

Symbolic constant name	Value (hexadecimal)	Mouse/keyboard equivalent
VK_LBUTTON	01	Left mouse button
VK_RBUTTON	02	Right mouse button
VK_CANCEL	03	Control-break processing
VK_MBUTTON	04	Middle mouse button
	05-07	Undefined
VK_BACK	08	BACKSPACE key
VK_TAB	09	TAB key
	0A-0B	Undefined
VK_CLEAR	0C	CLEAR key
VK_RETURN	0D	ENTER key
	0E-0F	Undefined
VK_SHIFT	10	SHIFT key
VK_CONTROL	11	CTRL key
VK_MENU	12	ALT key
VK_PAUSE	13	PAUSE key
VK_CAPITAL	14	CAPS LOCK key
	15-19	Resv Kanji systems
	1A	Undefined
VK_ESCAPE	1B	ESC key
	1C-1F	Resv Kanji systems
VK_SPACE	20	SPACEBAR
VK_PRIOR	21	PAGE UP key
VK_NEXT	22	PAGE DOWN key
VK_END	23	END key
VK_HOME	24	HOME key
VK_LEFT	25	LEFT ARROW key
VK_UP	26	UP ARROW key
VK_RIGHT	27	RIGHT ARROW key
VK_DOWN	28	DOWN ARROW key
VK_SELECT	29	SELECT key
	2A	OEM specific
VK_EXECUTE	2B	EXECUTE key
VK_SNAPSHOT	2C	Print Screen key
VK_INSERT	2D	INS key
VK_DELETE	2E	DEL key
VK_HELP	2F	HELP key
VK_0	30	0 key
VK_1	31	1 key
VK_2	32	2 key
VK_3	33	3 key
VK_4	34	4 key
VK_5	35	5 key
VK_6	36	6 key
VK_7	37	7 key
VK_8	38	8 key
VK_9	39	9 key
	3A-5A	Undefined
VK_LWIN	5B	Left key (MS Keybd)
VK_RWIN	5C	Right key (MS Keybd)
VK_APPS	5D	Apps key (MS Keybd)
	5E-5F	Undefined
VK_NUMPAD0	60	Numeric keypad 0 key
VK_NUMPAD1	61	Numeric keypad 1 key
VK_NUMPAD2	62	Numeric keypad 2 key
VK_NUMPAD3	63	Numeric keypad 3 key
VK_NUMPAD4	64	Numeric keypad 4 key
VK_NUMPAD5	65	Numeric keypad 5 key
VK_NUMPAD6	66	Numeric keypad 6 key
VK_NUMPAD7	67	Numeric keypad 7 key
VK_NUMPAD8	68	Numeric keypad 8 key
VK_NUMPAD9	69	Numeric keypad 9 key
VK_MULTIPLY	6A	Multiply key
VK_ADD	6B	Add key

Symbolic constant name	Value (hexadecimal)	Mouse/keyboard equivalent
VK_SEPARATOR	6C	Separator key
VK_SUBTRACT	6D	Subtract key
VK_DECIMAL	6E	Decimal key
VK_DIVIDE	6F	Divide key
VK_F1	70	F1 key
VK_F2	71	F2 key
VK_F3	72	F3 key
VK_F4	73	F4 key
VK_F5	74	F5 key
VK_F6	75	F6 key
VK_F7	76	F7 key
VK_F8	77	F8 key
VK_F9	78	F9 key
VK_F10	79	F10 key
VK_F11	7A	F11 key
VK_F12	7B	F12 key
VK_F13	7C	F13 key
VK_F14	7D	F14 key
VK_F15	7E	F15 key
VK_F16	7F	F16 key
VK_F17	80H	F17 key
VK_F18	81H	F18 key
VK_F19	82H	F19 key
VK_F20	83H	F20 key
VK_F21	84H	F21 key
VK_F22	85H	F22 key
VK_F23	86H	F23 key
VK_F24	87H	F24 key
	88-8F	Unassigned
VK_NUMLOCK	90	NUM LOCK key
VK_SCROLL	91	SCROLL LOCK key
	92-B9	Unassigned
	BA-C0	OEM specific
	C1-DA	Unassigned
	DB-E4	OEM specific
	E5	Unassigned
	E6	OEM specific
	E7-E8	Unassigned
	E9-F5	OEM specific
VK_ATTN	F6	Attn key
VK_CRSEL	F7	CrSel key
VK_EXSEL	F8	ExSel key
VK_EREOF	F9	Erase EOF key
VK_PLAY	FA	Play key
VK_ZOOM	FB	Zoom key
VK_NONAME	FC	Reserved for future use.
VK_PA1	FD	PA1 key
VK_OEM_CLEAR	FE	Clear key
	FF	Unassigned

