ì , í • Ů □ Ø , ³ , ê , Ü , ¹ , ñ □ B (16bit " Ā)

ComWin , í Ver 1.80 J , æ , è OS/2 □ ANT , Ā , à " ® □ ì , · , é , æ , † , É
Š J " , μ , Ā , ç , — \ ' è , È , ì , Ā □ A " ® □ ì Š m " F □ î • ñ , ^a , , ê , í f □ □ [f < , μ , Ā
, , ³/₄ , ³ , é , Ā □ K , ç , Ā , · □ B

Ž Q □ Ā f R f } f " f h , ì — D □ æ □ ‡ ^ Ê (command , Ā command.com , ì ^ á , ç)

(4) •K—v,Èftf@fCf<□□□

comwinx.exe, comwld.exe, comwld.pif,
vcomwd.386, comwin.dll, comwin.hlp,
comwins.dll, comwreg.exe, comwtbar.dll
,đŠeŽ©,ì

Windows fffBfĀfNfgfŠ

Windows fVfXfef€fffBfĀfNfgfŠ

ŠĀ<«•ï□”,ì PATH ,ĀŽw’è,³,ê,¹/₂fffBfĀfNfgfŠ
,ÉfZfbfg,Ā’u,ċ,Ā,,³/₄,³,ċ□B

,» ,ê^ÈŠO,ì□ê□†,í□³□í,É“® ,© ,È,ċ□ê□†,à , ,è,Ü,·□B
(comwld.pif ,ì’ă,í,è,É comwinx.pif ,đŽg—p,μ,Ā
“~^êfffBfĀfNfgfŠ,É’u,~ ,îfpfX,^a,È,,Ā,à□³□í,É%o^—p,Ā,« ,Ü,·,^a□A
shell,Æ,μ,Ā—~—p,·,é□ê□†,îfpfX,^a•K—v,Ā,·□B)

comwreg.exe ,íft□[fU□[“o~^—p,ìf,fWf...□[f<,Ā,·□B
“o~^ ,^aŠ®—¹,·,ê,î•s—v,Ā,·□B

^È%o^o,ìftf@fCf<,^a,È,,Ā,à“® ,« ,Ü,·,^a•□,É<@“f_fEf“ ,μ,Ü,·□B
comwld.pif --- DOSfRf}f“fh,^aŽg,ì,Ü,¹,ñ□B(command.com ,³/₄,~ ,íŽg—p

%oĀ)

comwin.hlp --- flf“f%ofCf“fwf<fv,^aŽg,ì,Ü,¹,ñ□B

comwins.dll --- “à•”fRf}f“fh,^aŽg,ì,Ü,¹,ñ□B(exit, cls, help “™ ,íŽg—p

%oĀ)

comwreg.exe --- “o~^ft□[fU□[,É,í•s—v,Ā,·□B

comwtbar.dll --- fc□[f<fo□[,^aŽg,ì,Ü,¹,ñ□B

comwinx.exe ,Æ comwin.dll ,ì2,Ā,ìftf@fCf<,Ā,à
fGf%o□[f□fbfZ□[fW,đ-³Ž<,μ,Ā<N“® ,μ□A%o^—p,·,é,±,Æ,^a,Ā,« ,Ü,·□B
,±,ê,^a ComWin fVfXfef€,ì□Ā□□□□,Ā,·□B

(5) fRf}f“fh,ì—D□æ□‡^Ê□AEXCEL4,ª•s'²,ìžž

ComWin ,ÍfLfff%ofNf^ŽwCEüfRf}f“fhfVfFf<,Æ,ç,æ□<Ši□ă□A
•¶Žš—ñ,ðfvf□fOf%of€<N“® ,ÉCE<,Ñ•t,˘,é,½,ß,É□A
,³,Ü,´,Ü,È□^—□,ð,µ,Ä,ç,Ü,·□B

□^—□ŠT—v

1. •¶Žš—ñ,ð comwin.ini [Alias] ,Æ”äŠr,µfGfCfŠfAfX,ì“WŠJ□B
2. f}f<f`fXfe□[fgf□f“fg,ì%ðžß□B
3. fAfvfŠfP□[fvf‡f“ ,Æ,ìŠÖ~A•t,˘<N“® “WŠJ□B
4. fRf}f“fhDLL ,ì□^—□□B(comwins.dll “™ comwin.ini [CommandDII])
5. “à•”fRf}f“fh,ì□^—□□B(comwinx.exe ,ì-,„,ß,±,ÝfRf}f“fh)
6. ŠO•”fRf}f“fh,ì□^—□□B(DOS ,ì<K-ñ,É,µ,½,ª,æ□j
Windows fvf□fOf%of€ ,ð<N“® □B
DOS fvf□fOf%of€ ,ð<N“® □B
ComWin —pfobf`ftf@fCf<,ì□^—□□B

ComWin ,Í□ADOS, Win, Win32s, ComWin—pfobf`ftf@fCf< ,ìŠefvf□fOf
%of€,ð

Ž©“®”»•Ê,µ“K□Ø,ÈŠÂ<«,Â<N“® ,·,é,æ,æ,É,µ,Ä,ç,Ü,·,ª□A
—\ªŠO,ìŠÂ<«,Â<N“® ,ÉŽ,“s,·,é□é□‡,ð□|—¶,µ,Ä□A
"command.com", "win" ,Æ,ç,æ•¶Žš—ñ,ð“Á•Ê^µ,ç,É,µ,Ä,ç,Ü,·□B

(a) <□\$“l,ÉDOSfvf□fOf%of€,ð<N“® ,·,é•û-@ (command ,Æ command.com ,ì^á,ç)

command ,Æ“ü—Í,µ,½□ê□‡□B
'Ê□í,ìDOSfvf□fOf%of€,Æ”»è,µ□Acomwld.pif ,ð—p,ç,Ä□A
comwld.exe ,ìžqfvf□fZfX,Æ,µ,Ä<N“® ,³,é,Ü,·□B
,µ,½,ª,Á,Ä□A□|—¹žž,É"Press any key" ,Æ,ç,æ•¶Žš—ñ,ª
•ž|,³,é^èžž'âž~,µ,Ü,·□B

command.com ,Æ“ü—Í,µ,½□ê□‡□B
fvf□fOf%of€”»•Êf<□[f`f“ ,ð'É,ç, ,¼□Ú command.com
,ð<N“® ,µ,Ü,·□B

command ,Å<N“ ® , , é, æ, è, àf f, fš, đ'½, Žg—p, Å, «, Ü, · B
, ½, ¾, μ A I — 1 Žž, ì ^ ê Žž' â Ž ~ < @ " \, í, , è, Ü, 1, ñ B

(b) < S " I, É Windows f v f f f O f % o f € , đ < N " ® , , é • û - @ (win)

win fRf}f“fh, đ Žg—p, , é, î A Š O • "fRf}f“fh” » • Ê, đ, , ±, È, í, , É A
• ¶ Žš—ñ, đ, » , ì, Ü, Ü A WinExec, LoadModule API , É, í, ½, μ, Ü, · B
EXCEL4, đ, 2— ~ —p, ì • û, í win fRf}f“fh, đ Žg—p, μ, Ä, , ¾, ¾, ¢ B

—á c:\>win excel

(6) fXfNf□□[f<Žž,ì•\Ž!—□,ê

ComWin ,Å,ÍfXfNf□□[f<,đ□,‘¬%»;,·,é,½,ß,É
□Ä•`%œ□^—□,đŠÈœ%„,É,μ,Ä,ç,Ü,·□B
,»;,ì,½,ßf_CfAf□fO“™,ì”wœã,ÅfXfNf□□[f<,ª□s,í,ê,½□ê□#□A
•\Ž!,ª—□,ê,é□ê□#,ª, ,è,Ü,·□B
,±,ê,Í’P,É•\Ž!,ª—□,ê,Ä,ç,é,¾,°,Å
“à•”,ìff□[f^”j%ó“™fvfXfef€fNf%ofbfVf...,ìœ´^ö,É,Í,È,è,Ü,¹,ñ□B

•\Ž!,ì—□,ê,đ%đ□Á,·,é,½,ß,É,Í□A
□Ä•`%œ□^—□,đ^Ó□}“l,É,“,±,È,Á,Ä,,¾,³,ç□B

—á

[ESC] ,đ 2%ñ%Ÿ,·□B
fAfCfRf“%»;,μ•œœ³,μ,È,“,·□B
‘¼,ìfEfBf“fhfE,Å%B,μ,½œã□A□oœ»,³,¹,é□B

,Ü,½□A□^—□fXfs□[fh,đ<]□μ,É,·,é,±,Æ,Å
,Ç,ì,æ,α,È□ê□Š,ÅfXfNf□□[f<,ª□s,í,ê,Ä,à
•\Ž!,ª—□,ê,È,çf,□[fh,à”ö,ì,Ä,“,è,Ü,·□B
(environment f□ffj...□[.ì "complete redraw")
VGA or EGC + 386CPU ‘ö“x,Å,Í•\Ž!,ª,à,½,Ä,«;Ü,·,ª□A
□,‘¬GA + Peintium Žg—p,ìft□[fU□[.Í
,±,ìf,□[fh,đ•W□€É,μ,Ä%œ^—p,μ,Ä,à%ö“K,³,Í,»,±,È,í,ê,Ü,¹,ñ□B

(7) “ú- {Œê^—

“ú- {Œê, ì“üo— í, í³í, É, “, ±, È, !, Ü, ·, ;, ¢A
BS ADEL™ , Åf%ofCf“fGfffBfbfg, ð, “, ±, È, x, Æ • ¶Žš%o», -, μ, Ü, ·B
, Ü, ½A%oü s^Ê’u, Å • ¶Žš%o», -, ð<N, ±, ·ê¶, à, , è, Ü, ·B

, ½, ¾A • ¶Žš%o», -, ð<N, ±, μ, Ä, àff[f^, í ComWin “à•”, Å
³í, É^—, ³, ê, é, ì, ÅA“ú- {Œê, ìftf@fCf<, í^μ, !, Ü, ·B

(8) ComWin ,ì•;ì" <N" ®

ComWin, ð•;ì" <N" ® ,µ,Ä, à³í, É" ® ì, ,é, æ, x, ÉÝŒv, ³, ê, Ä, ç, Ü, , ,ªA
^È%º, ì§ŒÀŽ-€ª, ,è, Ü, ·B

ComWin —p, ÌŠO•"fRf}f"fh, ðŽÀs, µ, ½ê#AÅ%º, ÉPuts, Gets "™, ì
ComWin ,ì EXPORT ŠÖ" ,ªŒÄ, î, ê, ½ŽŽ" _ , Å^ê"ÔfAfNfefBfuó'Ô, É
<ß, ç ComWin ,ìfNf%ofCfAf"fg—ì^æ, Éo—í, ³, ê, æ, x, É, È, Á, Ä, ç, Ü, ·B
, Ü, ê, É^Ó}, µ, Ä, ç, È, çfNf%ofCfAf"fg—ì^æ, Éo—í, ³, ê, é%ºÅ"

«ª, ,è, Ü, ·B

, ½, ¾A'Éí, ÌŽg—pó<µ, Å, í-â'è, í"¶, ,é, ±, Æ, í, ,è, Ü, ¹, ñB
fVfXfef€fNf%ofbfVf..., ìŒ^ö, Æ, í-³%º, Å, ·B
, Ü, ½fofbfNfOf%ofEf"fh, Å ComWin —p, ÌŠO•"fRf}f"fh,ªŽÀs, ³, ê, Ä
, ç, éê#f}fEfXfCfxf"fg,ª³í, É"FŽ , Å, «, È, çê#ª, ,è, Ü, ·, Ì, ÅA
fL[f{[fh, ÅfCfxf"fg, ð"¶, ³, ¹, Ä, Ý, Ä, , ¾, ¾, çB

"à•"fRf}f"fh, ÉŠÖ, µ, Ä, í^Èã, Ì, æ, x, É§ŒÀ, í, È,
³í, Éf}f^f^fXfN, Å" ® ì, µ, Ü, ·B

ìŽŽ, µ, É•;ì" ,ì ComWin ,ð <N" ® ,µ

"~ŽŽ, É dir fRf}f"fh, ðŽÀs, µ, Ä, à³í, É" ® ì, µ, Ü, ·B
^ÓŠO, È, ±, Æ, É Windows ,ìfVfXfef€fR[f<fGf~f...fŒ[fVf#f" , í
Ä"ü^—'t, à³, µ, " ® ì, µ, Ä, ç, é, ±, Æ,ª, í, ©, è, Ü, ·Bj

(9) ftfHfAfOf%ofEf“fh<N“ ® ,ÆfofbfNfOf%ofEf“fh<N“ ®

f}f<f`f^fXfNfVfXfef€ ,Å,ÍAftfHfAfOf%ofEf“fh^—,Æ
fofbfNfOf%of“fh^—,ì<æ•Ê,ªd—v,É,È,Á,Ä,«,Ü,·B
(,µÆê•¾,ª, ,è,Ü,·,ªA

ftfHfAfOf%ofEf“fh^— = '¼—ñ^—

fofbfNfOf%ofEf“fh^— = •À—ñ^—

,Æl,|,Ä,,¾,³,¢B

—á,|,ÍADOS ,Å,ÍftfHfAfOf%of“fh^—,ªŽà'ì,Å,·,µA

Windows ,Å,ÍfofbfNfOf%ofEf“fh^—,ªŽà'ì,Å,·B)

ComWin ,Æ'¼,lfVfXfef€,ì<N“ ® ,ì<æ•Ê,đ—ñ<“,µ,Ü,·B

UNIX

\$ cc hello.c <--- ftfHfAfOf%ofEf“fh<N“ ®

\$ cc hello.c & <--- fofofbfNfOf%ofEf“fh<N“ ®

OS/2 or NT

[c:\]notepad readme.txt <--- ftfHfAfOf%ofEf“fh<N“ ®

[c:\]start notepad readme.txt <--- fofofbfNfOf%ofEf“fh<N“ ®

ComWin

c:\>notepad readme.txt ;fg <--- ftfHfAfOf%ofEf“fh<N“ ®

c:\>notepad readme.txt <--- fofofbfNfOf%ofEf“fh<N“ ®

UNIX, OS/2, NT ,Å,ÍftfHfAfOf%of“fh<N“ ® ,ªffftfHf<fg,É,È,Á,Ä,¢,Ü,·,ªA

ComWin ,Å,ÍfofofbfNfOf%ofEf“fh<N“ ® ,đffftfHf<fg,É,µ,Ä,¢,Ü,·B

—R

(a) WindowŠÀ« ,Å,Í

Žqvf[]ZfX,Æ,µ,Ä<N“ ® ,µ,½f^fXfN,đŠÇ—,·,é,½,ß,É

ŠÄŽ<f<[]f“f“,đ•K—v,Æ,·,é,ì,ÅAftfHfAfOf%ofEf“fh<N“ ® □ó'Ô,Å,Í

fVfXfef€,lfpftfH[]f}f“fX,ª'á%ª,·,éB

(b) ftfHfAfOf%ofEf“fh<N“ ® ,ª•K—v,É,È,Á,Ä,,é,ì,ÍA

fofbf`^—AftfBf<f^—“™ ,ÉÆÀ,ç,ê,éB

(c) ComWin ver 1.40 ,Ü,Å,lfVfXfef€,Æ,ìÆÝŠ·« ,đ,Æ,éB

,æ,Á,ÄfofbfNfOf%ofEf“fh<N“® ,ðffftfHf<fg,É,μ,½•û,ª□A
ft□[fUfrfŠfefB,É—D,ê□ACEÝŠ·□« ,àŽæ,ê,é,Æ”»'f,μ,Û,μ,½□B

□i,±,ì^μ,ç,É,Í^Û~_ì, ,é,©,½,à^½,ç,ÆŽv,ç,Û,·,ª□Aft□[fUfrfŠfefB,ì“_□A
□@ %oß<Ž,Æ,ìCEÝŠ·□«,ì“_ ,Å,±,ì•û-@,É,μ,Û,μ,½□B,²—¹□³,,¾,³,ç□B
,à,ç,ë,ñ□A”½~_f□□[f<,à,n,j,Å,·□B)

fobfbfNfOf%ofEf“fh<N“® ,ðffftfHf<fg,É,·,é□ê□#□A
Æë'€□ì,Å“~ ,¶ftf@fCf<,É“~ŽžfAfNfZfX,·,éŠëCE~□«,ª
ftfHfAfOf%ofEf“fh<N“® ,ðffftfHf<fg,É,μ,Ä,ç,éfVfXfef€ ,æ,è'□,μ,Û,·□B
fobfbf`□^—□□AftfBf<f^□^—□,ð^½—p,·,é,©,½,Í□A
, ,ç,©,¶,ß DOS □ã,Å SHARE.EXE ,ð□í““ ,³,¹,é,±,Æ,ð,“Š©,ß,μ,Û,·□B

(10) fffBfCEfNfgfŠfZfpfCE[]f^[]u\[]v[]u/[]v

ComWin ,ífffBfCEfNfgfŠfZfpfCE[]f^[]u/[]v,É[]\$CEÀ,Â,«,È,ª,ç'í
%ož,µ,Û,µ,½[]B
ftf@fCf<-¼•âŠ®<@"\,Æ"à•"fRf}f"fh,ª'í%ož•"•ª,Â,·[]B
,½,¾,µ[]A'¼,ì WindowsfAfvfŠ,â DOS fRf}f"fh,É,í'í%ož,µ,Ä,ç,Û,¹,ñ[]B
ComWin ,í DOS []ã,É[]\z,³,ê,½ Windows []ã,ì\ftfg,È,ì,Â[]A
DOS•¶%o»,©,ç []u/[]v[]f[]v[]f[]f" ,đ'Ç•ú,µ,È,çCEÀ,è
ComWin ,¾,¯,Å%ođCE^ ,·,é,±,Æ,í•s%oÂ"\,¾,Æ,ç,±,Æ,à[]|—¶,,¾,³,ç[]B

(11) ;Āä,ì-Ú•W

ŽŸ,ì3“_É,Â,ç,ÄŠg’£,·,é(“w—Í,·,×,«)—\’è,Â,·B

(a) ft[fU[fCf“f^ [ftfF[fX

fRf“f [f<,ì[s““AĀ...“ ,đŽ©—R,É•îX,μ,½,èA
fqfXfgfŠ [,ì<L%“ ” ,đ•îX,Â,« ,é,æ,α,É,μ,½,ç,Â,·,ËB
,Ü,½fRf}f“fhf%ofCf“f, [fh,Â,ì”í^í’í’đ,à%û’è,Â,·B

(b) fXfNfŠfvg

MS-DOS €<’,ìfofbf`fXfNfŠfvg,àŠ®—,μ,½,ì,ÂA
,à,α,μA,“x,È,à,ì,đl,!,Ä,ç,Û,·B
[Â<ß,í UNIXĀnfXfNfŠfvg,ìŽ’—,đ“ç,ň,Â,ç,Û,·B
(,±,ì“_ ,Â,Í, ,Û,è- {l,ÉfjŠfV [,Í,È,ç,ì,ÂA
—D,è,½fXfNfŠfvgĀ¾Āê,đD%ôî,μ,Ä,,¾,¾,è,ÎA
,»,ì,ç,ì•ûĀü,ÉŽd [ã,°,é,©,à,μ,è,Û,¹,ňB)

(c) Windows95’í%ž

Windows95 ,ì DOS fvf [f“fvfg,ì’Ÿ [Y,Â ComWin ,ì’Ÿ [Y%ž’l,Í
Šë,Ô,Û,è,½,ì,Â,·,ª [ANT fRf“f [f<fAfvfŠ,ì“ü [o—Í,ì
ftfbfN,É [—Ā÷,μ,½,±,Æ,ÂA ComWin’<,Í DOS fRf}f“fh,àŽÀ [s,Â,« ,é
fX [fp [fRf“f [f<,É”ò-ô,Â,« ,» ,α,Â,·B

