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{*****}
{      W I N D A P . P A S      }
{-----}
{ Task      : Determines whether Windows is active, and if so, }
{           : the operating mode. }
{-----}
{ Author    : Michael Tischer }
{ Developed on : 08/22/91 }
{ Last update  : 01/13/92 }
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uses Dos;                                { Use DOS unit }

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const MULTIPLEX = $2F;    { Interrupt number of multiplex interrupt }
    NO_WIN      = $00;    { Windows not active }
    W_386_X     = $01;    { Windows/386 V2.X running }
    W_REAL      = $81;    { Windows running in real mode }
    W_STANDARD  = $82;    { Windows running in standard mode }
    W_ENHANCED  = $83;    { Windows running in enhanced mode }

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{*****}
{ WINDOWS : Determines whether Windows is active }
{ Input   : MVERSION = Integer variable of main version number }
{           SVERSION = Integer variable of sub version number }
{ Output  : Windows status, from constants NO_WIN, W_386_X, W_REAL, }
{           W_STANDARD or W_ENHANCED }
{ Info    : Version number can only be passed and returned when }
{           Windows 3.x is operating in enhanced mode }
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function windows( var MVersion, SVersion : integer ) : integer;

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var regs : registers;           { Processor registers for interrupt call }
  Erg : integer;

{-- This function replaces intr( $2F, Regs ) with Regs.ax = $1600 ----}
{-- (installation test for enhanced mode), as the Pascal function ----}
{-- returns false values                                           ----}

function int2fcall : integer;

begin
  inline( $b8 / $00 / $16 /      { mov    ax,1600h      }
          $cd / $2f /           { int    2Fh      }
          $89 / $46 / $FE );    { mov    [bp-2], ax  }
  { This inline inserts the "mov ax, [bp-2]" instruction, which      }
  { places the local function variable in the return register        }
end;

begin
  MVersion := 0;                { Initialize version numbers }
  SVersion := 0;

  {-- Windows x.y in enhanced mode -----}

  erg := int2fcall; { Installation test for enhanced mode }

  case ( lo(Erg) ) of
    $01,
    $FF: begin
      MVersion := 2;                { main version }
      SVersion := 0;                { sub version unknown }
      Windows := W_386_X;
    end;
  end;

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$00,
$80: begin
    regs.ax := $4680; { Identify real mode or standard mode }
    intr( MULTIPLEX, regs );
    if ( regs.al = $80 ) then
        Windows := NO_WIN { Windows not running }
    else
        begin
            {-- Windows in real more or standard mode -----}

            regs.ax := $1605; { Emulate installation of DOS extldr }
            regs.bx := $0000;
            regs.si := $0000;
            regs.cx := $0000;
            regs.es := $0000;
            regs.ds := $0000;
            regs.dx := $0001;
            intr( MULTIPLEX, regs );
            if ( regs.cx = $0000 ) then
                begin
                    {-- Windows in real mode -----}

                    regs.ax := $1606;
                    intr( MULTIPLEX, regs );
                    Windows := W_REAL;
                end
            else
                Windows := W_STANDARD;
            end;
        end;
    {-- Windows in extended mode, AX contains version number -----}

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else
  begin
    MVersion := lo(Erg);           { Display Windows version }
    SVersion := hi(Erg);
    Windows := W_ENHANCED;        { Windows in enhanced mode }
  end;
end;
end;

{ ***** }
{           M A I N   P R O G R A M           }
{ ***** }

var WindowsActive,                { Windows mode }
    MVer,                        { Main version of Windows }
    SVer      : integer;         { Sub version of Windows }

begin
  writeln( 'ÛÛÛÛÛÛÛÛÛ WINDAP - (c) 1991 by Michael Tischer ÛÛÛÛ' );
  writeln;
  WindowsActive := windows( MVer, SVer );
  case ( WindowsActive ) of
    NO_WIN:      writeln( 'Windows not active ' );
    W_REAL:      writeln( 'Windows in real mode ' );
    W_STANDARD:  writeln( 'Windows active in standard mode' );
    W_386_X:     writeln( 'Windows/386 V 2.x active' );
    W_ENHANCED:  writeln( 'Windows V ', Mver, '.', SVer,
                          ' active im enhanced mode' );
  end;
halt( WindowsActive );
end.

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