File:

```
FPath := GetCurrentDir;  
OpenDialog1.InitialDir := FPath;  
  
ExtractFileDrive(' <file name>') C:  
ExtractFileDir(' <file name>') C:\<path>  
ExtractFilePath(' <file name>') C:\<path>\  
ExtractFileName(' <file name>') fname.ext  
ExtractFileExt(' <file name>') .ext  
ExtractFilePath(Application.ExeName)app path  
  
DirectoryExists(' <folder>') [use FileCtrl]  
CreateDir(' <folder>')  
FileExists(' <file name>')  
OpenDialog1.Filter :=  
    'Text Files (*.txt)|*.txt|All (*.*)|*.*';  
OpenDialog1.FilterIndex := 1;List .txt files  
OpenDialog1.Execute;
```

Format Strings:

```
Format('%%.3d', [<integer: 4>]); '004'  
Format('%2.2d%2.2d%4d', [1,1,2000]); '01012000'  
Format('%%.0n', [<real: 1234567>]); '1,234,567'  
Format('%%.2n', [<real: 12345.675>]); '12,345.68'  
Format('%m', [<real: 12.34567>]); '$12.35'  
Format('%x', [<integer: 43>]); '2B'  
Format('%p', [<pointer>]); '8 chr adr'  
Format('%s string.', ['Some']); 'Some string.'  
Format('{%-4.3s} {%4.2s}', ['L123', 'R123']);  
    '{L12 } { R1}'  
Format('%2:s %1:s %0:s', ['1st', '2nd', '3rd']);  
    '3rd 2nd 1st'  
Format('{%*.f}', [<len: 9>, <dec: 4>, 100*PI]);  
    '{ 314.1593}'  
FloatToStrF(123.45, ffFixed, <len: 4>, <dec: 1>);  
    '123.5'  
FormatMaskText('0-00-00;0;_', '12345'); '1-23-45'  
FormatFloat('#00,000.0##', 1234.400); '01,234.4'
```

Date/Time Formats:

```
FormatDateTime('mm/dd/yyyy', Now); '09/16/2003'  
FormatDateTime('hh:n:ss', Now); '09:5:59'  
FormatDateTime(' <Specifier>', Now);  
<c> 7/29/00 5:24:08 PM;  
<m> 7; <mm> 07; <mmm> Jul; <mmm> July;  
<d> 1; <dd> 01; <ddd> Sun; <ddd> Sunday;  
<dddd> 7/9/00; <dddd> Sunday, July 09, 2003;  
<yy> 00; <yyyy> 2003;  
<h> 9; <hh> 09; <n> 7; <nn> 07; <s> 9; <ss> 09;  
<t> 5:38 PM; <tt> 5:38:28 PM;  
<am/pm> pm; <a/p> a; <ampm> PM; </> /; <:> :
```

String Manipulation:

```
Chr(<Integer>);  
Copy(<SourceString>, <start pos>, <length>);  
CompareStr(<SourceString1>, <SourceString2>);  
Delete(<SourceString>, <start pos>, <length>);  
Insert(<fromSourceString>, <toSourceString>,  
    <start pos>);  
IsCharAlpha(<Char>);  
Length(<SourceString>);  
LowerCase(<SourceString>);  
Pos(' <find this>', <SourceString>);  
SetLength(<SourceString>, <length>);  
StringOfChar(' <Character>', <quantity>);  
StrToIntDef(<SourceString>, <DefaultInteger>);  
StrTo<??>>(<SourceString>);  
<??>>ToStr(<Source??>); ??? = Int, Float,  
    Int64, Currency, Date, Time, DateTime  
StringReplace(<SourceString>, ' <replace this>',  
    ' <with this>', [rfReplaceAll]);  
Trim(<SourceString>); trim l/r blanks  
TrimLeft(<SourceString>); trim left blanks  
TrimRight(<SourceString>); trim right blanks  
UpperCase(<SourceString>);  
UpCase(<Char>);  
Val(<SourceString>, <Integers>, <ErrorPos>);
```