ComWin fvfXfef€,Í_ “î [« ,đ’æ^è,Æ,μ,Ä,ç,Û,·B
ft [fU [Ž© [g,à,ç,ň,ç,ň<@”\,đŠg’£,μ,Ä,,¾,¾,çB

7.Žd—I•ïX”_

ComWin Ver. 2.52 ,©,ç ComWin Ver. 2.60 ,İŽd—I•ïX”_□B

ft□[fU□[fCf“f^ftfF□[fX,İ•ïX,Í, ,è,Ü,¹,ñ,^a□A

ComWin ‘î%žf\ftfg,ì`ì□¬-@,ÉŽáŠ±,İ•ïX,^a, ,è,Ü,·□B

8. %ü'ù—š—đ

ComWin Ver. 2.60 95/10/10

> .,Åf[]Cf<fhfj[]fh,ìžw'è,∅
f%of"f`ff[],ì

(,É [] .

n

mode žf"f CE,M,Ä,,¾,¾,¢[]B

H,É%G'£FRF"F[]F<,,¾,¾,¢[]B

Ð[]\$CF"F[]F<,,¾,¾,¢[]B

Ä,.,F"F[]F<,

,¾,¾,¢[]B

EfFf"f[]f<,,¾,¾,¢[]B

VfVf†f"

N

%¾,¾,¢[]B

Æ-Ê[]\$CE %¾,¾,¾:FCEf"FX!

fFAFZ'@OFCF

fFAFZ'@lfj

fFAfz'@%of

fFAfz'@"f

fFAFZ'@Ü[]f

fFAfz'@o

—í,ìž

fFAFZ'@E[]‡,ž

fá

ComWin Ver. 2.52 95/09/05

printf []€<'API cwFprintf fTf|[]fg

dir fRf}f"fh,Éf[]fg<@"\Ç%Á

fc[]f<fo[],ìffBfCFNfgfš•žì,đ"~šú

fofOftfBfbfNfX

80CE...-ú,ì•¶žš—ž,ž

PATH šÂ««•ï[]",∅,È,¢,Æ,«,ì^è"Ê•ÛCEì^á"½

fffBfCFNfgfšžZpfCE[]f^,ì[]∅,è'Ö,ì•s<i[]‡

ComWin Ver. 2.51 95/08/18

fofOftfBfbfNfX

fRf}f"fhfZfpfCE[]f^,ìžd—l,ÅPATH,ì[]Ý'è,Éžx[]á,∅, ,é,ì,đ[]C[]³

Fputs, Fgets ,ìfšf_fCfCFNfg,∅,.,x,Ä•W[]€fGf%[][],É,È,é,ì,đ[]C[]³

ComWin Ver. 2.50 95/08/10

VxD ,lftf|[]f|g,Å DOS fAfvfš,Æ,ì~ACEg,ª%oÅ"\
DOS fAfvfš" ®[]ó'Ô,ì'ðž},ðšg[]
fGfXfP[]f|v|R[]f|h,ì[]®—[],ÅfRf}f"fhf%ofCf",ìž©—R"x,ª'[]'à
copyfRf}f"fh,ìšm"Ff[]fbfZ[]fW,ðfXfLfbfv,·,é<@"\,ð'Ç%oÅ
fofOftfBfbfNfX
DOS ,ìšÅ<<•ì[]",ªf[]f[]ftf[][],µ,½,Æ,«,ì^è"Ê•ÛCEì^á"½
"ú-{CEè,ìftf@fCf<-¼,ðžw'è,µ,½,Æ,«,ì•s<i[]†

ComWin Ver. 2.40 95/07/10

fffBfCEfNfgfšfZf|pfCE[]f^[]u/[]v[]ì—p
copyfRf}f"fh,Éšm"Ff[]fbfZ[]fW
renfRf}f"fh,ÅfffBfCEfNfgfš-¼•ì[]X
fffBfCEfNfgfš-¼,ðžw'è,·,é,¾,¯,ÅfffBfCEfNfgfš•ì[]X
cwPutenv, cwGetenv API ,ÅšÅ<<•ì[]",ì'€[]ì,ª%oÅ"\
GetComWinLong API ,ì<@"\šg'£
[]s--[]A[]s"ª,Û,Å,ì^èš†[]í[]œ,ª%oÅ"\
fofOftfBfbfNfX
129•¶žš^È[]ã,ì•¶žš—ñ,ð^µ,¤[]ê[]†,ì^è"Ê•ÛCEì^á"½

ComWin Ver. 2.30 95/06/25

ANSIfGfXfP[]f|v|V[]f|P|f"fxftfufzfbfg,lfTf|[]f|g
•\žìf[]fj...[][,É,æ,èfLfffvfVf†f"fo[][,ð[]Á,¹,é
ftf@f"fnfVf†f"fl[][10CEÅ•\žì,ª%oÅ"\
•W[]€fGf%o[]["ü[]o—íf,[]f|h,ðfTf|[]f|g
Getch(), Inkey() API ,ðfTf|[]f|g
SetWindowPos fRf}f"fh,ð[]V[]Ý
Ctrl+Ins,Shift+Ins,Shift+Del ,Åfjfbfg[]•fy[]fXfg%oÅ"\
fgfRf}f"fh[]Afofbf`ftf@fCf<žž,É Ctrl+C,Break,STOP,ª—LCEø
fc[]f<fo[][,ÉfffBfCEfNfgfš•ì[]X[]^—[]AžžCEv•\žì,ð•t%oÅ
•s<i[]†,ì[]C[]³
fnfšfbfvf{[]f|hšÖCEW
copy,time,date fRf}f"fh

ComWin Ver. 2.20 95/05/20

ftf@f"fnfVf†f"fl[]f%of"ff[]<@"\

```

fRf}f"fhf%ofCf" ,ÅŠÂ«•ï" %env% "™ ,ìžw'è%oÂ"\
alias fRf}f"fh,Å^ø" %1 "™ ,ìžw'è%oÂ"\
mode fRf}f"fh,ÅftfHf"fg,ì•ïX%oÂ"\
f%ofCf"fGffBfbfgŽž,És"ªAAs--,ìfL['€ì%oÂ"\
•s<iï,ìC³
    copy, ren fRf}f"fh
    ftf@fCf<-¼•âš®Žž,ì,ï#A~ï,ì—,é
    fofbf`ftf@fCf<"à,ìó[s]l—¹-â'è
    Cut Žž,ìfSf~•\Ž!

```

ComWin Ver. 2.14 95/04/15

```

32bit%o»fAf_fvf^,ð•W€"Y•t
start fRf}f"fh,ìVÝ
•s<iï,ìC³
    80€...,ì•¶Žš—ñ,ðo—í,•,éêï,ì•\Ž!,ì—,é

```

ComWin Ver. 2.11 95/03/01

```

•s<iï,ìC³
    fAfvfŠfP[fVf#f",ìŠÖ~A•t,¯N"®
    fhf%ofbfO•fhf[fbfvfT[fO[<@"\
    fc[f<fo[,ì•\Ž!ftfHf"fg
    fofbf`ftf@fCf<"à,ì exit fRf}f"fh

```

ComWin Ver. 2.10 95/02/25

```

Windows 95 f%ofCfN,Èfc[f<fo['•"ö
fRf}f"fhf%ofCf" ,Åfjfbfg&fy[fXfg,ª%oÂ"\
UNIXf%ofCfN,È history fRf}f"fh
fRf"fl[f<<L%o¯s",ð500s,Éšg'å
DOSfRf}f"fh,ðComWin'<,ÅŽÀs
•s<iï,ìC³(Ctrl+TAB,ì-â'èAOLEŠÖ~A•t,¯,ì-â'è"™)

```

ComWin Ver. 2.01 95/01/25

```

fŠf_fCf€fNfgAfpfCfv<@"\,ìfTf[f]fg
,»,ì¼A•s<iï,ìC³

```

ComWin Ver. 2.00 95/01/10

%o0pCEê"Á ComWin "o0ê
MS-DOS 3.XX 0€<'fofbf`fXfNfŠfVfg
ŠÁ<<•i0"ft0[fo0[<@"\
fvf0f"fvfg,ì•i0X%o0Á\
fLfffvVf#f"-¼•i0X<@"\,ì'Ç%o0Á
fLfffvVf#f"-¼Žw'è,ÁfEfBf"fhfE'€0ì%o0Á\
fL0[Š,,è"-,Ä,ì•i0X%o0Á\
fXfNf00[f<<@"\,ìCE©'¼,µ
ftf@fCf<-¼•âŠ@Žž,É0-•ŋŽš•\Ž;0Af0[fg,ì0,'-%o0»
ComWin ,ìfVfFf<"o~^,af}fEfX,Á%o0Á\
DOS,ì"à•"fRf}f"fhftf<ftf|0[fg
,>,ì'¼0A•s<i0# ,ì0C0³

ComWin ver 1.80J 94/11/15

ComWin fVfXfef€,ìŠ@'Sf}f<f`f^fXfN%o0»
fXfNfŠfVfgDLL0AfCf"f^fvfŠf^DLL0ASystem fRf}f"fh,ì0V0Ý
del ..*. * "™,ì•s<i0# ,ì0C0³
IME ,â,È,ç0ê0# ,ì SHELL<N" @Žž,ì•s<i0# ,ì0C0³
f}f<f`fXfe0[fgf0f"fg,ì%o0đŽB,ì•s<i0# ,ì0C0³
fofbf`ftf@fCf<^ø0",ì•s<i0# ,ì0C0³

ComWin ver 1.70 94/10/15

'É0Mf|0[fg,É'î%o0ž0Af}f<f`ft0[fU0[ŠÁ<<,đ'ň<Ý
ftf@fCf<-¼•âŠ@<@"\
ctl3d.dll ctl3dv2.dll (3-Df_fCfAf0fO) 'î%o0ž
ctty, speed, kill, ps, SendMessage fRf}f"fh,ìfTf|0[fg
Fputs ,ìf}f<f`f%o0fCf"%o0»

ComWin ver 1.60 94/09/23

comwin.dll("ü0o—Í—pDLL),ì<@"\<%o0»
ŠO•"fvf0fZfX,©,ç Gets,Fputs,Fgets,â—~—p%o0Á
Puts ,Á%o0ü0s0ATAB,ì0^—0,â,,"±,È,|,é,æ,æ,É,È,Á,½
exit ,É /p flfvfVf#f""Ç%o0Á
ŠÁ<<•i0" PATH ,â 80•ŋŽš,đ' ,|,é,Æ—Ž,¿,éfofO,ì0C0³
fg, pause ,ì%o0ü—Ç

ComWin ver 1.50 94/09/01

```
frf...[f[f[f,ì'å•<%o»  
"í'í'í'ðRfs[[A'í'ð•¶Žš—ñ<N"®[A  
fhf%ofbfO[•fhf[fbfvfT[f[fo[<@"\`Ç%oÁ  
<N"®Žž,ìfRf}f"fhŽw'èìfvfvf#f"V[Ý  
ComWin —pfofbf`ftf@fCf<,É %1 "™,ì^ø"Žg—p%oÁ"\
```

ComWin ver 1.41 94/08/16

```
pause fRf}f"fh,ìTf|[f[fg  
ftfHfAfOf%ofEf"fh^—,ìTf|[f[fg  
ftfHfAfOf%ofEf"fh<N"®,Æf[fbfNfOf%ofEf"fh<N"®,ì<æ•Ê,ª%oÁ"\
```

ComWin ver 1.40 94/08/14

```
f}f<f`fXfe[f[fgf"fg[Afofbf`ftf@fCf<,ìTf|[f[fg  
fAfvfŠfP[fVf#f",Æ,ìŠÖ~A•t,`<N"®,ìTf|[f[fg  
fvfXfef€,ìf}f<f`f^fXfN%o»  
([^—[+t,ì STOP fL[[AftfH[fjfx,ì∅,è'Ö,ì,ª%oÁ"\  
"ú-{Œê"ü—í,ì³íí%o» (^ê•"ŒŒÀ, ,è)  
"à•"fRf}f"fh,ìŠg[ (pushd, popd, dirs, ren, shutdown "™)  
fqfXfgfŠ[.ì[—¹Žž•Ú'¶  
fCf"fxfg[f%o,ì'Ç%oÁ ('P,È,é DOS ,ìfofbf`ftf@fCf<,Å,·[B)
```

ComWin ver 1.30 94/08/01

```
alias, unalias fRf}f"fh,ìTf|[f[fg  
reboot, restart fRf}f"fh,ìTf|[f[fg  
fqfXfgfŠ<@"\,ì^À'è%o»  
flf"f%ofCf"fwf<fv,ì<%o»  
f[f,fŠí'"—Ê30%íŒ,  
Win32s fAfvfŠ,ìTf|[f[fg
```

ComWin ver 1.20 94/07/17

```
DOSfRf}f"fh,ìTf|[f[fg  
fNfŠfbfvf{[f[h^—,ì'Ç%oÁ  
fXf^[[fgfAfbfv<@"\,ì'Ç%oÁ  
flf"f%ofCf"fwf<fv,ì'Ç%oÁ
```

ComWin ver 1.10 94/06/20

copy fRf}f“fh,ìfTf|[]fg

fRf}f“fh•”,đ ComWin ,©,ç[]Ø,è—£,μ comwins.dll ,đ[]V[]Ý

Puts,ì[]^—[],đ[],‘¬^À’è%»

fEfBf“fhfE,ìfTfCfY•Û‘¶<@“\,ì’Ç%Á

ComWin ver 1.00 94/06/07

[]%»”Å

9.'~[]CE []A'—<à•û-@

'[]^Ó

ComWin ,Æ ComWin32 ,Í•Ê\ftfg,È,ì,Å[]A
ComWin ,Æ ComWin32 ,ì—¿<à,Í•Ê•¥,ç,Å,·[]B
, "ŠÔ^á,ì,È,ç,æ,π,É, "Šè,ç,ç,½,μ,Û,·[]B

ComWin32 ,ì~[]CE ,Í'OŽ>[]³•F,ª•Û—L,μ,Û,·[]B

ComWin32 ,ìfvfFfAfeFfA,Å,·[]B

ComWin32 -{ 'ì,đŽg,Á,Ä,ì—~%ov[]s^ x,đ~[]ŽÒ,É—¹%ođ,È,μ,É
[]s,π,±,Æ,đ^ê[]Ø<Ö,[]Ü,·[]B
(ComWin32 'í%ž,ì\ftfg,É,Ä,ç,Ä,ÍŠÖ—^,μ,Û,¹,ñ[]B)

ComWin32 "à,ìftf@fCf<,É%ü•İ,đ%Á,ì,½,à,ì[]A
,Û,½,ìftf@fCf<,ì^ê•",đ"z•z,·,é,±,Æ,đ<Ö,[]Ü,·[]B
(C,ì\[]fXfR[]fh,đ%ü—Ç,μ,½[]¬%oÊ•""P'ì,ì"z•z,Í—áŠO,Å,·[]B)

ComWin32 ,đŽg—p,·,é,±,Æ,É,æ,Á,Ä"[][]μ,½,ç,©,È,é'¹ŠQ"™,É,à[]A
'~[]ŽÒ,ì^ê[]Ø[]Ó"C,đ•%o,ç,Û,¹,ñ[]B

ComWin32 ,ì<@"\fAfbfv,đ[]s,π<`-±[]AfofO'í%ž,đ-³—¿,Å[]s,π<`-±,đ
'~[]ŽÒ,ì•%o,í,È,ç,à,ì,Æ,μ,Û,·[]B

ComWin32 ,ì'¼,ìfìfbfjg[][]fN,Ö,ì"[]Ú[]AŽGŽ[],Ö,ìfofCfjŠ"Y•t,ì
'~[]ŽÒ,ì—¹[]³,ª•K—v,Å,·[]B

ComWin32 ,ìŽGŽ<LŽ-[]Đ%oî,ì<qŠİ"l,ÈŠî[]€,Å[]',©,ê,½,à,ì,Å, ,é,ì[]A
Ž©—R,É[]s,Á,Ä,©,Û,ç,Û,¹,ñ[]B

+-----

| fvfFfAfeFfA,Æ,μ,Ä,ìŽg—p[]đCE[]
| "o~^—¿ 2000%o~
| ŽŽ—pŠúŠÔ 2[]TŠÔ
| ŽŽ—pŠúŠÔ't,ì<@"\[]\$CEÀ ,È,μ

| '—<à•û-@

| %oÄ"\,ÈCEÀ,è[]ANIFTY-Serve ,ì'—<à'ã[]sfVfXfef€,đ,²—~—p,,¾,³,ç[]B
| GO SWSOKIN ,Å'—<à'ã[]sfT[]fX,É"ü,è[]Af[]jf...[][,É[]],Á,Ä
| '—<à,đ[]s,Á,Ä,,¾,¾,ç[]BSW"Ô[]t,ì 1323 "Ô,Å,·[]B
| '—<à,ªŠm"F,³,êŽ'æ[]A"o~^fL[]f[]fh,đ"dŽqf[]f<,É,Ä

, 'm, ç, 1, μ, Ü, · □ B

, Ü, 1/2 ' — < à ' ä □ s f T □ [f r f X, ð, 2 — ~ — p, Å, «, È, ç □ ê □ †, í □ A
^ È % ° °, ì < â □ s Ç È ù □ À, É □ U □ ž (Ž è □ " — ž • Ê • ¥), ð □ s, Á, Ä, , 3/4, 3, ç □ B

< â □ s ' æ ^ ê Š © < Æ < â □ s " ž " † Ž x " X
" X " Ô □ † 645
Ç È ù □ À " Ô □ † 1470432 (• □ ' Ê)
Ž □ - 1/4 ' O Ž > □ 3 • F (ï ' Ã Þ × ï » È °)

, " Ž è □ ", Å, ·, ° □ A " ü < à Ç È ä, É ^ È % ° °, ì Ž - □ € , ð - 3/4 < L, ì, x, |
" d Ž q f □ □ [f < (□ , □ \$) □ A, à, μ, , í — t □ ' , É, Ä, ' ' m, ç, 1, , 3/4, 3, ç □ B
(, ' ' m, ç, 1, ì, È, ç □ ê □ † □ A ' í % ° ž, °, Å, «, Ü, 1, ñ □ B)

(1) □ Z □ Š □ E — X • Ö " Ô □ † □ A (2) Ž □ - 1/4 □ A (3) □ U □ ž " ú Ž ž □ A (4) f \ f t f g f E f f f A -
1/4 □ A (5) Š ' ' z

' — • t □ æ
" d Ž q f □ □ [f < S G Q 0 0 3 1 0 @ n i f t y s e r v e . o r . j p
— X ' — 770 " ž " † Ž s % ° ° « • ' — □ 1/4 " " 436 Ç È K ' ° □ Z ' î 2 □ † ' O Ž > □ 3 • F

' — < à, ° Š m " F, Å, « Ž Ÿ ' æ □ A " o ~ ^ f L □ [f □ □ [f h, ð □ u • • □ ' □ v, É, Ä, ' ' m, ç, 1, μ, Ü, · □ B
(□ Z □ Š, í • ï □ X, É, È, é % ° ° Å " \ □ «, à, , è, Ü, ·, ì, Å □ A ' m □ l, ì D, ð, 2 — ~ — p, Å, «, é □ ê □ †, í
, È, , x, □ A ' m □ l, ì " d Ž q f □ □ [f < , ð, 2 — ~ — p, , 3/4, 3, ç □ B
, È, " □ A " d Ž q f □ □ [f < , ° - { □ l, ì ID , 3/4, Æ Š m " F, Å, «, é □ ê □ †, í
" d Ž q f □ □ [f < , Å, ' ' m, ç, 1, ·, é □ ê □ †, à, , è, Ü, · □ B)
, Ü, 1/2 □ A f l f " f % ° ° f C f " , Å, ì ' — < à, Æ ^ á, ç □ A < â □ s □ U □ ž, Å, í
□ v ' — , È ' í % ° ° ž, °, Å, «, Ü, 1, ñ, ì, Å □ A, , ç, © , ¶, ß, 2 — 1 □ 3 , , 3/4, 3, ç □ B

• i □ » □ ð Ç □

1, Å, ì f % ° ° f C f Z f " f X, É, Å, « f C f " f X f g □ [f < f } f V f " , í 1 ' ä, É Ç È À, è, Ü, · □ B
, 1/2, 3/4, μ □ A □ 3 < K f t □ [f U □ [, í, ·, x, Ä, ì f } f V f " , Å ' 1/4 Ž Ò, É Ž g — p, 3, 1, È, ç, ±, Æ, ð
□ ð Ç □ , É • i □ " , ì f } f V f " , É f C f " f X f g □ [f < % ° ° Å " \, Å, · □ B

— á, ì, î □ A f t f C f g — ~ — p, ì □ ê □ † f % ° ° f C f Z f " f X □ " , ì Ž Ÿ, ì, æ, x, É, È, è, Ü, · □ B
(f % ° ° f C f Z f " f X □ ") = min ((f t f C f g " à f } f V f " □ ") , (f t f C f g " à □ l □ "))

ftfŠ[]\$“x

ComWin32 ‘î%ož,lf\ftfg,ðflfbfgf[]fN[]ă,ÉŒöŠj,³,ê,½[]žÒ,í

Ž,,^¶,Éf[]f<,ð,,¾,³,ê,îA-³—¿,Å[]³<Kft[]fU[][“o~^,ìžè’±,«,ðs,ç,Ü,·[]B

fTf|[]fg

“Á,Éžw’è,ì,È,ç[]ê[]#fo[]fWf#f“fAfbfv—¿,í-³—¿,Å,·[]B

“o~^fL[]f[]fh,í^È‘O,ì,à,ì,žg,ì,Ü,·,ª[]A

fZfLf...fŠfefB,ìšÖŒW,Å•ïX,·,é[]ê[]#à, ,è,Ü,·[]B

,±,ì[]ê[]#A[]³<Kft[]fU[][,ì•û,É,íž-‘O,É,“’m,ç,¹,µ,Ü,·[]B

[]³ž® ,ÈfŠfŠ[]fX[]ê[]Š,í NIFTY FWINNT LIB 3 ,ì,Ý,Æ,µ,Ü,·[]B

ComWin32 ,É’í,µ,Ä,ìš‘z[]A—v-],í[]AŒÂ[]“l,È,à,ì,Å,È,çŒÀ,è[]A

NIFTY FWINNT MES 3 ,Å,“Šè,ç’v,µ,Ü,·[]B

(ŒÂ[]l,ìf[]f<f{fbfNfX—e—Ê,É,íŒÀ,è,ª, ,è,Ü,·,ì,Å[]B)

[];Œă,Æ,à<@“\fAfbfv,µ,Ä,ç,—\’è,È,ì,Å

,È,É,Æ,¼[]A,æ,ë,µ,,“Šè,ç,ç,½,µ,Ü,·[]B

‘Ož>[]³•F<SGQ00310@niftyserve.or.jp>

10. "••ftf@fCf<,i□Ú□x

(1) comwinx.exe, comwinx.pif

(2) comwld.exe, comwld.pif, vcomwd.386

(3) comwin.dll, comwin.lib ("ñ"••), comwin.h

(4) comwins.dll

(5) comwin.hlp, readme.txt

(6) comwreg.exe

(7) comwtbar.dll

(8) comwin32.dll, comwin32.lib

(9) bhole.exe

(10) comwin.ini

(11) install.bat

(12) hello.c, hello.def, hello.exe

(13) sample1.c, sample1.def, sample1.exe

(14) sample2.c, sample2.def, sample2.exe

(15) sample3.c, sample3.def, sample3.dll

(16) sample4.bat, sample4.cws

(17) sample5.c, sample5.def, sample5.exe

(18) english.lzh

(1) comwinx.exe, comwinx.pif

* comwinx.exe

ComWin ,ì'[-f,fWf...[f<,Å,·B
ft[fU[,©,ç,ìfRf}f“fh,ðŽó,·t,·fvf[fOf%of€,ð<N“® ,μ,Û,·B
ComWin,É'í%ž,μ,½fvf[fOf%of€,ìo—í,ð·\Ž!,μ,Û,·B
,Û,½A·\Ž!CE<%È,ð·Û'¶,·,é<@“\,ðŽ,Á,Ä,ç,Û,·B
ftfHf“fg[AfF“™ ,ì%æ-Ê%ñ,è,ðŠÇ—,μ,Û,·B

* comwinx.pif

'<ó'Ô,Å<N“® ,μ|—¹Žž,É<xŽ~ó'Ô,É,È,éY'è,ìPIFftf@fCf<,Å,·B
fvf[fOf%of€,í command.com ,ðŽg—p,μ,Ä,ç,Û,·B
(fz[f€f]fWfVf†“,©,çŽè,ð—£,³,„,ÉfEfBf“fhfE,ð·Ä,¶,é,É,íA
Alt(Grph)+Space --> C ,Æ^—,μ,Ä,,¾,³,çB)

comwinx.pif ,ì“à—e,í PIFfGfffBf^,É,æ,Á,Ä·ÒW,Å,«Û,·B
ŠeŽ© ,ìŠÂ«„ÅÅ“K%»„μ,Ä%º,³,çB

ŽQÆ Windows fv[fOf%of€,ìf[f _l,Æ,μ,ÄŽg—p

(2) comwld.exe, comwld.pif, vcomwd.386

* comwld.exe

DOS fRf}f“fh,ì“ü□o—Í,đftfbfN,μ□Avcomwd.386 ,É“n,.f□□[f_□[,Å,·□B
,Ü,½□A“ ®□if,□[fh,É,æ,Á,Ä,í□ADOSfRf}f“fh,đ□|—
¹Žž,É^êŽž’âŽ~ ,³,¹,Ü,·□B

* comwld.pif

comwld.exe —p,É□Å“K%o»,³,ê,½PIFftf@fCf<,Å,·□B
ŠeŽ©,ÌŠÂ«<,É, ,í,¹,Ä□Å“K%o»,μ,Ä,,³/4,³,¢□B

* vcomwd.386

DOS ,lfRf“f□[f<□o—Í,đ Windows ,É“n,·%o¼’zfffofCfXfhf%oofCfo,Å,·□B
—~—

p,·,é,½,ß,É,í□AWindowsfffBf☐fNfgfŠ□AWindowsfVfXfef€fffBf☐fNfgfŠ□A
fpfX,ìÊ,Á,½fffBf☐fNfgfŠ,ì,¢,,ê,©,É’u,«
system.ini ,ì [386Enh] fZfNfVf#f“ ,É device=vcomwd.386 ,ì
<L□q,đ%oÁ,ì,Ä,,³/4,³,¢□B

(3) comwin.dll, comwin.lib ("ñ"••), comwin.h

* comwin.dll

```
•i" ,ìComWinNf%ofCfAf"fg('[--j,ÆŠefRf}f"fhDLL□AŠO•"fRf}f"fh,ì  
"ü□o—í,đfXfPfWf...□[fŠf"fo, ,é ComWin fVfXfef€ ,ìŠj,Æ,È,éDLL,Å, □B  
'¼, ìfvf□fZfX, ©, çComWin, É•¶Žš—ñ, ð"ü□o—í, ,é, ½, ß, É□A  
ExportŠÖ□" Puts, Gets "™ ,ð'ñ<ÿ, μ, Ä, ç, Ü, □B  
, Ü, ½□AfRf}f"fhf%ofCf" ,ì•¶Žš—ñ, ð%ođŽß, ,é, ½, ß, ìfT□[frfX, Æ, μ, Ä□A  
ExportŠÖ□" MakeArgument ,ð'ñ<ÿ, μ, Ä, ç, Ü, □B
```

* comwin.lib ("ñ"••)

```
comwin.dll, ð—~—p, ,é, ½, ß, ìfCf"f□[fgf%ofCfuf%ofŠ, Å, □B  
Šj"Žò^ÈŠO, í•K—v, ,è, Ü, ¹, ñ□B  
fCf"f□[fgf%ofCfuf%ofŠ, ðŽg—p, ,é, æ, è, à□A  
f, fWf...□[f'è<`ftf@fCf<, Å IMPORTS •¶, ðŽg—p, μ, ½, Ü, ², □A  
•ÜŽç□ã□D, Ü, μ, ç, Æ"»'f, μ□A"••, μ, È, ç, ±, Æ, É, μ, Ü, μ, ½□B  
comwin.dll ,ð—~—p, ,é, ½, ß, É, í□A  
f, fWf...□[f'è<`ftf@fCf<, É  
imports comwin.Puts  
, Æ<L□q, μ, Ä—~—p, μ, Ä, ,¾, ³, ç□B
```

* comwin.h

```
ComWin —pf\ftfg, ðŠj" , ,é, ½, ß, ìfwfbf_□[ , Å, □B  
ŽQ□l, É, μ, Ä, ,¾, ³, ç□B
```

(4) comwins.dll

•W[€Rf}f“fhDLL,Á,·[B
ŠeŽí,ì“à•”fRf}f“fh,đ’ň<ÿ,·,é,½,ß,ìDLL,Á[A
ComWin ,É“à•”fRf}f“fh,đ’ň<ÿ,·,é,½,ß,ìfCf“f^[ftfF[fX,É
[€,[,Ä[ì[¬,³,ê,ç,Ü,·[B
Æê<â%ođŽß[AfXfNfŠfvg%ođŽß,à[s,Á,Ä,ç,Ü,·[B

ExportŠÖ[“ CallCommand(%o¼[ì) [A
 CallInterpreter(%o¼[ì)[A
 CallScript(%o¼[ì)[A
,Á comwin.dll ,Æff[f^,ìŽó,~“n,μ,đ,“,±,È,Á,Ä,ç,Ü,·[B

’Ê[í,ìftf@fCf<[AfffBfÆfNfgfŠ’€[ì[ÆnfRf}f“fh,í
,·,x,Ä comwins.dll ,ª’S“-μ,Ä,ç,Ü,·[B
(break, cls, exit “™,ì[--^Ë’[Rf}f“fh,í
comwinx.exe,ì-,,ß,±,ÝfRf}f“fh,Á,·[B)

(5) comwin.hlp, readme.txt

comwin.hlp ,Æ readme.txt ,Í“~ ,¶WORD5,ì•¶¶‘ftf@fCf<, ©,ç□ì,ç,ê,Ä,ç,Ü,·□B
comwin.hlp ,Í RTF(Rich Text File)%oo»,µfRf“fpfCf<,µ,½,à,ì,Å□A
readme.txt ,Í fefLfXfgftf@fCf<%oo»,µ,½,à,ì,Å,·□B

(6) comwreg.exe

ŽŽ—pŠúŠÔ,ì•\Ž!,đ,μ□A□³<Kft□[fU□[,ì“o~^,đ,·,éfRf}f“fh,Å,·□B
'P'ì,Å,í<N“® ,Å,«,Ü,¹,ñ□B
□³<Kft□[fU□[,ì“o~^,³□İ,Ý,μ,^{3/4},ç□í□œ,μ,Ä,,^{3/4},³,ç□B
(ŽQ□Æ□A“®□İŠÂ<<)

(7) comwtbar.dll

comwinx.exe ,Éfc[]f<fo[][,âftf@f“fNfVf#f“fL[]fo[][,ð
'ñ<ÿ,·,éfRf“fgf[]f<,Â,·[]B
fc[]f<fo[][,É,Íjfbfg[]AfRfs[][]Afy[]fXfg[]Af,[]fh·ï[]X[]A
fwf<fv,Ìf{f^f“ ,â,Â,ç,Ä,ç,Ü,·[]B
,Ü,½[]AŽžCEv,ì·\Ž!,âffBfCEfNfgfŠ·ï[]Xf{fbfNfX,à,Â,ç,Ä,ç,Ü,·[]B

ComWin ,Ífc[]f<fo[][]Aftf@f“fNfVf#f“fL[]fo[][·”·â,ð
DLL ,Æ,μ,Ä·ÊCEÂ,É—p^Ó,·,é,±,Æ,Â[]Afc[]f<fo[][]Aftf@f“fNfVf#f“ ,«[]fo[][,ð
·K—v,Æ,μ,È,çft[]fU[][,ÌfŠf[]fX,ð[]Á”i,μ,È,ç,æ,ɣ,É[]H·v,μ,Ä,ç,Ü,·[]B
·\Ž![]Ý'èf_fCfAf[]fO,Âfc[]f<fo[][]Aftf@f“fNfVf#f“fL[][,ð OFF ,É,μ,Ä
comwtbar.dll ,ð[]í[]œ,·,é,±,Æ,à%oÂ“\,Â,·[]B

(8) comwin32.dll comwin32.lib

ComWin32—p,lf\ftfg,©,ç ComWin ,ðĀÄ,Ñ□o,¹,é,æ,æ,É,·,éfAf_fvf^,Å,·□B
ftfjfo□[fTf<fTf“fN,ÆĀÄ,î,ê,Ü,·□B
,±,lf,fWf...□[f<,ð—~—p,·,é,½,β,É,Í Win32s ,afVfXfef€,ÉfCf“fXfg□[f<
,³,ê□AWindows ,afGf“fnf“fXfgf,□[fh,Å“®□ì,μ,Ä,ç,é•K—v,ª, ,è,Ü,·□B

,Ü,½ftf@fCf<-¼,Í Windows 3.1 ,Æ Windows NT 3.5 ,Å“^êf\ftfg,ð
“®,©,“s□#□ã ComWin32 ,ì†□•DLL comwin32.dll ,Æ“^-¼,É,È,Á,Ä,ç,Ü,·□B
□ã□',«,μ,È,ç,æ,æ,É,²□^Ó,,¾,³,ç□B

“®□ìŠT—v

ComWin16AP ---> comwin.dll ---> comwinx.exe (Win3.1)

ComWin32AP ---> comwin32.dll ---> comwin.dll ---> comwinx.exe

(Win32s)

ComWin32AP ---> comwin32.dll ---> comwpad.exe (WinNT)

•i□”,lfvf%ofbfgftfH□[f€,Å“^êfofCfifŠ,ð“®,©,·,±,Æ,ª%oÅ“\,É,È,è,Ü,·□B

comwin32.lib ,Í ComWin32—p,lf\ftfg,ðŠJ” ,·,é,Æ,«,É•K—v,É,È,è,Ü,·□B
(MS-VC++2.0 ,Å,lf,fWf...□[f<`è`ftf@fCf<,ì IMPORTS •¶,ªŽg,ì,È,ç,ì,Å,·,ª□A
fCf“f□[fgf%ofCfuf%ofŠ,É—Š,ç,È,,Å□ì,ρ•û-@,ð,²‘¶,¶,ì•û,ª,ç,ç,Á,μ,á,ê,î□A
,²^ê•ñ,,¾,³,ç□B•s•K—v,ÉfofCfifŠftf@fCf<,É—Š,é,ì,í□A
•ÛŽç□ã□A□D,Ü,μ,, ,è,Ü,¹,ñ,©,ç□B)

(9) bhole.exe

ComWin,Æ,Í,Ü,Á,½,-³ŠÖÆW,ì 32bitfSf~” □ufuf%ofbfNfz□[f<□v,Å,·□B
Windows 3.1 + Win32s, Windows NT 3.5 ,Å“ ®□ì,μ,Ü,·□B

ftf@fCf<f}f□[fWff,â ComWin ,ì'l'ð•¶Žš—ñ,ðfhf%ofbfO,μ□A
□ufuf%ofbfNfz□[f<□v,ìfAfCfRf” ,Éfhf□fbfv,·,é,±,Æ,Å
ŠY” -ftf@fCf<,ð□í□œ,μ,Ü,·□B

ComWin32—p,ìf\ftfg,ð%oð“K,É%o^—p,·,é,½,ß,É,Í□A
f□f,fŠ□ã(fffBfXfN□ã,Å,Í,È,ç),É Win32s ,ª¶□Y,μ,Ä,ç,é•K—v,ª, ,è,Ü,·□B
,μ,©,μ□A Win32s ,í□í,Éf□f,fŠ□ã,É, ,é,í,¯,Å,Í,È,□A Win32—p,ìf\ftfg,ª
ŠJŽn,·,é,Æ”~Žž,Éf□f,fŠ,É“Ç,Ý□ž,Ü,ê□A□I—¹,·,é,Æ”~Žž,Éf□f,fŠ,©,ç
”jšü,³,ê,Ü,·□B Win32s ŠÖ~Aftf@fCf<,í□±Æv,Å1Mbyte ,ð'´,ì,éftfCfY,ð
,à,Á,Ä,ç,Ü,·,©,ç□A,±,ìf□[fo□[fwfbfh,í,©,È,è,ì,à,ì,Å,·□B

%oðÆ^□ô,ÍŠÈ`P,Å Win32—p,ìfvf□fOf%of€,ðŽÀ□s,μ,½,Ü,Ü,É,·,é,î□A
Win32s ,íf□f,fŠ,É□í” ,μ,Ü,·□B,μ,©,μ□A,à,Á,Æ,àf|fsf...f%o□[,È
Win32—p,ìf\ftfg□uftfŠ□[fZf<□v,ífQ□[f€f\ftfg,Å, ,è□A□Eê“™ ,Å,ì
Žg—p,ª□ç“ï,Èft□[fU□[,à'½,ç,ÆŽv,í,ê,Ü,·□B,» ,±,ÅŽèÆy,Èf\ftfg,Æ,μ,Å
32bitfSf~” ,ð” □« ,μ,Ü,μ,½□B

□ufuf%ofbfNfz□[f<□v,í ftfŠ□[f\ftfg,Å, ,è□A
ComWin ,Æ,Í,Ü,Á,½,-³ŠÖÆW,ìf\ftfg,È,ì,Å□A
,²Ž©—R,É,“Žg,ç,,¾,³,ç□B

(10) comwin.ini

ComWin ,iŠÂ««fvf[]ftf@fCf<,Å,·[]B·K, WindowsfffBfCEfNfgfŠ,É[]ì,ç,ê,Û,·[]B
[]%Šú[]ó'Ô,Å,±,ìftf@fCf<,ª,È,,Ä,à[]AŽ©“®“l,É[]ì,ç,ê,Û,·[]B

ŽŸ,ìfZfNfVf#f“ ,ª'è<` ,³,ê,Û,·[]B

* [CommandDll]

ft[][fU[][,ª“ÆŽ©,É[]ì[]¬,μ,½“à•”fRf}f“fh,đ'ñ<Ÿ,·,éDLL,đ
,±,ìfZfNfVf#f“ ,É“o~^ ,·,é,±,Æ,É,æ,è“à•”fRf}f“fh,đŠg'£,Å,«,Û,·[]B
fGfffBf^“™ ,Å[]',«Š·,ì,Û,·[]B

* [InterpreterDll]

ft[][fU[][,ª“ÆŽ©,É[]ì[]¬,μ,½CEê<å%đŽß—p,đ'ñ<Ÿ,·,éDLL,đ
,±,ìfZfNfVf#f“ ,É“o~^ ,·,é,±,Æ,É,æ,èfRf}f“fhf%ofCf“ ,É
[]D,Ÿ,ì[]\·¶,đ'è<` ,·,é,±,Æ,ª,Å,«,Û,·[]B
fGfffBf^“™ ,Å[]',«Š·,ì,Û,·[]B

* [ScriptDll]

ft[][fU[][,ª“ÆŽ©,É[]ì[]¬,μ,½fXfNfŠfVfg%đŽß—p,ìDLL,đ
,±,ìfZfNfVf#f“ ,É“o~^ ,·,é,±,Æ,É,æ,èfobf^ []^—[],đ
<—í,É,·,é,±,Æ,ª,Å,«,Û,·[]B
fGfffBf^“™ ,Å[]',«Š·,ì,Û,·[]B

* [Color]

ffftfHf<fg,ìftfHf“fg[]F,đ•Û'¶,μ,Û,·[]B
[]Ý'è,ì•Û'¶f_fCfAf[]fO,ÅŽ©“®[]¶[]¬,³,ê,Û,·[]B