Sets:

```
ThisSet : set of byte; [0-255]  
ThisSet := [1, 2, 3, 7]; initialize to 1,2,3,7  
ThisSet := ThisSet - [3]; exclude number 3  
ThisSet := ThisSet + [5]; include number 5  
ThisSet := []; purge all elements  
if 7 in ThisSet ...
```

Pointer:

```
Pt : pointer; CharSet := 'AbCd'; Data : string;  
Pt := @CharSet;  
Data := PChar(Pt^); Data = 'AbCd'  
Data := PChar(Pt^)[0]; Data = 'A'
```

Math Expressions:

```
Absolute value: x := Abs(x);  
Addition: x := y + z;  
Address of operator: ptr := @ThisRecord;  
Array subscript operator: x := ThisArray[5]  
Assignment: x := 10;  
Bitwise AND: x := x AND $02;  
Bitwise NOT: x := x AND NOT $02;  
Bitwise OR: x := x OR $FF;  
Bitwise SHL: x := x SHL $02;  
Bitwise SHR: x := x SHR $02;  
Bitwise XOR: x := x XOR y;  
Decrement: Dec(x); Dec(x, 2);  
Equal to: if (x = 10)  
Fraction return: x := Frac(x);  
Greater than or equal to: if (x >= 10)  
Greater than: if (x > 10)  
Hex value prefix: x := $FF;  
Increment: Inc(x); Inc(x, 2);  
Integer division: x := y Div 10;  
Less than or equal to: if (x <= 10)  
Less than: if (x < 10)  
Logical AND: if (x = 1) And (y = 2)  
Logical NOT: if Not Valid then  
Logical OR: if (x = 1) Or (y = 2)  
Low High: Low(Array) High(Array)  
Maximum number return: x := Max(x, y);  
Membership operator: x := Record.Data  
Minimum number return: x := Min(x, y);  
Multiplication: x := y * z;  
Not equal to: if (x <> 10)  
Odd number: if Odd(9)  
Ord: x := Ord(' <char>');  
Pointer operator: ThisObject.Data^;  
Predecessor: x := Pred(y);  
Real division: x := y / 3.14;  
Remainder: x := y Mod 2;  
Round to negative: x := Floor(x);  
Round to positive: x := Ceil(x);  
Square: x := Sqr(x);  
Square root: x := Sqrt(x);  
Subtraction: x := y - z;  
Successor: x := Succ(y);  
Return integer rounded toward zero:  
    FloatValue := Int(Real)  
Discard decimals and return Integer:  
    Int64Value := Trunc(Real)  
Round to the nearest whole number:  
    Int64Value := Round(Real)
```

Numeric Variables:

Type	Size	Range of Values
Boolean	1	False, True
Byte	1	0 to 255
Cardinal	4	0 to 4,294,967,295
Char	1	#0 to #255
Comp	8	-9,223,372,036,854,775,808 to 9,223,372,036,854,775,807
Currency	8	-922,337,203,685,477.5808 to 922,337,203,685,477.5807
Double	8	5.0 x 10 ⁻³²⁴ to 1.7 x 10 ³⁰⁸
Extended	10	3.6 x 10 ⁻⁴⁹³² to 1.1 x 10 ⁴⁹³²
Int64	8	-9,223,372,036,854,775,808 to 9,223,372,036,854,775,807
Integer	4	-2,147,483,648 to 2,147,483,647
LongInt	4	-2,147,483,648 to 2,147,483,647
LongWord	4	0 to 4,294,967,295
Real	8	5.0 x 10 ⁻³²⁴ to 1.7 x 10 ³⁰⁸
ShortInt	1	-128 to 127
Single	4	1.5 x 10 ⁻⁴⁵ to 3.4 x 10 ³⁸
SmallInt	2	-32,768 to 32,767
WideChar	2	0 to 65,535
Word	2	0 to 65,535
Variant	16	All above and date