* [Font]

ffftfHf<fg,ìftfHf“fg'®[]«,đ•Û'¶,μ,Û,·[]B
[]Ý'è,ì•Û'¶f_fCfAf[]fO,ÅŽ©“®[]¶[]¬,³,ê,Û,·[]B

* [Window]

<N“®Žž,ìfEfBf“fhfEfTfCfY,đ'¶,μ,Û,·[]B
[]Ý'è,ì•Û'¶f_fCfAf[]fO,ÅŽ©“®[]¶[]¬,³,ê,Û,·[]B

* [StartUp]

<N“®Žž,ÉŽ©“®“l,Éf[][]f[h,·,éfvf[]fOf%of€,đ“o~^ ,μ,Û,·[]B
fGfffBf^ ,Å•Ö[]W,μ,Û,·[]B
<N“®Žž^ø[]“ü—íf_fCfAf[]fO,Å[]X[]V,³,ê,Û,·[]B

* [Alias]

fGfCfŠfAfX,đ“o~^ ,μ,Û,·[]B

alias, unalias fRf}f“fh,ÅComWin“à, ©,çXV,μ,Ü,·B

* [Console]

fNf%ofCfAf“fg—ì^æ,ì“üo—í,ÉŠÖ,·,é““Ý’è,ð“o~^,μ,Ü,·B

* [Auxiliary]

’ÊMf|[]fg,Æ,ì“üo—í,ÉŠÖ,·,é““Ý’è,ð“o~^,μ,Ü,·B

* [Accessory]

fEfBf“fhfE[]Af_fCfAf[]fO,ÉŠÖ,·,é““Ý’è,ð“o~^,μ,Ü,·B

* [Keyboard]

fL[][Š,,è“-,Ä,ð“o~^,μ,Ü,·B

* [History]

%oß<Ž,lfRf}f“fh,ì—š—ð,ð•Ù’¶,μ,Ü,·B

ComWin “à,Å’€[]ì,·,é,±,Æ,í, ,è,Ü,ñ,¹,ñB

comwinx.exe ,ì<N“®Žž,ÉŽ©“®“I,É“Ç,Ýž,Ü,êA

[]I—¹Žž,ÉŽ©“®“I,É‘,«ž,Ü,ê,Ü,·B

* [etc]

ŠÇ—[]—p[]AfffofbfO—p,lfZfNfVf+f“ ,Å,·B

“Á,ÉŽw’è,ì,È,ç[]ê[]‘,«Š·,ì,È,ç,Å,,³/₄,³,çB

(11) install.bat

'P,È,é DOS ,lfofbf`ftj@fCf<,Å,·,ª□A
,È,ç,æ,è,í, ,Á,½,Ù,æ,ª•Ö—~,È,ì,Å“~••,µ,Ü,·□B

Uninstall ,ì,µ,©,½,à□à-¾,µ,Ä,ç,Ü,·□B
(ComWin fvfxfef€,ìê□‡ del comw*.* ,Å□\•ª,Å,·□B)

(12) hello.c, hello.def, hello.exe

Exports ŠÖ" Puts ,İŠÈ'P,ÈŽg—p—á,Å,·B
ComWinfNf%ofCfAf"fg,É "hello world" ,ðo—Í,μ,Ü,·B

Å<ß,ÍŠe^—CEn,àDOS,©,çŠÈ'P,É^Ús,Å,«,éfCf"f^ftfF[fX,ð
—p^Ó,μ,Ä,ç,Ü,·,ªA^È'O,Í, ,è,Ü,¹,ñ,Å,μ,¹/₂B
,Æ,É,©,WindowsfvfOvf%of€,ª'N,Å,àŽèEy,Éì,ê,é,æ,κ,É,È,ê,Î,ç,ç,Å,·,ËB

(13) sample1.c, sample1.def, sample1.exe

```
Exports ŠÖ" MakeArgument ,lŽg—p—á,Å,·B
WinMain ,lRf}f"fhf%ofCf"^ø,«",đ main ,l
argc, argv Ć`Ž®,É•İŠ·,μ,ÄAComWinfNf%ofCfAf"fg,É
2'Ê,è,ì•û-@,đŽg,Á,Äo—Í,μ,Ü,·B
nearf|fCf"f^, farf|fCf"f^,ì"ü,èĆđ,¶,Á,½fAfhfĆfX,ì
Žó,~"n,μ,í'â•İ,Èê~J,đ"º,¸,à,ì,Å,·,ËB
```

```
Fputs, Fgets ,đŽg—p,μ,½"üo—Í—áA
System fRf}f"fh,lŽg—p—áA
ŠÂ«•İ",ì'€ì—áA
fGfXfP[fvfV[fPf"fX,lŽg—p—áA
ŠÈ'P,È,"ŠG,©,«•û-@,ì—á,à, ,è,Ü,·B
```

(14) sample2.c, sample2.def, sample2.exe

fffofbfOf[]fbfZ[]fW,ì[]o—í—á,Å,·[]B
Windowsfvf[]fOf%of€, ©,ç ComWin fNf%ofCfAf“fg,É
f[]fbfZ[]fW,ìŽí—P[]Af[][]fhfpf%of[][]f^[]Af[]f“fOfpf%of[][]f^,ð[]o—í,μ,Û,·[]B

Ž—,½,æ,æ,È<@“\,ðŽ[],Â,à,ì,Æ,μ,Ä DBWIN ,Æ,ç,æfc[]f<,ª
SDK (Šj”fLfbfh) ,É, ,è,Û,·,ª[]A, ,,Û,Å,àfffofbfOfc[]f<,É,·,¬,Û,¹,ñ[]B
“Á,ÉfnfCfÆf]ŠÂ<«,Å,í•¶Žš,ª[]¬,³,·,¬,Ä-Ú,É,æ,, ,è,Û,¹,ñ[]B
fffofbfO•¶,ð TRUETYPEftfHf“fg ,ÅŠi[]D—Ç,[]o—í,·,é,ì,à[]A
,½,Û,É,í<C•ª“]Š·,É,È,è,Û,¹,ñ,©[]B

(15) sample3.c, sample3.def, sample3.dll

Šg'£fRf}f"fhDLL,ììì¬—á,Å,·□B

[CommandDII]

,É"o~^,·,é,±,Æ,Å□AfRf}f"fh,ª—~—p,Å,«,Ü,·□B

UNIX f%ofCfN,ÈfRf}f"fh,ð Windows □ã,ÅŠi□D—Ç,
fofŠfofŠŽg,ç,½,ç,ÆŽv,ç,Ü,¹,ñ,©□B

(Windows ,É,à—{Ši"l,ÈfLfff%ofNf^fEfBf"fhfE,ª—~ ,μ,ç,Å,·,Ë□B)

(DOS BOX ,í, ,,Ü,Å,à%¼'zDOSf}fVf" ,É,·,¬,Ü,¹,ñ□B)

[InterpreterDII] ŠÖŒW

InterpreterDII ,Å,í□A

UNIX ,ì,æ,κ,ÉftfHfAfOf%ofEf"fh,ðffftfHf<fg,Æ,μ□A

& ,ÅfofbfNfOf%ofEf"fh<N" ®,³,¹,éfRf}f"fh%ðŽß,ì—á,ðŽì,μ,Ü,·□B

[ScriptDLL] ŠÖŒW

ScriptDII ,Å,í□ADOC ,Æ,ç,κŠg'£Žq,ðŽ□,Á,½ftf@fCf<,ð

Žw'è,·,é,Æ notepad ,ª<N" ®,·,é,Æ,ç,κ'è<` ,ðŽì,μ,Ä,ç,Ü,·□B

ftf@fCf<,ìŠÇ—□□ã□AInterpreterDII, CommandDII, ScriptDII ,ð"¬,¶

DLL ,É,Ü,Æ,ß,Ü,μ,½,ª□ACE³—^ ,í•ÊCEÂ,É□ìì¬,Å,«,é,à,ì,Å,·□B

(16) sample4.bat, sample4.cws

ComWin—pfofbf`ftf@fCf<,lfTf“fvf<,Å,·□B

ComWin—pfofbf`ftf@fCf<,l□i,è•û,íŠÈ'P,Å
'Ê□í,ìDOS,ìfofbf`ftf@fCf<,ì^ê□s-Ú,É "REM BAT FOR COMWIN" ,Æ
“ü—í,·,é,¾,¯,Å□\•ª,Å,·□B, ,Æ,ìftfH□[f}fbfg,í
DOS ,ìfofbf`ftf@fCf<,É□€,¶,Ü,·□B

,Ü,½ ComWin —p,ìfofbf`ftf@fCf<,ð•ÊÆÂ,ÉŠÇ—□,·,é□l,ì,½,ß,É□A
sampil4.cws ,ÆfŠf□[f€,μ,ÄŽg—p,·,é,±,Æ,à%oÂ“\,Å,·□B
CWS ,Æ,ç,αŠg'£Žq,í ComWin —p,ìfofbf`ftf@fCf<,Æ,μ,Ä
“FŽ¯,³,ê,Ü,·□B•¶-@,í bat Šg'£Žq,Æ“¯,¶,Å,·□B
(CWS ,ì□ê□‡ "REM BAT FOR COMWIN" ,í•s—v,Å,·□B)

ŽQ□Æ ftfHfAfOf%oEf“fh<N“® ,ÆfofbfNfOf%of“fh<N“®□Apause

(18) english.lzh

%o pŒê"Å ComWin ,lfA[fjfcfu,Å,·B

Œ»fo[fWf‡f" ,Å,Í comwinx.exe ,Æ comwins.dll,ª"ü,Á,Ä,ç,Û,·B

"ú- {Œê"Å,ì,à,ì,É[ã' ,«,μ,ÄŽg—p,μ,Ä,,¾,¾,çB

fN[fŠfGftfHf"fg"™ ,ì"ñShift-JISŒnftfHf"fg,Å,ì%o^—p,ª%oÅ"\,É,È,è,Û,·B

"ú- {Œê"Å,Æ,ì"~ŽžŽg—p,í,Å,«,Û,¹,ñB

11. fRf}f“fhfŠftf@fĚf“fX

- (1) alias (•Ě-¼'è<` □Ý'è)
- (2) break (Š,,,è□ž,Ý,ì<-‰Ā)
- (3) cd, chdir (fffBfĚfNfgfŠ•ï□X)
- (4) cls (‰œ-Ě□Á<Ž)
- (5) comwins (fT□[frfXfRf}f“fh)
- (6) copy (ftf@fCf<•;žĚ)
- (7) ctty (“ü□o—lfffofCfX,ì•ï□X)
- (8) date (“ú•tžQ□Ě•ï□X)
- (9) del (ftf@fCf<□í□œ)
- (10) dir (ftf@fCf<^ê—)
- (11) dirs (fffBfĚfNfgfŠfXf^fbfN,ì□o—í)
- (12) echo (f□fbfZ□[fW,ì•\ž!)
- (13) exit (□l—¹)
- (14) fg (ftfHfAfOf‰fEf“fhžÀ□s)
- (15) goto (f‰ofxf<fWfff“fv)
- (16) help (fwf<fv)
- (17) history (fRf}f“fh—š—đ•\ž!)
- (18) if (□đĚ□□^—□)
- (19) kill (fvf□fZfX,ì<□\$□l—¹)
- (20) logoff (f□fOfift)
- (21) md, mkdir (fffBfĚfNfgfŠ□ì□→)
- (22) mode (‰œ-Ěf,□[fh□A'Ě□Mf|□[fg,ì□Ý'è)
- (23) path (fpfXžQ□Ě•ï□X)
- (24) pause (^êžž'âž~)
- (25) popd (□ì<ĚfffBfĚfNfgfŠ,ì•œĚ³)
- (26) PostMessage (f□fbfZ□[fWf|fXfg)
- (27) prompt (fvf□f“fvfg•ï□X)
- (28) ps (fvf□fZfX^ê—)
- (29) pushd (□ì<ĚfffBfĚfNfgfŠ,đ•Ů'¶)
- (30) pwd (fjfĚf“fgfffBfĚfNfgfŠ,ì•\ž!)
- (31) rd, rmdir (fffBfĚfNfgfŠ□í□œ)
- (32) reboot (fvfXfef€(OS)□Ä<N“®)
- (33) rem (fRf□f“fg□s,ìžw'è)
- (34) ren (-¼'O,ì•ï□X)

- (35) restart (Windows®)
- (36) SendMessage (f[fbfZ[fW'—o)
- (37) set (ŠÂ«•ï”ŽQÆ)
- (38) SetWindowPos (fEfBf“fhfE^Ê'uY'è)
- (39) SetWindowText (fLffvfVf#“-¼Y'è)
- (40) shift (^ø”,ìfVftfg)
- (41) shutdown (Windows,ìl—¹)
- (42) start (fvf[fOf%of€<N®)
- (43) time (Žž[]ŽQÆ•ïX)
- (44) type (ftf@fCf.“à—e•\Ž!)
- (45) unalias (•Ê-¼'è`íœ)
- (46) ver (fo[fWf#“•\Ž!)
- (47) vol (f{fŠf...[f€f%ofxf<ŽQÆ)
- (48) win (WinExec, LoadModule API ,ìŽÀs)

(1) alias (•Ê-¼'è` □Ý'è)

alias [name [wordlist]]

•Ê-¼,đ'è` ,μ"o~ ^ ,μ,Ü,·□B

name ; fRf}f"fh,Éî,·,é•Ê-¼

wordlist ; fRf}f"fhfŠfXfg

alias ; •Ê-¼,î^ê—,đ•\Ž!,μ,Ü,·

alias name ; •Ê-¼ name ,l"o~ ^□ó<μ,đ•\Ž!,μ,Ü,·□B

alias name wordlist ; •¶Žš—ñ wordlist ,đ •Ê-¼ name ,Æ,μ,Ä"o~ ^ ,μ,Ü,·□B

'æ,Q^ø,«□",É<ó"'•¶Žš,đŽg,æ□ê□‡□A^ø—p•,,("),ÅŠ‡,Á,Ä,,¾,¾,‡□B

—á

>alias fd winfile

>alias custom "notepad \config.sys"

>alias ls "dir %1 /w"

alias ,Æ unalias ,đ•Ê-¼,É,·,é,±,Æ,í,Å,«,Ü,¹,ñ□B

•Ê-¼'è` ,đ□í□œ,·,é□ê□‡,í unalias ,đ—~ —p,μ,Ä,,¾,¾,‡□B

comwin.ini ,l [Alias] fZfNfVf‡f" ,æ□X□V,³,ê,Ü,·□B

(2) break (Š,,èž,Ý,ì<-‰oÂ)

break [on|off]

break on Š,,èž,Ý,ì<-‰oÂ

break off Š,,èž,Ý,ì<ÖŽ~

break Œ»Ÿ,ìŠ,,èž,Ýó'Ô

break fRf}f"fh,Í ComWin fVfXfef€,Å,Í,©,È,èd—v,È-đŠ,,đ,Í,½,μ,Û,·B

break off ó'Ô,Å,Í^—'t,É CPU ,đ"Æèè,·,é,ì,Å,μ,·,É,È,è,Û,·B

break on ó'Ô,Å,Ío—Í^—'t,É'¼,ìvfZfX,É CPU ,đŠj•ú,·,é,ì,ÅA

f}f<f`f^fXfN(Windows ,ìš-ñ,Å<[Ž—f}f<f`f^fXfN)"®ì,‰‰oÂ"\,Å,·B

ffftfHf<fg,Í break on ,Å,·B

(3) cd, chdir (ffBfŒfNfgfŠ•ïX)

cd [dir]

fjfŒf“fgffBfŒfNfgfŠ,đ•ïX,μ,Û,·B

(4) cls (%æ-ÊÁ<Ž)

cls

ComWin,ìfNf%ofCfAf“fg%æ-Ê,đÁ<Ž,μ,Û,·B

%ß<Ž,ìo—í—š—đ,à“~Žž,ÉÁ,·@“\,à, ,è,Û,·,ì^Ó,μ,Ä,,³/₄,³,çB

(5) comwins (fT[fXfRf]f“fh)

comwins ,^añ<ÿ,μ,Ä,ç,éT[fXfRf]f“fh,Å,·B

ComWin ,ì-{-^,ìŽiŽ|,©,çŠO,é,Ä,ç,Ü,·,^aA

Ž,,^aĀÂ|“l,ÉŽg—p,μ,Ä,ç,éRf]f“fh,đW,β,Ä,ç,Ü,·B

,±,é,ç,ìRf]f“fhĀEQ,í ComWin ,ì%oβ<ŽĀÝŠ·«,ì’îŮŠO,Å,·B

(6) copy (ftf@fCf<•;žĚ)

copy [dir1|file1] [dir2|file2]

ftf@fCf<,đ•;žĚ,μ,Ü,·□B

f□fCf<fhfj□[fh,žg,!,Ü,·□B

□ã□',«-hž~,ìŠm" Ff□fbfZ□[fW,ž,Å,Ü,·□B

Šm" Ff□fbfZ□[fW,đXfLfbfv,·,é□ê□ž,í

ŠÂ«•i□" COPYCMD=/y ,đžw'è,μ,Ä,,³/₄,³,č□B

(7) cttý (“ü□o—ÍfffofCfX,ì□Ø,è‘Ö,ì)

ctty [con|aux]

ctty con “ü□o—ÍfffofCfX,ðComWin ,ìfNf%ofCfAf“fg—ì^æ,É□Ý’è,μ,Û,·□B
ctty aux “ü□o—ÍfffofCfX,ð’Ê□Mf|□[fg,É□Ý’è,μ,Û,·□B

mode fRf}f“fh,Å’Ê□Mfpf%of□□[f^□[,ð□Ý’è,μ,Ä,,¾,³,ç□B

’□^Ó

’Ê□Mf|□[fg,ªŽg—p,Å,«,È,ç□ó‘Ô,ì,Æ,«,É

ctty aux ,ðŽÀ□s,·,é,Æfnf“fOfAfbfv,·,é,Æ,«,ª, ,è,Û,·□B

(8) date (“ú•tžQÆ•ïX)

date “ú•t,ìžQÆA,Ü,½,Í•ïX,đs,ç,Ü,·B

(9) del (ftf@fCf<íœ)

del file

Žw'è,μ,½ftf@fCf<đíœ,μ,Û,·B

fCf<fhfj[h,Žg,!,Û,·B

(10) dir (ftf@fCf<^ê—)

dir [d:|dir|file] [/W]

Žw'è,μ,½fpfX,Æ^ê'v,μ,½ftf@fCf<,l^ê—,đ•\Ž!,μ,Ü,·□B

f□fCf<fhfj□[fh,ªŽg,!,Ü,·□B

/W f□fCfh•\Ž!f,□[fh,Å,·□B

flfvfVf#f“,í /W ,μ,©, ,è,Ü,¹,ñ□B

'å•¶Žš,Å•\Ž!,μ,½,ç□ê□#,ÍŠÂ<«•ï□” DIRCMD ,É “/l” ,đ□Ý'è,μ,Ä,,¾,³,ç□B

DIRCMD ,É “/o” ,ªŠÜ,Ü,ê,Ä,ç,é□ê□#,í□®—ñ•\Ž!,μ,Ü,·□B

(11) dirs (ffBfĀfNfgfŠfXf^fbfN,ì□o—Í)

dirs

pushd,Å•Ů'¶,³,ê,^{1/2}ffBfĀfNfgfŠfXf^fbfN,ì“à—e,đ□o—Í,μ,Û,·□B

ŽQ□Æ popd, pushd

(12) echo (f fbfZ [fW,ì•\Ž!)

echo [args]

^ø",ÉŽw'è,³,ê,^{1/2}•¶Žš—ñ,ðo—í,μ,Û,·B

echo[on|off] <@"\,í, ,è,Û,¹,ñB

fofbf`ftf@fCf<,Å echo on ó'Ô,É,μ,^{1/2},çê‡,íA

[ESC](frf...[f[f[f, [fh) ---> Option ---> Environment ,Å

Žw'è,Å,<,Û,·B

(13) exit (□|—¹)

exit [/p]

ComWin ,đ□|—¹,μ,Ü,·□B

ComWin ,đVfFf,Æ,μ,Ä“o~^,³,ê,Ä,ç,é□ê□‡,ÍWindows ,đ□|—¹,μ,Ü,·□B
(system.ini ,ì [boot] ,É shell=comwinx.exe ,ì<L□q,³ ,é□ê□‡)

/p □|—¹Žž,ìŠm”Ff□fbfZ□[fW,đ□o—¹,μ,Ü,¹,ň□B

(14) fg (ftfHfAfOf%ofEf“fhŽÀ□s)

fg '¼'O,ìŠO•"fRf}f“fh,ª□I—¹,·,é,Û,Å□AComWin ,ìŽÀ□s,đ'âŽ~·,μ,Û,·□B

—á

c:\>notepad ;fg

f□f,' ,ª□I—¹,·,é,Û,Å ComWin ,đ'Ò<@□ó'Ô,É,μ,Û,·□B

fofbf`□^—□,É—~—p,·,é,Æ•Ö—~,Å,·□B

(Ctrl+C ,ÅftfHfAfOf%ofEf“fh□^—□,đ%øđ□œ,μ,Û,·□B)

ŽQ□Æ ftfHfAfOf%ofEf“fh<N“® ,ÆfofbfNfOf%of“fh<N“®

(15) goto (f%ofxf<fWfff“fv)

goto label

label□s,ÉfWfff“fv,μ,Ü,·□Bfofbf`ftj@fCf<“à,ì,Ý—LÆø,Å,·□B

label□s,Í□æ“â,É□u:□v,â•K—v,Å,·□B

f%ofxf<,í'â•¶Žš□→•¶Žš,ð<æ•Ê,μ,Ü,·□B

(16) help (fwf<fv)

help

ComWin "à•",ÅfTf|[]fg,³,ê,Ä,ç,éRf}f"fh,î^ê—,ð•\Ž!,μ,Ü,·B

"à•"fRf}f"fh,ÍRf}f"fhDLL,ðì□¬,·,é,±,Æ,ÅŠg'£,Å,«,Ü,·B

ŠÖ~A□€-Ú

CallCommand sample3.c

(17) history (fRf}f“fh—š—đ•\Ž!))

history [n]

fRf}f“fh—š—đ,đ•\Ž!,μ,Û,·B

n fRf}f“fh—š—đ[s]”,đŽw’è,μ,Û,·B(-³CEø,È“”l,ì,Æ,«,í 10[s])

hisotry fRf}f“fh,đŽg—p,·,é,½,β,É,íAŠÂ«Y’èf_fCfAfO,ÅA

fqfXfgfŠ[fRf}f“fh<@”\,đ ON ,É,·,é•K—v,ª, ,è,Û,·B

fqfXfgfŠ[fRf}f“fh,ª—LCEø,Èê#A!10, !c, !! “™,Å%oβ<Ž,lfRf}f“fh,đ

ŽÀ[s,Å,«,Û,·B

’^Ó history fRf}f“fh,Æfj[f\<,É,æ,éfqfXfgfŠ[<@”\,í•É,à,ì,Å,·B

history fRf}f“fh(flfvfVf#f“),í comwins.dll ,ª’ñ<Ÿ,μA

fqfXfgfŠ[<@”\(\•W€),í comwinx.exe ,ª’ñ<Ÿ,μ,Ä,ç,Û,·B

(18) if (! -e)

```
if [not] {exist filename | "string1" == "string2"} command  
! -e , ^ , È , ç , Î command , š , Ž , À , s , μ , Ü , ·  
f o f b f ` f t f @ f C f · " à , Å , ì , Ý — L È ø , Å , ·
```

exist filename

```
filename , ' ¶ ¶ Ý , · , é , ¢ , Ç , ¤ , ©  
"string1" == "string2"  
• ¶ Ž š — ñ , ¢ " ™ , μ , ¢ , © , Ç , ¤ , ©  
¶ u " ¶ v , í ¶ È — ¢ , Å , « , Ü , ¹ , ñ
```

(19) kill (fvf□fZfX, ð<□\$□I—¹)

kill hwnd [[hwnd2] ...]

hwnd fEfBf“fh, ðfnf“fhf<
fvf□fZfX, ð<□\$“l, É□I—¹, μ, Ü, ·□B

fEfBf“fhfEfnf“fhf<, í ps fRf}f“fh, ÅŽæ“³/₄, ·, é, ©□A
fLffvfVf#f“⁻¹/₄, Å, ð, ã, ÖŽw’è, æŽg—p%oÅ“\, Å, ·□B

(20) logout (fOfift)

logoff

'[--, ©, çfOfift, μ, Ü, ·B

ComWin32ê—p, ìfRf}f“fh, Å, ·B

(22) mode (%oæ-Êf,[]fh[]A'Ê[]Mf|[]fg,ì[]Ý'è)

(a) mode CONx string

string 'Ê[]M(COM)f{[]fg,ì[]Ý'èfpf%of[]f^[]

—á

C:\>mode COM1 9600,n,8,1

COM1 ... f[]fg

9600 ... f{[]f[]fg

n ... fpfŠfefB(e|m|n|o)

8 ... fLfff%ofNf^'·

1 ... fXfgfbfvfrfbfg

ctty ,ÅŽQ[]Æ,μ,Ü,·[]B

comwin.ini ,ì [Auxiliary] fZfNfVf†f“,ª[]',«Š·,ì,ç,è,Ü,·[]B

(b) mode CON FONT facename

facename ftfHf“fg,ì[]'ì-¼

(c) mode DOS [0|1|2]

0 ... Šg'£fRf“f[]f<,ð•ÊfEfBf“fhfE,ÅŽÀ[]s,μ,Ü,·[]B

1 ... Šg'£fRf“f[]f<,ì[]o—í,ðŽæ,è[]ž,Ý,Ü,·[]B

2 ... Šg'£fRf“f[]f<,Æ“ü[]o—í,ð“~Šú,³,¹,Ü,·[]B

(23) path (fpfXŽQ□Æ•ï□X)

```
path [[dir1[;dir2]...]]
fRf}f“fh,lfT□[f`fpfX,ì□Ý'è(dir1[;dir2]...)
,Ü,½,Í•\Ž!,ð□s,ç,Ü,·□B
```

—á

```
c:>path
```

```
c:\;c:\dos;c:\windows
```

```
c:>path c:\bin;c:\usr\bin;c:\local\bin
```

(24) pause (^êžž'âž~)

pause

ŽŸ,lfRf}f“fh,ðžÀ□s,·,é'O,É^êžž'âž~,μ,Ü,·□B

,½,¾,μ'¼'O,lfRf}f“fh,ÍfofbfNfOf%ofEf“fh,ÅžÀ□s,³,ê,Ä,ç,Ü,·□B

pause fRf}f“fh,lfvf□f“fvfg^È□~ ,É Ctrl+'C' fR□[fh,ª

ŠÜ,Ü,ê,Ä,ç,é□ê□#□Afofbf`ftf@fCf<“à,ÅžÀ□s'tž~□^—□,ª,Å,«,Ü,·□B

—á

c:\>winmine

c:\>pause

c:\>sol ;pause

fofbf`ftf@fCf<“à,âftfBf<f^□^—□žž,É—~—p,·,é,Æ•Ö—~,Å,·□B

('□^Ó...pause fRf}f“fh,Í ComWin ver 1.50 ,©,ç<@“\,ð□k□¬,μ□A

ftfHfAfOf%ofEf“fh□^—□,ð□s,í,È,,È,è,Ü,μ,½□B

ftfHfAfOf%ofEf“fh□^—□,ª•K—v,È□ê□#,Í fg fRf}f“fh,ð—~—p,μ,Ä,,¾,¾,³,ç□B)

žQ□Æ ftfHfAfOf%ofEf“fh<N“® ,ÆfofbfNfOf%of“fh<N“®

(25) popd (⌈ì<ÆffBfŒfNfgfŠ,ì•œŒ³)

popd

ffBfŒfNfgfŠfXf^fbfN,ì⌈æ“ª,ð⌈í⌈œ,μ⌈A

⌈ì<ÆffBfŒfNfgfŠ,ð,Q”Ô-Ú,ìfGf“fgfŠ,É•ï⌈X,μ,Û,·⌈B

ŽQ⌈Æ dirs, pushd

(26) PostMessage (f\fbfZ[fWf]fXfg)

(a) PostMessage hwnd message wParam lParam

-,í

(b) PostMessage -w message wParam lParam hwnd

hwnd fEfBf"fhfEfnf"fhf<

message f\fbfZ[fW"Ó†

wParam Šef\fbfZ[fW,É'í%ž,μ,½,QfofCfg@"

lParam Šef\fbfZ[fW,É'í%ž,μ,Ä,SfofCfg@"

PostMessage API ,đ'¼ÚCEÄ,Ño,μ\fbfZ[fW,đŠefEfBf"fhfE,É'—o,μ,Ü,·B

,±,ìfRf}f"fh,đŽg—p,·,é,±,Æ,Å"Ä—p"l,ÉfEfBf"fhfE'€ì,ªs,ì,Ü,·B

fEfBf"fhfEfnf"fhf<,í ps fRf}f"fh,ÅŽæ"¾,·,é,©A

fLffvfVf†f" -¼,Å,ì'ä'ÖŽw'è,ªŽg—p%Å"\,Å,·B

(a) ,í Windows ,ì PostMessage API ,Æ"~,¶CEÄ,Ño,μ†~ ,Å,·B

(b) ,í alias "o~^,·,é,ì,É•Ö—~,ÈCEÄ,Ño,μ†~ ,Å,·B

—á

C:\>alias maximized "PostMessage %1 112 F030 0"

C:\>alias minimized "PostMessage %1 112 F020 0"

C:\>alias restore "PostMessage %1 112 F120 0"

C:\>ps

HWND TASK INST TITLE

194C 1497 1446 fvf\fof%of€f}f\ff

C:\>maximized 194C <--- fvf\fof%of€f}f\ff,đÅ'á%»

C:\>minimized 194C <--- fvf\fof%of€f}f\ff,đAfCfRf"%»

C:\>restore 194C <--- fvf\fof%of€f}f\ff,đ•æE³

C:\>maximized "[ftf@fCf< f}f\ff]"

C:\>minimized "[ftf@fCf< f}f\ff]"

C:\>restore "[ftf@fCf< f}f\ff]"

PostMessage ,ìfpf%of□□[f^,í SDK ,đŽQ□I,É,μ,Ä,,¾,¾,ç□B

(27) prompt (fvf□f“fvfg•ï□X)

prompt [text]

fRf}f“fhfvf□f“fvfg,ì•¶Žš—ñ,ð text ,É•ï□X,μ,Û,·□B
ŽŸ,ì“ÁŽê•¶Žš,ªŽg—p,Å,«,Û,·□B

\$Q ... '='

\$\$... '\$'

\$P ... fJfCEf“fgfhf%oofCfu□AfpfX

\$N ... fJfCEf“fgfhf%oofCfu

\$G ... '>'

\$L ... '<'

\$B ... '|'

\$H ... fofbfNfXfy□[fX

\$_ ... %oü□s

\$E ... ESCfR□[fh

Šù'è'l,í \$P\$G ,Å,·

prompt fRf}f“fh,í□ì<Æ—ì^æ,â•Û'¶—ì^æ,Æ,μ,Ä INI ftj@fCf<,É

fvf□f“fvfg•¶Žš—ñ,ð□',«□ž,Ý,Û,·□BINI ftj@fCf<“à,Å“ÁŽê•¶Žš,Æ,μ,Ä

^μ,í,ê,Ä,ç,é•¶Žš,ð—~—p,·,é□ê□‡,í'□^Ó,ª•K—v,Å,·□B

<t,É,»,ê,ð□ì<É“l,É—~—p,·,é•û-@,à, ,è,Û,·□B

prompt \$p\$g % ,ÆŽw'è,·,ê,î□A□o—íCE<%oÊ,í c:\windows> command ,Æ

,È,è□A--“ö,É<ó”’,ª'Ç%oÁ,ª,ê,Û,·□B

prompt %% ,ÆŽw'è,·,ê,î□A□u%□v,ªfvf□f“fvfg,É,È,è,Û,·□B

'□^Ó CE»fo□[fWf‡f“ ,Å,ÍŠÂ<«•ï□” PROMPT ,íŽQ□Æ,μ,Û,¹,ñ□B

(28) ps (fvf[]fZfX^ê—)

ps

☒»[]ÝŽÀ[]s't,[]fvf[]fZfX,[]îê—,[]đ•\Ž!,[]μ,[]Ü,[]·[]B

—á

C:\WIN\COMWIN>ps

HWND TASK INST TITLE

12D8 1F3F 1EDE MSIMEServer

1FB4 1D3F 1D16 ComWin Ver. 2.60A

2718 1D5F 254E Microsoft Word - README.DOC

21F4 1D5F 2486 Srvr

194C 1497 1446 fvf[]fOf%of€ f}f[]fWff

HWND fEfBf“fhfE,[]ìfnf“fhf<

TASK f^fXfN,[]ìfnf“fhf<

INST fCf“fXf^f“fX,[]ìfnf“fhf<

fEfBf“fhfE,[]ìfnf“fhf<,[]í kill ,[]â SendMessage ,[]ÅŽg—p,[]μ,[]Ä,,³/₄,³,[]¢[]B

(29) pushd (òì<ÆfffbfÆfNfgfŠ,ð•Û‘¶)

pushd [directory]

Æ»Ý,òì<ÆfffbfÆfNfgfŠ,ðfffbfÆfNfgfŠXf^fbfN,É•Û‘¶,μA

V,μ,òì<ÆfffbfÆfNfgfŠ,ð directory ,É•ïX,μ,Û,·B

ŽQÆ dirs, popd

(30) pwd (fjfĀf“fgfffBfĀfNfgfŠ•\Ž!)

pwd

fjfĀf“fgfffBfĀfNfgfŠ,đ•\Ž!,μ,Û,·□B

(31) rd, rmdir (ffBfEfNfgfŠíœ)

rd dir

Žw'è,μ,½<ó,«ffBfEfNfgfŠ,đíœ,μ,Ü,·B

(33) rem (fRf□f“fg□s,ìŽw’è)

rem [comment]

fRf□f“fg□s,đŽw’è,μ,Û,·□B

(34) ren (-¼'O,ì•ïX)

ren file1 file2

file1 ,ì-¼'O,đ file2 ,É•ïX,μ,Û,·B

ftf@fCf<"à—eAftf@fCf<,lf^fCf€fXf^f"fv,í•ïX,μ,Û,¹,ñB

(fvfOof%of€è¬,ì"i^Ö"xAZÀ—p«,©,çI,!,ÄA

ftf@fCf<-¼,ÉfffBf€fNfgfŠ-¼,đŠÛ,ß,é,±,Æ,Í

<@"\,©,ç,Í,,μ,Û,μ,½B)

(35) restart (Windows®)

restart [/p]

Windows ,đ|—¹,μÄ<N“® ,μ,Ü,·B

/p Šm”FfƒbfZ[fW,đo—í,μ,Ü,¹,ñB

(36) SendMessage (hwnd, message, wParam, lParam)

(a) SendMessage hwnd message wParam lParam
-", í

(b) SendMessage -w message wParam lParam hwnd

hwnd hWnd "SendMessage"
message WM_COMMAND
wParam wParam, lParam, lParam, lParam
lParam wParam, lParam, lParam, lParam

SendMessage API, hWnd, message, wParam, lParam, lParam, lParam
, lParam, lParam, lParam, lParam, lParam, lParam, lParam, lParam

SendMessage(hWnd, message, wParam, lParam, lParam, lParam)
SendMessage(hWnd, message, wParam, lParam, lParam, lParam)

(a) Windows, SendMessage API, hWnd, message, wParam, lParam, lParam

(b) alias "SendMessage", hWnd, message, wParam, lParam, lParam

—á

C:\>alias maximized "SendMessage %1 112 F030 0"

C:\>alias minimized "SendMessage %1 112 F020 0"

C:\>alias restore "SendMessage %1 112 F120 0"

C:\>ps

HWND TASK INST TITLE

194C 1497 1446 SendMessage

C:\>maximized 194C <--- SendMessage

C:\>minimized 194C <--- SendMessage

C:\>restore 194C <--- SendMessage

SendMessage, hWnd, message, wParam, lParam, lParam

PostMessage, hWnd, message, wParam, lParam

PostMessage = SendMessage

SendMessage = "d~b"“`Œ¾

,Æ□l,|,Ä,,¾,³,ç□B

“d~b,ì•û,ª□^—□,í□,ç,ì,Å,·,ª□A’ŠŽè,ì“s□‡,ª^«,ç□ê□‡,à, ,è,Û,·□B

ComWin ,ª SendMessage ,đŽg—p,·,é,Æ’ŠŽè(•Êfvf□fZfX),ì“s□‡,ª^«,ç□ê□‡□A

□Å^«,ì□ó’Ô,ÅfvfXfef€ftfŠ□[fY,Æ,ç,ªŒ»□Û,ª,“,«,Û,·□B(“Á,ÉOLE’î%žf\ftfg)

’Ê□í,í SendMessage ,íŽg—p,¹,·□APostMessage ,đŽg—p,·,é,±

,Æ,đŠ©,ß,Û,·□B

(37) set (ŠÂ««•ï"ŽQÆ)

```
set [name=[string]]
```

```
ŠÂ««•ï",ìÝ'è(name=string)A
```

```
íœ(name=)A^ê—,ð\Ž!,μ,Û,·B
```

```
fvf"fvfg(name)AÝ'è,ð'£,·fbfZ[fW,ºo—í,3,ê,Û,·B
```

'^Ó

```
DOS ,ìê# name ,í'â•ŕŽš,É•š·,3,ê,é,ì,Å,·,ºA
```

```
ComWin ,ìê#A'â•ŕŽšA—•ŕŽš,ð<æ•É,μ,Û,·B
```

```
fT[f`fpfX,ð•šX,·,é,Æ,«,íŽŸ,ì,æ,æ,É,μ,Ä,,3/4,3,¢B
```

```
c:>set PATH=c:\dos <--- º3
```

```
c:>set path=c:\dos <--- Āë
```

(38) SetWindowPos (fEfBf“fhfE^Ê'u□Ý'è)

SetWindowPos hwnd hwndInsertAfter x y cx cy fuFlags

hwnd	fEfBf“fhfEfnf“fhf<
hwndInsertAfter	^Ê'ufnf“fhf<
x	□...•½^Ê'u
y	□,'¼^Ê'u
cx	•□
cy	□,, ³
fuFlags	ftf%ofO

hwndInsertAfter ,íŽŸ,ì'l,ð□Ý'è,μ,Ä,,¾,¾,ϕ□B
 □Å%oo^Ê^Ê'u 1□A□Å□ã^Ê^Ê'u 0□A
 □í,ÉŽè'O•\Ž!□Ý'è -1□A□í,ÉŽè'O•\Ž!%oð□œ -2

fuFlags ,íŽŸ,ì'l,ð OR ,Å'g,Ý□‡,í,¹,Ä,,¾,¾,ϕ□B
 0001 fTfCfY,ð•Ī□X,μ,È,ϕ
 0002 ^Ú“® ,μ,È,ϕ
 0004 Z-f□[f_□[,ð•Ī,ì,È,ϕ
 0008 □Ä•`%oæ,μ,È,ϕ
 0010 fAfNfefBfu,É,μ,È,ϕ
 0020 ~g,ð•`%oæ,·,é
 0040 fEfBf“fhfE,ð•\Ž!,·,é
 0080 fEfBf“fhfE,ð”ñ•\Ž!,É,·,é□B

fEfBf“fhfEfnf“fhf<,í ps fRf}f“fh,ÅŽæ“¾,·,é,©□A
 fLfffvfVf‡f“-¼,Å,ì'ă'ÖŽw'è,Žg—p%oÅ"\,Å,·□B

—á

>SetWindowPos "[ŽžŒv]" -1 0 0 0 3

ŽžŒv,ð□í,ÉŽè'O□ó'Ô,É,·,é□B

>SetWindowPos "[fvf□fOf%of€ f}f□[fWff]" 0 0 0 640 480 0

fvf□fOf%of€f}f□[fWff,ì^Ê'u,ð(0,0),É,μ□A'ă,«,³,ð(640,480),É,·,é□B

(39) SetWindowText (fLfffvfVf+f“-¼Ÿ’è)

SetWindowText hwnd string

hwnd fEfBf“fhfEfnf“fhf<
string Ÿ’è,·,é•¶Žš—ñ
fLfffvfVf+f“-¼,đŸ’è,μ,Û,·B

fEfBf“fhfEfnf“fhf<,í ps fRf}f“fh,ÅŽæ“¾,·,é,©A
fLfffvfVf+f“-¼,Å,ì’ã’ÖŽw’è,ªŽg—p%oÅ“\,Å,·B

ŠefAfvfŠfP[fVf+f“,ìfLfffvfVf+f“-¼,đ
ft[fU[.ì^μ,ç,â,·,çfLfffvfVf+f“-¼,É•ïX,Å,«,Û,·B

—á

c:\>SetWindowText "[fvf[fOf%of€ f}f[fWff]" "Program Manager"

’^Ó fLfffvfVf+f“-¼,É’~ì€ •Ž|,ì, ,éfAfvfŠ“™,í•s—p^Ó,É•ïX,·,é,Æ
’~ì€ ,ÉG,ê,éêê¶,ª, ,è,Û,·BŠefAfvfŠ,ì}ffj...fAf<,É],.Á,Ä,,¾,¾,çB

(40) shift (^ø",lfVftfg)

shift

^ø",ð¶,ÉfVftfg,μ,Ü,·B

shift ,đŽÀs,·,é,Æ %1 ,ª %0, %2 ,ª %1 ,Æ,È,è,Ü,·B

fofbj`ftf@fCf<"à,Å,ì,Ý—LÆø,Å,·B

(41) shutdown (Windows, l'—)

shutdown [/p]

Windows fVfXfef€ ,đfVfffbfgf_fEf“ ,μ,Ü,·B

Windows ,đl—^{1,3,1},Ü,·B

/p Šm”Ff fbfZ [fW,đo—í,μ,Ü,¹,ñB

(42) start (fvf□fOf%of€<N“®)

start exefile [arg0 [...]]

exefile ,ÅŽw'è,³,ê,^{1/2}fvf□fOf%of€ ,đ<N“® ,μ,Ü,·□B

start /wait ,É,æ,éftj@fAfOf%ofEf“fh<@”\,í, ,è,Ü,¹,ñ□B

(43) time (Žž□□ŽQ□Æ•ï□X)

time

Žž□□, ðŽQ□Æ□A, Ü, ½, í•ï□X, ð□s, ç, Ü, ·□B

(44) type (ftf@fCf<“à—e•\Ž!)

type file

ftf@fCf< file ,l“à—e,đ•\Ž!,μ,Ü,·□B

(45) unalias (•Ê-¼'è<` íœ)

unalias strings

Žw'è,μ,½•Ê-¼ strings ,đ-³œø,É,μ,Û,·B

unalias *

,·,×,Ä,ì•Ê-¼,đ-³œø,É,μ,Û,·B

comwin.ini ,ì [Alias] fZfNfVf#f“ ,ªXV,³,ê,Û,·B

(46) ver (fo[]fWf#f"•\Ž![]j

ver

comwin.dll ,ì fo[]fWf#f""Ô[]t,ð•\Ž!,µ,Û,·[]B

(comwinx.exe ,ì fo[]fWf#f" ,íLfffvfVf#f" ,É•\Ž!,³,ê,Û,·[]B)

(47) vol (f{fŠf...[f€f%ofxf<ŽQ[Æ)

vol [drive]

drive ,ÅŽw'è,μ,½fhf%ofCfu,ì

f{fŠf...[f€f%ofxf<,đŽQ[Æ,μ,Û,·[B

(48) win (WinExec, LoadModule API ,iZÀs)

win [/e] [/Sn] exefile [option]

exefile ,đ n ,i ó'Ô,Å WinExec API ,đŽg,ç<N"® ,μ,Û,·B

(/e ,đŽw'è,μ,½ê# ,í LoadModule API ,đĀ,Ño,μ,Û,·B

,± ,iê#AŠÂ«•i" ,žqvfjZfX,Ép³,³,é,Û,·B)

n ,i ó'Ô'l,ífXf^ [fgfAfbfv<@"\,Åà-¾,μ,Ä,ç,é,ì,Æ" ,ŋ'l,Å,·B

—á

win sol fššfefBfA,đ'Éí,i ó'Ô,Å<N"® ,·,éB

win /s1 sol "ã

win /s3 sol fššfefBfA,đ'Å'â%» ,Å<N"® ,·,éB

win /s6 sol fššfefBfA,đfAfCfRf"%» ,Å<N"® ,·,éB

ComWin ver 1.40 ,©,çVÝ,³,é,½Rf}f"fh,Å,·B

ComWin ,í DOSfvfOf%œAComWin—pofbf`ftf@fCf<,đŠÇ—,·,é•K—v,ª

, ,é,ì,ÅA<N"®'O,ÉZÀsftf@fCf<,ìCE`Ž® (DOS, WIN, WIN32S™),đ

í,Éf`fFbfN,μ,Ä,ç,Û,·B

,μ,©,μAìZÒ,ìà—í,©,ç"¾,ç,é,éî•ñ,Å,í

"ñĀöŠJ,ífwbf_ [,đŽ ,Á,½ZÀsftf@fCf<,·,x,Ä,É'í%ž,·,é,ì,í•s%Å"\,ÅA

ZÀsftf@fCf<,ìŽí•É,đĀë" FŽ ,·,éê# ,ª ,l,ç,é,Û,·B

"ñí—p,ìRf}f"fh,Æ,μ,Ä,à—~—p,μ,Ä,,¾,³,çB

(Ā»ÝAìZÒ,ì'm,è,æ,é,à,ì,Å,íAEXCEL4 ,¾, ,ªŠY"—,μ,Û,·B

EXCEL5 ,í³í,É" FŽ ,μ,Û,·,ì,ÅAEXCEL4 ,ì"ÁŽê« ,ªĀ'ö,¾,ÆŽv,ç,Û,·B

ComWin ver 1.30 —p,É—p^Ó,³,é,½ comwine.dll ,đŽg—p,μ,Ä,ç,é•û,í

comwine.dll ,đíœ,μ,ÄAcomwin.ini ,©,ç

comwine.dll=CallCommand ,ìs,đíœ,μ,Ä,,¾,³,çB)

ŽQÆ fXf^ [fgfAfbfv<@"\

ŠÂ«•i"ft [fo [<@"\

(fRf}f“fh•â'«)fLfffvfVf†f“-¼,Å,ì'ă'ÖŽw'è,É,Â,ç,Ä

Windows ,í fEfBf“fhfEfnf“fhf<,ð—p,ç,ÄfEfBf“fhfE'€□ì,ð□s,α,ì,Å,·,ª□A
fEfBf“fhfEfof“fhf<,í 16bit ,ì□”Žš,Å, ,è
,μ,©,à□A<N“® ,μ,½ŠÂ<« ,É,æ,Á,Ä•ï%» ,·,é,à,ì,È,ì,Å□A
fRf}f“fhf%ofCf“ ,©,ç^μ,α,ì,í”ñ□í,É•s•Ö,Å,·□B

,» ,±,Å ComWin ,Å,íLfffvfVf†f“-¼,ðŽw'è,·,é,±,Æ,Å
fEfBf“fhfEfnf“fhf<,ì'ă'ÖŽw'è,ð%Å”\,É,μ,Ü,μ,½□B
□u“[fLfffvfVf†f“-¼]“□v ,Æ,·,é,±,Æ,Å□Å□% ,ÉŠY“- ,·,éEfBf“fhfE,ðŽw'è□B
□u“{fLfffvfVf†f“-¼}“□v ,Æ,·,é,±,Æ,ÅŠY“- ,·,é'S,Ä,ìEfBf“fhfE,ðŽw'è□B

12. f[]j[]f...[]f[]Š[]f[]t[]f[]@[]f[]Ā[]f[]“[]f[]X

(1) Save Log (•\Ž|Ā<%oÊ,ì•Ů‘¶)

(2) Save Setting (ŠeŽí[]Ý’è,ì•Ů‘¶)

(3) Exit ([]|—¹)

(4) Copy (fNfŠfbfvf{[]f[]h,Ö,ì’SfRfs[][])

(5) View (•\Ž|[]Ý’è)

(6) Environment (ŠeŽíŠÂ<<[]Ý’è)

(7) Launcher (ftf@f“fNfVf#f“fL[]f%of“f`ff[][,ì[]Ý’è)

(8) Font (ftfHf“fg,ì[]Ý’è)

(9) Color ([]F,ì[]Ý’è)

(10) Key assign (fL[][Š,,,è“-,Ä,ì[]Ý’è)

(11) Arguments (fVfFf<<N“®Žž^ø[]”,ì[]Ý’è)

(12) Contents (flf“f%ofCf“fwf<fv)

(13) About (ComWin,É,Â,ç,Ä)

(1) Save Log (•\Ž!CE<%oÊ,ì•Û'¶)

ComWin ,É□o—í,³,ê,½%oß<Ž,ì•\Ž!CE<%oÊ,đftf@fCf<,É•Û'¶,μ,Û,·□B
%oß<Ž,ì—š—đ,í500□s,Û,Å•Û'¶,Å,«,Û,·□B

(2) Save Setting (ŠeŽíŸ'è,ì•Û'Ÿ)

ftfHf"fg,ì'®<A"wŒiFfAfEfBf"fhfE,ìfTfCfYfA
fvf"fvfg•ŸŽš—ñ,đ•Û'Ÿ,μ,Û,·B
ŽŸ%oñ<N"®Žž,É,í,±,ìŸ'è,ŸffftfHf<fg,É,È,è,Û,·B

comwin.ini ,ì [Font], [Color], [Window], [Console] ,ì
ŠefZfNfVfŸf" ,ŸXfV,³,ê,Û,·B

(3) Exit (□I—¹)

exit

ComWin ,đ□I—¹,μ,Ü,·□B

ComWin ,³fVfFf<,Æ,μ,Ä“o~^,³,ê,Ä,ç,é□ê□‡,ÍWindows ,đ□I—¹,μ,Ü,·□B

(system.ini ,ì [boot] ,É shell=comwinx.exe ,ì<L□q,³ ,é□ê□‡)

(4) Copy (fNfŠfbvf{[]fh,ÖfRfs[])

%oß<Ž,ì•\Ž!CE<%oÊ,ðfNfŠfbvf{[]fh,ÉfRfs[],μ,Ü,·B

%oß<Ž,ì—š—ð,í500[]s,Ü,Å•Û‘¶,Å,«,Ü,·B

‘¼,ìfAfvfŠfP[]fVf‡f“,Å—~—p,μ,Ä,,¾,¾,çB

(5) View (•\Ž!□Ý'è)

* fc□[f<fo□[

fc□[f<fo□[,ì•\Ž!□A"ň•\Ž!,ðŽw'è,μ,Û,·□B

*ftf@f"fNfVf#f"fL□[

ftf@f"fNfVf#f"fL□[fo□[,ì•\Ž!□A"ň•\Ž!,ðŽw'è,μ,Û,·□B

10ĈÊ•\Ž!□A12ĈÊ•\Ž!,ð'l,x,Û,·□B

* fLfffvfVf#f"fo□[

fLfffvfVf#f"fo□[,ì•\Ž!□A"ň•\Ž!,ðŽw'è,μ,Û,·□B

* □¶f}□[fWf"

□¶'x,Éf}□[fWf",ðŽæ,è,Û,·□B

* Šg'£fRf"f□[f<

Šg'£fRf"f□[f<(DOS),ì•\Ž!□A"ň•\Ž!,ðŽw'è,μ,Û,·□B

(6) Environment (ŠeŽíŠÄ«»Ý'è)

- * 3-D (—Š'ì%»)f_fCfAf_fO,ÉŽg—p,·,é DLL ,ðŽw'è,μ,Ü,·□B
Žg—p,¹,_□Actl3d.dll□Actl3dv2.dll ,ì,R,Â,©,ç'I,Ñ,Ü,·□B
comwin.ini [Accessory] ,^a□X□V,³,é,Ü,·□B
- * Šg'£fRf"f□[f<,ìÝ'è
DOS fRf}f"fh,ìŽÀ□s□ó'Ô,ð□§CEä,μ,Ü,·□B
- * •W□€PIF
ComWin ,^a DOS fRf}f"fh,ðŽÀ□s,·,é,½,β,ìf□□[f_—pPIF,ðÝ'è,μ,Ü,·□B
- * TAB fJf%of€□",ðŽw'è,μ,Ü,·□B
0 ,ìê□# ,í TAB ,ð"Á•Ê^μ,ç,μ,È,ç,ì,ÁŽáŠ±•Ž!,^a□, '¬,É,È,è,Ü,·□B
comwin.ini [Console] ,^a□X□V,³,é,Ü,·□B
- * fXfNf□□[f<,ð2□s-^ ,É,¨,±,È,κ,©,Ç,κ,©Žw'è,μ,Ü,·□B
2□s-^ ,ÉÝ'è,·,é,±,Æ,ÁfXfNf□□[f<, ^a□, '¬,É,È,è,Ü,·□B
,½,¾,μ□A"í'íŽw'è,È,Ç" ÷'²□® ,^a•K—v,Èê□# ,í□A2□s-^ ,ìÝ'è,ð
fJfT,É,μ,½,Ü,κ,^a•Ö—~ ,©,à,μ,ê,Ü,¹,ñ□B
- * Š®'S□Ä•`%»æf,□[fh
Š®'S□Ä•`%»æf,□[fh,Á,í□AComWin ,ì%»æ-Ê,^a¼,ìfEfBf"fhfE,ìCEä,É
, ,é□ó'Ô,Á,à□A•Ž!,ð—□,³, ,ÉfXfNf□□[f<,μ,Ü,·□B
,±,ìê□#□A□í,ÉfNfŠfbfv—ì^æ,ðf`fFbfN,μ,Ä,ç,Ü,·,ì,Á□A
fXfNf□□[f<,ìfXfs□[fh,íŽáŠ±'x,,È,è,Ü,·□B
- * fVfFf<,Æ,μ,ÄŽg—p
,±,ìf{fbfNfX,ðf`fFbfN,·,é,±,Æ,ÁfVfFf<,Æ,μ,ÄŽg—p,Á,«,Ü,·□B
f{fbfNfX,ìf`fFbfN□ó'Ô,^a•ì□X,³,é,é,Æ
Windows ,^a□Ä<N" ®,³,é,é,ì,Á'□^Ó,μ,Ä,,¾,³,ç□B
,Ü,½□AfVfFf<,Æ,μ,ÄŽg—p,·,éê□#□AComWin ,ì•K—vftf@fCf<,í
ŽŸ,ìfffBfCEfNfgfŠ,ì,ç,,é,©,É, ,é•K—v,^a ,è,Ü,·□B
Windows fffBfCEfNfgfŠ
Windows fVfXfef€fffBfCEfNfgfŠ
ŠÄ««•ì□" PATH ,ÁŽw'è,³,é,½fffBfCEfNfgfŠ
- * ftf@fCf<-¼•âŠ®:'â•¶Žš,Á•Ž!
•âŠ®Žž,É'â•¶Žš,Á•âŠ®,³,é,Ü,·□B
'â•¶Žš,ÁfRf}f"fh,ð"ü—í,μ,Ä,ç,éê□#•Ö—~ ,Á,·□B
- * ftf@fCf<-¼•âŠ®:fffBfCEfNfgfŠfZfpfCE□[f^□u/□v
•âŠ®Žž,É□u/□v,Á•âŠ®,³,é,Ü,·□B

- * ftf@fCf<-¼•âŠ®:fffBfĚfNfgfŠfZfpfĚ[]f^•t%oÁ
fffBfĚfNfgfŠ-¼,đ•âŠ®,μ,½□ê□#□ÅĚă,É□u\□v,□u/□v,đ•t%oÁ,μ,Û,·□B
- * ftfBf<f^[]<@"\
">", ">>", "<", "|" "™", ìftfBf<f^<@"\ŽÀĚ»,É•K—v,È“ÁŽê•¶Žš,đ
%ođŽß,μ□AfŠf_fCfĚfNfg□AfpfCfv,đŽÀĚ»,μ,Û,·□B
- * fGfXfP[]fvfV[]fPf“fX
fGfXfP[]fvfV[]fPf“fX,ì—LĚø□A-³Ěø,đ,μ,Ä,μ,Û,·□B
- * fofbf`ftf@fCf<Žg—pŽž,ÉfRf}f“fh,ìfGfR□[-L-³,đŽw’è,μ,Û,·□B
fofbf`ftf@fCf<fffofbfOŽž,ÉfRf}f“fh,đfGfR□[,μ,½,č□ê□#□,É•Ö—~,Å,·□B
comwin.ini [Console] ,ª□X□V,³,ê,Û,·□B
- * fqfXfgfŠ[]fRf}f“fh
UNIXf%ofCfN,ÈfqfXfgfŠ[]<@"\,đ—LĚø,É,μ,Û,·□B
!!, !3, !c “™, ìfRf}f“fhŽw’è,ª%oÂ“\,É,È,è,Û,·□B
- * Žqfvf[]fZfX,ÖŠÂ««Ěp□³
,±,ìf{fbfNfX,đf`fFfbfN,·,é,±,Æ,Å□A
Ě»□Ý,ì ComWin ,ìŠÂ««,đŽqfvf[]fZfX,ÉĚp□³,·,é,±,Æ,ª,Å,«,Û,·□B
(‘^Ó□BfvfFf<,Æ,μ,ÄŽg—p,·,é□ê□#□,Íf`fFfbfN,μ,È,č•û,ª-],Û,μ,č,Å,·□B
□Ú,μ,,ÍŠÂ««•Ī“fT□[fo□[]<@"\,đŽQ□Æ)

ŽQ□Æ DOSfRf}f“fh,đComWin’<,ÅŽÀ□s%oÂ“\□A
comwtbar.dll□AhistoryfRf}f“fh

(7) Launcher (ftf@f“fNfVf#f“fL□[f%of“f`ff□[,ì□Ý’è)

f^fCf^f“fNfVf#f“fL□[f%of“f`ff□[,đ□Ý’è,μ,Û,·□B

Fx, Shift+Fx, Ctrl+Fx, Shift+Ctrl+Fx (x = 1 □` 12)

,ì’g,Ý□#,í,¹,É,æ,è 48Ží—p,ìfRf}f“fh,đ“o~^,·,é,±,Æ,³,Å,«,Û,·□B

f^fCf^f<“ü—í—“ ... ftf@f“fNfVf#f“fL□[fo□[,É•\Ž!,³,ê,éf^fCf^f<

fRf}f“fh“ü—í—“ ... ftf@f“fNfVf#f“fL□[%oŸ%o°Žž,ìfRf}f“fh•¶Žš—ň

“~Šú•\Ž! ... Shift, Ctrl fL□[%oŸ%o°Žž,Éftf@f“fNfVf#f“fL□[fo□[,ì

•\Ž!,đ“~Šú,μ,Û,·□B

(8) Font (ftfHf“fg,ì□Ý’è)

ComWin ,É□o—í,³,ê,é•¶Žš,ìftfHf“fg’ ©□«,đ□Ý’è,μ,Ü,·□B
ŒÅ’èfsbf` ,ìftfHf“fg,ì,Ý—~—p,Å,«,Ü,·□B

(9) Color (□F,ì□Ý'è)

ComWin ,É□o—í,³,ê,é•¶Žš,ì" wŒi□F,đ□Ý'è,μ,Û,·□B

Windows ,ìŽd—l,É,æ,è□A•¶Žš,ì" wŒi□F,í□f□F,μ,©Žw'è,Å,«,È,ç,ì,Å□A

ŽÀ□Û,ÉŽw'è,μ,½,à,ì,Æ^Ù,È,Á,½□F,²□o—í,³,ê,é,±,Æ,², ,è,Û,·□B

(10) Key assign (fL[Š,,è“-,Ä,ìÝ’è)

ComWin ,ÉŠe’€ì,ÉŠ,,è“-,Ä,ç,ê,éfl[,ðÝ’è•ïX,μ,Ü,·B
'uŠ·œó•â,©,çœó•â,ð'l,ÑA'uŠ·f{f^f“,ð%ÿ,·,ÆA
fŠXfgf{fbfNfX,ÅfnfCf%ofCfg,³,ê,Ä,ç,é€-Ú,lfZfbfg,³,ê,Ü,·B
—DæfL[A•â•fL[,ì<æ•Ê,Íf%ofWfIf{f^f“,Ås,Á,Ä,,³/₄,³,çB
•Û‘¶f{f^f“,ð%ÿ,·,±,Æ,ÅŽÿ%oñ<N“®Žž,É”½%of,³,ê,Ü,·B
%Šú'l,ÅfftfHf<fg,ìó’Ô,É-ß,μ,Ü,·B

(11) Arguments (fVfFf<<N“ ®Žž^ø“ ,ìÝ’è)

```
comwinx.exe ,í /c flfvfVf†f“^È~ ,ÉŽw’è,³,ê,½•¶Žš—ñ,đ  
fRf}f“fh,Æ,μ,Ä%ođŽβ,μ<N“ ®Žž,ÉŽ©“ ®ŽÀs,μ,Ü,·B  
,μ,©,μAComWin ,đfvfFf<,Æ,μ,Ä—~—p,·,éê†A  
shell=comwinx.exe /c cwstart.bat ; <--- NG  
shell=comwinx.exe <--- OK  
,Æ,È,èA<N“ ®Žž,ìfvfVf†f“ ,aŽw’è,Å,«,Ü,¹,ñB
```

,»,±,ÅAfVfFf<<N“ ®Žž,ìfvfVf†f“ ,đ

Arguments f_fCfAf_fO,ÉŽw’è,μ,Ü,·B

,±,ì<@“\,ífVfFf<,Æ,μ,Ä—~—p,·,é,Æ,«,ì,Ý—LÆø,Å,·B

(12) Contents (f|f“f%ofCf“fwf<fv)

ComWin ,l|f“f%ofCf“fwf<fv,đ•\Ž!,μ,Ü,·□B

□@(13) About (ComWin,É,Â,ç,Ä)

ComWin ,É,Â,ç,Ä,ìî•ñ,ð•\Ž!,μ,Û,·□B
,Û,½fVfXfef€ÉŠÖ,·,é□”î•ñ,à“~Žž,É•\Ž!,μ,Û,·□B

13. EXPORTŠÖ",)à-¾

- (1) Puts, cwPuts (o—ÍŠÖ")
- (2) Gets, cwGets ("ü—ÍŠÖ")
- (3) Fputs, cwFputs (ftf@fCf<o—ÍŠÖ")
- (4) Fgets, cwFgets (ftf@fCf<"ü—ÍŠÖ")
- (5) System, cwSystem (ŽÀsŠÖ")
- (6) Getch, cwGetch ('¼Ú"ü—ÍŠÖ")
- (7) Inkey, cwInkey ('¼Ú"ü—ÍŠÖ")
- (8) Fwrite, cwFwrite (fofCfifŠo—ÍŠÖ")
- (9) Fread, cwFread (fofCfifŠ"ü—ÍŠÖ")
- (10) GetComWinLong (î•ñŠÖ")
- (11) MakeArgument (^ø,«"i—ŠÖ")
- (12) cwPutenv (ŠÂ<<•ĭ"Ÿ'èŠÖ")
- (13) cwGetenv (ŠÂ<<•ĭ"Žæ"¾ŠÖ")
- (14) cwFprintf (Ž®•t—ÍŠÖ")
- (15) CallCommand(%¼i) ("à•"fRf}f"fh'ñ<ŸŠÖ")
- (16) CallInterpreter(%¼i) (fRf}f"fh%øŽB'ñ<ŸŠÖ")
- (17) CallScript(%¼i) (fXfNfŠfvg'ñ<ŸŠÖ")
- (18) CallCommand ('[---pfRf}f"fh^—ŠÖ")

(1) Puts, cwPuts (□o—ÍŠÖ□")

ŠÖ□"—¼ Puts, cwPuts

```
LONG FAR PASCAL Puts(LPSTR lpszString); // fvf□fgf^fCfv  
LONG FAR PASCAL cwPuts(LPSTR lpszString); // fvf□fgf^fCfv
```

<@"\ ASCIIZ•¶Žš—ñ lpszString,đComWin,lfNf%ofCfAf“fg—ì^æ,É□o—
Í,μ,Ü,□B

^ø□" lpszString □o—Í,·,é•¶Žš—ñ

-ß,è'l □³í□A□o—Í,μ,½•¶Žš□"
fGf%o□[□A-1

□Ú□×,Í hello.c sample1.c ,đŽQ□Æ,μ,Ä,,¾,¾,ϕ□B

(2) Gets, cwGets (“ü—ÍŠÖ”)

ŠÖ”-¼ Gets, cwGets

```
LPSTR FAR PASCAL Gets(LPSTR lpszString); // fvf[]fgf^fCfv
LPSTR FAR PASCAL cwGet(LPSTR lpszString); // fvf[]fgf^fCfv
```

<@”\ ComWin ,lfNf%ofCfAf“fg—ì^æ,É“ü—Í,³,ê,½•¶Žš—ň,đŽæ“¾,µ,Ü,·B

^ø” lpszString “ü—Í,·,é•¶Žš—ň,ì,½,ß,lfofbftf@

-ß,è'l []³í[]AlpszString
fGf%o[][]ANULL

'^Ó

```
Gets ,í ANSI C ,ì³Ž® ,ÈŠÖ” gets ,É€<' ,µ,Ä,ç,é,ì,Å,·,ªA
ÆÄ,Î,ê,½'x,ªfofbftf@[]['·,đŠÇ—,Å,«,È,ç,Æ,ç,x'v-½“l,È
Žd—lf~fX,ª ,è,Ü,·,ì,ÅA•s“Á'è'½” ,ÉfŠfŠ[]fX,·,éf\ftfg,É,í
Žg,í,È,ç,Ü,x,ª-³“i,¾,ÆŽv,í,ê,Ü,·BFgets ,Å'ä—p,µ,Ä,,¾,³,çB
```

Úx,í sample1.c ,đŽQ[]Æ,µ,Ä,,¾,³,çB

(3) Fputs, cwFputs (ftf@fCf<□o—ÍŠÖ□”)

ŠÖ□”-¼ Fputs, cwFputs

LONG FAR PASCAL Fputs(LPSTR lpszString, LPSTR lpszFileInfo);
LONG FAR PASCAL cwFputs(LPSTR lpszString, LPSTR lpszFileInfo);

<@”\ ftf@fCf<,É•¶Žš—ñ,ð□o—Í,μ,Û,·□B

^ø□” lpszString □o—Í,·,é•¶Žš—ñ
lpszFileInfo ftf@fCf<□î•ñ

-ß,è'l □³□í□A□o—Í,μ,½•¶Žš□”
fGf%o□[□A-1

lpszFileInfo = NULL ,ìŽž□A•W□€□o—Í
lpszFileInfo = (LPSTR)-1 ,ìŽž□A•W□€fGf%o□[□o—Í

□Ú□×,í sample1.c ,ðŽQ□Æ,μ,Ä,,¾,¾,ç□B

(4) Fgets, cwFgets (ftf@fCf<“ü—ÍŠÖ”)

ŠÖ”-¼ Fgets, cwFgets

LPSTR FAR PASCAL Fgets(LPSTR lpszS, LONG ISize, LPSTR lpszF);
LPSTR FAR PASCAL cwFgets(LPSTR lpszS, LONG ISize, LPSTR lpszF);

<@\ ftf@fCf<, ©, ç • ¶ Žš—ñ, đ“ü—Í, μ, Ü, · □ B

^ø” lpszS “ü—Í, ·, é • ¶ Žš—ñ, ì, ½, ß, ð fofbftf@
ISize fofbftf@fTfCfY
lpszF ftf@fCf<□î•ñ

-ß, è'l □³□í□AlpszS
fGf%□[□ANULL

lpszF = NULL , ðžž□A•W□€“ü—Í
lpszF = (LPSTR)-1 , ðžž□A•W□€fGf%□[“ü—Í

(5) System, cwSystem (ŽÀ□sŠÖ□)

ŠÖ□-¼ System, cwSystem

LONG FAR PASCAL System(LPSTR lpszCommand);
LONG FAR PASCAL cwSystem(LPSTR lpszCommand);

<@"\ ComWin ,lfT□[frfX,ð—p,ç,ÄfRf}f“fh,ðŽÀ□s,μ,Ü,·□B

^ø□ lpszCommand fRf}f“fh•¶Žš—ñ
-ß,è'l ŠefRf}f“fh,ì-ß,è'l,É^Ë'¶□B

(6) Getch, cwGetch ('¼Ú“ü—İŠÖ”)

ŠÖ”-¼ Getch, cwGetch

LONG FAR PASCAL Getch(void);
LONG FAR PASCAL cwGetch(void);

<@”\ '[-- , © , ç'¼Ú“ü—Í, ð'Ò, ï, Ü, ·B(fGfR[fofbfN, È, µ)

^ø” , È, µ

-ß, è' l ³íA%¼'zfL[fR[fh
fGf%o[[]A0

%¼'zfL[fR[fh, ÍŽŸ, ì, æ, æ, È\ ' ç, É, È, Á, Ä, ç, Ü, ·B
ã^Ê16frfbfg[]A0x0100(=WM_KEYDOWN) , Ü, ½, Í 0x0102(=WM_CHAR)
%º^Ê16frfbfg[]Aã^Ê16frfbfg, ìfbfZ[fW, É'Í%ž, µ, ½fL[fR[fh
Ú, µ, , Í SDK windows.h , ðŽQÆ, µ, Ä, , ¾, ³, çB

(7) Inkey, cwInkey ('¼Ú“ü—íŠÖ”)

ŠÖ”-¼ Inkey, cwInkey

LONG FAR PASCAL Inkey(void);
LONG FAR PASCAL cwInkey(void);

<@”\ '[-- ,© ,ç'¼Ú“ü—í,đf`fFbfN,μ, ,ê,Î
%¼'zfL[fR[fh,đ•Ô,μ,Ü,·B(fGfR[fofbfN,È,μ)

^ø” ,È,μ

-ß,è'l %¼'zfL[fR[fh,Ü,½,Í 0

%¼'zfL[fR[fh,ÍŽŸ,ì,æ,α,È\`ç,É,È,Á,Ä,ç,Ü,·B
ã^Ê16frfbfgA0x0100(=WM_KEYDOWN) ,Ü,½,Í 0x0102(=WM_CHAR)
%º^Ê16frfbfgAã^Ê16frfbfg,ìfjbfZ[fW,É'Í%ž,μ,½fL[fR[fh
Ú,μ,,Í SDK windows.h ,đŽQÆ,μ,Ä,,¾,¾,çB

(8) Fwrite, cwFwrite (fofCfifŠ□o—ÍŠÖ□")

ŠÖ□"—¼ Fwrite, cwFwrite

LONG FAR PASCAL Fwrite(LPVOID lpObject, LONG ISize,
LONG ICount, LPSTR lpFile);
LONG FAR PASCAL cwFwrite(LPVOID lpObject, LONG ISize,
LONG ICount, LPSTR lpFile);

<@"\ fofCfifŠff□[f^,đ'[-- ,É'— ,é□B

^ø□" lpObject '—□o,·,éff□[f^,Ö,ìf|fCf"f^
ISize flfufWfFfNfg,ìTfCfY
ICount flfufWfFfNfg,ì□"
lpFile ftf@fCf<□\ 'ç'ì,Ö,ìf|fCf"f^
NULL ,ìŽž□A•W□€□o—Í
(LPSTR)-1 ,ìŽž□A•W□€fGf%oo□[□o—Í

-ß,è'l □o—Í,μ,½flfufWfFfNfg,ì□"

'□^Ó comwinx.exe ,ífofCfifŠ"ü□o—Í,đ□³Ž® ,ÉfTf|□[fg,μ,Ä,ç,È,ç,ì,Å
□³□í,É"®□ì,μ,Ü,¹,ñ□B

(9) Fread, cwFread (fofCfifŠ“ü—ÍŠÖ”)

ŠÖ”-¼ Fread, cwFread

LONG FAR PASCAL Fread(LPVOID lpObject, LONG ISize,
LONG ICount, LPSTR lpFile);
LONG FAR PASCAL cwFread(LPVOID lpObject, LONG ISize,
LONG ICount, LPSTR lpFile);

<@”\ fofCfifŠff[f^,đ’[--,©,çŽæ“¾,·,éB

^ø” lpObject Žæ“¾,·,éff[f^,Ö,ìf|fCf“f^
ISize flfufWfFfNfg,ìTfCfY
lCount flfufWfFfNfg,ì”
lpFile ftj@fCf<“‘ì,Ö,ìf|fCf“f^
NULL ,ìŽžA•W€“ü—Í
(LPSTR)-1 ,ìŽžA•W€fGf%oo[“ü—Í

-ß,è’l Žæ“¾,μ,½flfufWfFfNfg,ì”

’^Ó comwinx.exe ,ífofCfifŠ“üo—Í,đ³Ž®,ÉfTf|[fg,μ,Ä,ç,È,ç,ì,Å
³í,É“®ì,μ,Ü,¹,ñB

(10) GetComWinLong (0x00000000)

0x00000000 - 1/4 GetComWinLong

DWORD FAR PASCAL GetComWinLong(DWORD dwID, DWORD dwData);

<@ "\ ComWin fVfXfef€ ,É,Â,ç,Ä,Ì" 0x00000000 - 3/4,µ,Ü,·B

^ø" dwID 0x00000000
dwData 0x00000000,É'Î%ž,·,é32bit'l
-ß,è'l 0x00000000

0x00000000 0 ... comwin.dll ,Ìfo[fWfç" 0x00000000 - 3/4,·,éB
—á

IVer = GetComWinLong(0, 0);
HIWORD(IVer) : fo[fWfç" 0x00000000

0x00000001 1 ... '[-- ,ìŠÂ«·ï" ff[f^ ,ðŽæ" 3/4,·,éB
—á

lpEnv = (LPSTR)GetComWinLong(1, 0);
ŠÂ«·ï" —ì^æ,É,Í "env1=value1\0env2=value2\0...envz=vez\0\0"
,ì€`Ž® ,ÁŠÂ«·ï" ,šš" [,è,Ä,ç,Ü,·B
'[-- ,ìŠÂ«·ï" —ì^æ,š"j%ó,è,é,ÆfVfXfef€ ,Éd'á,ÈáŠQ,ð<y,Ú,µ,Ü,·,ì,ÁA
ŠÂ«·ï" ,ð',«ž,Þêç,É,Í cwPutenv ,ðŽg—p,µ,Ä,, 3/4,³,çB

0x00000002 2 ... '[-- ,ìfEfBf"fhfEfnf"fhf< ,ðŽæ" 3/4,·,éB
—á

hwnd = (HWND)GetComWinLong(2, 0);

0x00000003 3 ... ffbfZ[fWfpfPfbfg,ì"üo—í,ðs,æB
—á

CW_S_CONSOLE_INFO ci;
memset(&ci, 0, sizeof(ci));
ci.lMessage = CW_M_CONSOLE_INFO;

```
ci.lSize = sizeof(ci);  
ci.lMode = CW_MODE_GET;  
GetComWinLong(3, (LONG)(LPLONG)&ci);
```

Úx, í sample1.c, đŽQÆ, μ, Ä, ¾, ³, ¢B

(11) MakeArgument (^ø,«□□ì□-ŠÖ□□)

ŠÖ□□-¼ MakeArgument

```

int FAR PASCAL MakeArgument(HANDLE hInstance,
                             LPSTR lpszAppName,
                             LPSTR lpszCmdParam,
                             LPINT lpnArgv,
                             LPSTR lpszBuffer,
                             int cbBufSize);      // fvf□fgf^fCfv

```

```

<@"\ WinMainŠÖ□□",ì'æ,R^ø□□"(lpszCmdParam),©,ç
  mainŠÖ□□",ì argc, argv ,ð□ì□-□B

```

```

^ø□□ hInstance   f,fWf...□[f<,ìfCf"fXf^f"fX(WinMain,ì'æ,P^ø□□)
lpszAppName     f,fWf...□[f<-¼
lpszCmdParam    fRf}f"fhfpf%of□□[f^(WinMain,ì'æ,R^ø□□)
lpnArgv         %o°□q,ìlpszBuffer,ÉŠi"[,³,ê,éŠe^ø□□",ì^Ê'u
lpszBuffer      fRf}f"fhfpf%of□□[f^,ðŠi"[,.,é□ì<Æfofbftf@
                ("param1\0param2\0param3\0....\paramx\0\0"
                ,ìĀ`Ž® ,ð,Æ,é)
cbBufSize       □ì<Æfofbftf@,ìTfCfY

```

```

-ß,è'l fRf}f"fhfpf%of□□[f^□[,ì□"

```

```

'□^Ó
fRf}f"fhfpf%of□□[f^,É,íf,fWf...□[f<-¼,ÍŠÜ,Ý,Ü,¹,ñ□B
f,fWf...□[f<-¼,ªŠÜ,Ü,ê,Ä,ç,é□ê□‡,Í hInstance = NULL ,Æ,μ,Ä
ĀÄ,Ñ□o,μ,Ä,,¾,¾,ç□B

```

```

"ð□l
Ž©•ª,Å□ì,Á,Ä,ç,κ,ì,à,È,ñ,Å,·,ª□A,â,â,±,μ,çŽd—l,ìŠÖ□□",Å,·□B
,Å,à□AFARf|fCf"f^NEARf|fCf"f^,ð<ìŽg,μ,Ä□«—^"l,É,àŽd—l•ï□X,ð
,¹,,É,·,ßŽd—l,Æ,ç,!,Î,±,κ,È,Á,Ä,μ,Ü,ç,Ü,μ,½□B
<t,É□l,!,ê,Î□AWinMain,ìfRf}f"fhfpf%of□□[f^□[,ìĀ`Ž®,ª,

```

^ø",ì"(argc)A^ø",ì"z—ñ(argv),ìĚ`Ž®,đŽæ,ç,,ÉA
'Pf,È•ŕŽš—ñĚ`Ž®,đŽæ,Á,Ä,ç,é,ì,íA,±,ì•Ó,ìŽ-ŕ,ª, ,é,ì,©,à,μ,ê,Ü,¹,ñB

Úx,í sample1.c ,đŽQAE,μ,Ä,,³/₄,³,çB

(12) cwPutenv (ŠÂ««•İ"Ÿ'èŠÖ")

ŠÖ"-¼ cwPutenv

LONG FAR PASCAL cwPutenv(LPSTR lpEnv);

<@"\ '[-f^fXfN,İŠÂ««•İ",đŸ'è,μ,Û,·B

^ø" lpEnv Ÿ'è,·,éŠÂ««•İ"•ŸŽš—ñ
ŠÂ««•İ"•ŸŽš—ñ,íŽŸ,ì'Ž®,đŽæ,è,Û,·B
env=value

-ß,è'l ³í 0AfGf%o[1

'() •İX,³,ê,é,ì,í[-f^fXfN,İŠÂ««•İ",Å,·B
Ž©f^fXfN,İŠÂ««•İ",đ•İX,μ,½,çê‡,í
putenv "™,ì•W€f%ofCfuf%ofŠŠÖ",đ—~—p,μ,Ä,,¾,³,çB

(14) `__cwFprintf` (`__Z@t` `__IO__`)

`__IO__` `__cwFprintf`

`LONG FAR CDECL __cwFprintf(LPSTR lpFile, LPSTR lpStr, ...);`

`<@\ __Z@t,«,Å•¶Žš—ň,đ__—í,·,é` `B`

`^ø` `lpFile` `ftf@fCf<î•ň`

`NULL ,ì,Æ,«•W__€__—íA(LPSTR)-1 ,ì,Æ,«fGf%o__[__—í` `B`
`,» ,ì¼,ìfAfhfÆfX,í—\—ň`

`lpStr` `__—í,·,é__Z@t,«,ì•¶Žš—ň`

`-ß'í` `__—í,μ,½•¶Žš` `__AfGf%o__[Žž,í -1`

`—á`

`__cwFprintf(NULL, "(x, y) = (%d, %d)\n", x, y);`

`'__^ÓŽ—€`

`__—í,Å,«,é•¶Žš` `__ ,í 1024 •¶Žš,Ü,Å,Å,·` `B`

`__cwFprintf ,đ—~—p,·,éê__#__Af,fWf...__[f<'è<`ftf@fCf<,É`

`IMPORTS comwin._cwFprintf ,Æ<L__q,μ,Ä,,¾,¾,ç` `B`

`ÆÄ,Ñ__o,μ__#__~ ,ª CDECL` `Æ`Ž@,È,ì,Å`

`ŠÖ` `__—¼,ì'O,É ' ' (fAf"f__[fXfRfA),ª•K—v,Å,·` `B`

`__cwFprintf ,íffofbfOfT__[frfXAPI,Æ,μ,Ä'ň<Ÿ,μ,Ä,ç,Ü,·` `B`

`__³Ž@fŠfŠ__[fX—p,ìf,fWf...__[f<"à,ÅŽg—p,·,é,±,Æ,í,"'E,ß,Å,«,Ü,¹,ň` `B`

(15) CallCommand(%¼) (“à•”fRf}f“fh’ñ<ÿŠÖ”)

ŠÖ”-¼ CallCommand(-ß,è’lA^ø” ,lĀ^ ,â^ê’v,μ,Ä,ç,ê,ĤAŠÖ”-¼,Í”C^Ó)

BOOL FAR PASCAL CallCommand(FARPROC FAR *lpfnProc,
LPSTR lpszCmdParam,
LPLONG lpReturn); // fvf^fgf^fcfv

<@\ ComWin,©,çĀÄ,Ńo,³,ê,é“à•”fRf}f“fh,đ’ñ<ÿ,μA
o—ÍĀ<%oĒ,đComWin,É•\Ž!,μ,Ü,·B

^ø” lpfnProc ComWin,©,çŽó,~Žæ,é“üo—ÍŠÖ”,Ö,lfAfhfĀfX,ì”z—ñ
Ā»\ÝŽÿ,ì10,ìŠÖ”,â’è<` ,³,ê,Ä,ç,Ü,·B
Puts = lpfnProc[0]; /* Ver 1.80 ^È~ */
Gets = lpfnProc[1];
Fputs = lpfnProc[2];
Fgets = lpfnProc[3];
System = lpfnProc[4];
CallConsole = lpfnProc[5];
Getch = lpfnProc[6]; /* Ver 2.30 ^È~ */
Inkey = lpfnProc[7];
Fwrite = lpfnProc[8]; /* Ver 2.60 ^È~ */
Fread = lpfnProc[9];

lpszCmdParam fRf}f“fhf%of[f^
(WinMain,ì’æ,R^ø” ,Ā” ,Ń,Ä,·,âA
fRf}f“fh-¼,à,Í,ç,è,Ü,·B)
lpReturn[0] ŠefRf}f“fh,lfGf%o[’l

-ß,è’l TRUE fRf}f“fh,đDLL“à•”,Ā^—,μ,½B
FALSE fRf}f“fh,đDLL“à•”,Ā^—,¹, ,ÉŽÿ,ìDLL,ÖfXf<[,·,éB

”õl ,±,ìŠÖ”,đEXPORT,μ,½DLL,Ícomwins.dll,È,ç,ì¼,ìDLL,Ā•¹—
p,Ā,«,Ü,·B
«—^“l,É,ÍSeDLL,âfTf[f[fg,μ,Ä,ç,éRf}f“fh,đŠç—,·,é•K—v,â,Ā,Ä,,é,Ā


```
Žv,í,ê,é,ì,Å□AZÿ,ì<@”\,à,à,½,¹,Ä,,¾,³,¢□B
-Ê“|,È□ê□‡,í-³Ž<,μ,Ä,à“Á,É-â‘è,í, ,è,Ü,¹,ñ□B
(comwins.dll,í,±,ì<@”\,ðŽ□,Á,Ä,¢,Ü,·□B)
```

```
lpReturn[0] == 0, lpszCmdParam[0] == 0, ì□ê□‡,í
fTf|□[fg,μ,Ä,¢,éRf}f“fh-¼,ð1,Ä,¾,~
lpszCmdParam,ÉfRfs□[μ,ÄTRUE,ð•Ô,μ,Ä,,¾,³,¢□B
TRUE,ð•Ô,μ,Ä,¢,éŠÔ,íComWin,íŽÿ,ìfRf}f“fh-¼,ð—v<□,μ,Ä,«,Ü,·□B
fRf}f“fh-¼,ð,·,×,Ä•Ô,μ□l,í,Á,½,ç FALSE ,ð•Ô,μ,Ä,,¾,³,¢□B
(,±,ì<@”\,íÆ»□Ý help fRf}f“fh,ÅŽg,í,ê,Ä,¢,Ü,·□B)
```

```
□«—^,ìŠg’£□«,ì,½,ß^È%º,ì□^—□,ð,μ,Ä,,¾,³,¢□B
switch (lpReturn[0]) {
    case -1:
        /* f□fCf“□^—□ */
        break;
    case 0:
        /* fwf<fv□^—□ */
        break;
    default:
        /* —\-ñ */
        break;
}
```

```
ÆÄ,Ñ□o,μ—á
unix.dll ,Å command ,ðEXPORT,μ,Ä,¢,é□ê□‡□B
```

```
comwin.ini ,ì [CommandDII],ÉŽÿ,ì<L□q,ð%ºÁ,ì,é□B
[CommandDII]
a.dll=b ;¼,ìcommand.dll
unix.dll=command
c.dll=d ;¼,ìcommand.dll
```

```
□æ,É□’,©,ê,½command.dll,ìfRf}f“fh,ª—D□æ,³,ê,Ü,·□B
```

```
□Ú□×,í sample3.c ,ðŽQ□Æ,μ,Ä,,¾,³,¢□B
```


(16) CallInterpreter(%¼) (fRf}f“fh%øŽš’ñ<ŸÖ”)

ŠÖ”-¼ CallInterpreter(-ß,è’lA^ø” ,ìĀ^ ,^è’v,μ,Ä,ç,ê,îAŠÖ”-¼,í”C^Ó)

```
BOOL FAR PASCAL CallInterpreter(FARPROC FAR *lpfnProc,  
                                LPSTR lpszCmdParam,  
                                LPLONG lpReturn); // fvf[]fgf^fcfv
```

```
<@”\ ComWin, © ,ç“n,³,ê,½•¶Žš—ñ,ð  
ĀX,ìfRf}f“fh,É•%ø,μ,½•¶Žš—ñ,É,μ,Ä•Ô,μ,Ü,·B
```

```
^ø” lpfnProc ComWin, © ,çŽó, Žæ,é“üo—ÍŠÖ” ,Ö,ìfAfhfĀfX,ì”z—ñ  
Ā»[]ŽŽ,ì7,Ä,ìŠÖ” ,^è<` ,³,ê,Ä,ç,Ü,·B  
Puts = lpfnProc[0];  
Gets = lpfnProc[1];  
Fputs = lpfnProc[2];  
Fgets = lpfnProc[3];  
System = lpfnProc[4];  
(-ç’è<`) lpfnProc[5];  
Getch = lpfnProc[6];  
Inkey = lpfnProc[7];  
(CallInterpreter “à,Ä,ìffofbfOŽž^ÈŠO,í•s—v,Ä,·B)
```

```
lpszCmdParam fRf}f“fh•¶Žš—ñ  
(WinMain,ì’æ,R^ø” ,Ā“ ,¶,Ä,·,^A  
fRf}f“fh-¼,à,í,ç,è,Ü,·B)  
lpReturn[0] •%ø,μ,½fRf}f“fhĀQ,Ö,ìf]fCf“f^[]  
fRf}f“fhĀQ,íŽŸ,ìĀ`Ž®,Ä•Ô,μ,Ä,,¾,¾,çB  
"cmd0\0cmd1\0cmd2\0...cmdx\0\0"
```

```
-ß,è’l TRUE []Ā÷  
FALSE fGf%[]["¶
```

```
”õ[] ,±,ìŠÖ” ,ðEXPORT,μ,½DLL,ìfRf}f“fh%øŽš,ì«Šiã  
^è,Ä,μ, © Žg—p,Ä,«,Ü,¹,ñB
```

```
lpReturn[0] == 0 && lpszCmdParam[0] == 0 ,l^e#  
fRf}f“fhEQ,l—l^æ, GlobalAlloc “™ ,ÅŠm•Ů,³,ê,Ä,ç,ê,ÎA  
ŠJ•ú,μ,Ä,,¾,¾,çB
```

```
«—^,Šg'£«„l,½,ß^È%º,ì^—,ð,μ,Ä,,¾,¾,çB  
switch (lpReturn[0]) {  
    case -1:  
        /* fCf“^— */  
        break;  
    case 0:  
        /* %đ•ú^— */  
        break;  
    default:  
        /* —\-ñ */  
        break;  
}
```

Ä,Ño,μ—á

unix.dll ,Å interpreter ,ðEXPORT,μ,Ä,ç,éê#B

comwin.ini ,l [InterpreterDll],ÉŽŸ,l<Lq,ð%Á,l,éB

[InterpreterDll]

unix.dll=interpreter

^ê”ÔÅ%º,É‘,©,ê,½interpreter.dll,ŠÖ” ,—Dæ,³,ê,Ü,·B

Úx,Í sample3.c ,ðŽQÆ,μ,Ä,,¾,¾,çB

(17) CallScript(%o¼) (fXfNfŠfvgfñčŸŠÖ)

ŠÖ-¼ CallScript(-ß,è'IA^ø",)CE^,ª^è'v,µ,Ä,ç,ê,ÎAŠÖ-¼,Í" C^Ó)

```
BOOL FAR PASCAL CallScript(FARPROC FAR *lpfnProc,
                             LPSTR lpszCmdParam,
                             LPLONG lpReturn); // fvf[]fgf^fCfv
```

<@"\ ComWin, ©, ç'ñčŸ,ª,ê,½ftf@fCf<,đfXfNfŠfvgf%ođŽß,µAŽÀs,µ,Ü,·B

```
^ø" lpfnProc    ComWin, ©, çŽó, ~Žæ,é"üo—ÍŠÖ", Ö,lfAfhfCfX,ì"z—ñ
                CE»ÝŽŸ,ì,T,Â,İŠÖ",ª'è<` ,ª,ê,Ä,ç,Ü,·B
                Puts   = lpfnProc[0];
                Gets   = lpfnProc[1];
                Fputs  = lpfnProc[2];
                Fgets  = lpfnProc[3];
                System = lpfnProc[4];
                (-ç'è<`) lpfnProc[5];
                Getch  = lpfnProc[6];
                Inkey  = lpfnProc[7];
```

```
lpszCmdParam fXfNfŠfvgftf@fCf<+fpf%of[]f^
              (ftf<fpfX,ÁfXfNfŠfvgftf@fCf<,ª'—,ç,ê,Ü,·B)
```

```
lpReturn[0]   ŠefRf}f"fh,lfGf%o[]'l
```

```
-ß,è' I TRUE fRf}f"fh,đDLL"à•",Á^—,µ,½B
        FALSE fRf}f"fh,đDLL"à•",Á^—,¹, ,ÉŽŸ,İDLL,ÖfXf<[][,·,éB
```

"õ| ,±,İŠÖ",đEXPORT,µ,½DLL,Ícomwins.dll,È,Ç,ì¼,İDLL,Æ•¹—
p,Á,«,Ü,·B

```
ŠefXfNfŠfvgDLL,ÍŠg'£Žq,É,æ,Á,ÄŽ©•ª,ì^—,·,éftf@fCf<,đŠÇ—
[],µ,Ü,·B
```

```
(Šg'£Žq,É,æ,éftf@fCf<,ìª—p,Í NT "™",lf[]f"foftf@fCf<f[]f€,Á,à
```

□s,í,ê,é,ì,Å^ê"Ô'Ã"-,È•û-@,Å,·□B)

```
lpReturn[0] == 0 && lpszCmdParam[0] == 0 ,ì□ê□‡,í
fTf|□[fg,μ,Ä,φ,éŠg'£Žq□EQ,ìf|fCf"f^,đ lpReturn[0] ,É
,φ,ê,Ä•Ô,μ,Ä,,¾,¾,φ□B
Šg'£Žq□EQ,ì□E`Ž®,í "ex0\0ex1\0...ex9\0" ,Æ,φ,¤□E`Ž®,Å,·□B
```

```
□«-^,ìŠg'£□«,ì,½,ß^È%o°,ì□^—□,đ,μ,Ä,,¾,¾,φ□B
switch (lpReturn[0]) {
    case -1:
        /* f□fCf"□^—□ */
        break;
    case 0:
        /* fwf<fv□^—□ */
        break;
    default:
        /* —\-ñ */
        break;
}
```

□EÄ,Ñ□o,μ—á

macro.dll ,Å macro ,đEXPORT,μ,Ä,φ,é□ê□‡□B

comwin.ini ,ì [ScriptDll],ÉŽŸ,ì<L□q,đ%oÁ,!,é□B
[ScriptDll]

a.dll=b ;'¾,ìscript.dll

macro.dll=macro

c.dll=d ;'¾,ìscript.dll

□æ,É□',©,ê,½script.dll,ìfRf}f"f^,ª—D□æ,¾,ê,Ü,·□B

□Ú□×,í sample3.c ,đŽQ□Æ,μ,Ä,,¾,¾,φ□B

(18) CallCommand ('[---pfRf}f"fh^—ŠÖ")

ŠÖ"-¼ CallCommand

```
BOOL FAR PASCAL CallCommand(FARPROC FAR *lpfnProc,
                              LPSTR lpszCmdParam,
                              LPLONG lpReturn); // fvf^fgf^fCfv
```

<@"\ '[--'α,É"ü—Í,³,ê,½•¶Žš—ñ,đ comwin.dll ,đ"n,·B

```
^ø" lpfnProc    comwin.dll,É'ñ<Ÿ,·,é"üo—ÍŠÖ",Ö,lfAfhfCEfX,ì"z—ñ
CE»ÝŽŸ,ì8,Â,ìŠÖ",@'è<³,ê,Ä,ç,Ü,·B
lpfnProc[0] = LocalPuts;
lpfnProc[1] = LocalGets;
lpfnProc[2] = LocalFputs;
lpfnProc[3] = LocalFgets;
lpfnProc[4] = LocalSystem;
lpfnProc[5] = LocalCallCommand;
lpfnProc[6] = LocalGetch;
lpfnProc[7] = LocalInkey;
```

lpszCmdParam fRf}f"fh•¶Žš—ñ

lpReturn[0] ŠefRf}f"fh,lfGf%o['l

```
-ß,è'l TRUE fRf}f"fh,đ³í,É^—,μ,½B
FALSE fRf}f"fh,ì^—'t,É^Ùí,@"¶,μ,½B
```

"ö|

```
comwin.dll ,Í"à•",Å;ŽG,ÈfXfPfWf...[fŠf"foAfvfZfXŠÇ—,đ
s,Á,Ä,ç,é"s#ã,É-¾Ž!"I,È"o~^AŠJ•ú^—,đs,í,È,ç,Æ
f,f,š,©,çŠJ•ú,³,ê,È,ç•"•@,@o,Ä,«,Ü,·B
```

[-¾Ž!"I,È"o~^]

CW_S_CONSOLE_INFO ci; /* ffbfZ[fWfpfPfbfg */

```
memset(&ci, 0, sizeof(ci));
ci.lMessage = CW_M_CONSOLE_INFO;
ci.lSize = sizeof(ci);
ci.lMode = CW_MODE_INIT; /* 0x00000000 */
lpCmdParam[0] = 0;
CallCommand(lpfnProc, lpCmdParam, (LPLONG)&ci);
```

```
[-3/4Ž!“I,ÈŠ•ú]
CW_S_CONSOLE_INFO ci; /* ffbfZ[fWfPfpfbfg */
memset(&ci, 0, sizeof(ci));
ci.lMessage = CW_M_CONSOLE_INFO;
ci.lSize = sizeof(ci);
ci.lMode = CW_MODE_CLEAR; /* 0x00000000 */
lpCmdParam[0] = 0;
CallCommand(lpfnProc, lpCmdParam, (LPLONG)&ci);
```

```
‘Ê“í,ìĀ,Ń“o,μ
lpReturn[0] = -1;
CallCommand(lpfnProc, lpCmdParam, lpReturn);
```

“Ú“×,í sample5.c, đŽQ“Æ,μ,Ä,,^{3/4,3},ċ“B

(ŠÖ" •â'«) ffbfZ[fWfpfPfbfg,É,Â,ç,Ä

```
ffbfZ[fWfpfPfbfg,Æ,Í[--'x,ÆfRf}f"fh'x,Åî•ñ,ì,â,è,Æ,è,ð
s,x,½,ß,É|^Ä,³,ê,½ff[f^[,ìŽó,~"n,μ•û-@,Å,·B
%ß<Ž,Æ,ìÉÝŠ·«,ðdŽ<,μA«—^,Ö,ìŠg'£,³%Å"\,È\ç,É,È,Á,Ä,ç,Ü,·B
```

ffbfZ[fWfpfPfbfg,íŽŸ,ìÉ`Ž® ,ð,Æ,è,Ü,·B

```
struct PACKET {
    LONG IMessage; /* •K{ fbfZ[fW"Ô†,ðÝ'è,·,é */
    LONG ISize /* •K{ fpfPfbfg,ìTfCfY,ðÝ'è,·,é */
    ... /* ŠefbfZ[fW,É'î%ž,μ,ÄŽ©—R,ÉÝ'è,·,é */
}
```

CallCommand ,ìæ,R^ø"AGetComWinLong ,ìæ,Q^ø",ÉŽg,í,ê,Ü,·B

«»ÝAcomwin.h ,ÄŽŸ,ìæ,x,ÉéÉ¾,³,ê,Ä,ç,Ü,·B

```
/* Message */
#define CW_M_EXEC          0xFFFFFFFF
#define CW_M_HELP         0x00000000
#define CW_M_CONSOLE_INFO 0x00010001
#define CW_M_USER_FIRST   0x10000000
#define CW_M_USER_LAST    0x7FFFFFFF
/*
    0x00000001 - 0x0000FFFF reserved
    0x00010002 - 0x0FFFFFFF system reserved
    0x10000000 - 0x7FFFFFFF user area
    0x80000000 - 0xFFFFFFFF reserved
*/
```

```
/* Mode */
#define CW_MODE_CLEAR 0
#define CW_MODE_INIT  1
#define CW_MODE_SET   2
#define CW_MODE_GET   3
```

```

/* Message Structure */
typedef struct CW_S_CONSOLE_INFO
    CW_S_CONSOLE_INFO,
    FAR *LP_CW_S_CONSOLE_INFO;

struct CW_S_CONSOLE_INFO {
    LONG IMessage;    // Message Number (=
CW_M_CONSOLE_INFO)
    LONG ISize;      // Structure size (=
sizeof(CW_S_CONSOLE_INFO))
    LONG IMode;      // Calling mode (= CW_MODE_XXXX)
    LONG IFuncMax;   // Max Function Count ( >= 6)
    LONG IBufMax;    // Max Buffer Size ( for Gets API etc)
    DWORD hwnd;     // Window Handle of Console
    LONG IColumns;   // Columns of Console
    LONG ILines;     // Lines of Console
    LONG IWidth;     // Width of Console
    LONG IHeight;    // Height of Console
};

```

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15. ŽÓŽ«

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