IDBTOOLS.DLL

ver. 1.1

IdbTools routines for Visual Basic

AnsiToAscii Translate from Windows to DOS character set
AsciiToAnsi Translate from DOS to Windows character set
CRLF Manipulate CR/LF in strings, remove/insert
Decrypt Recover string encrypted by Encrypt
Decrypt7 Recover string encrypted by Encrypt7
DecryptZ Recover string encrypted by EncryptZ

Encrypt Encrypt a string, make unreadable, linked to a key
Encrypt7 As Encrypt, but, returns only 7-bit characters
EncryptZ As Encrypt, but returns only alphanumeric (A-Z,0-9)
Find Find a substring within a string from a given position

FullPath Return full path for given file pattern
IdbToolsVersion Get the current version number of IdbTools
IdbTrace Debug output to DBWIN.EXE-window with newline

IdbTraceStr Debug output to DBWIN.EXE-window without newline

IniFileGetString Read data from a given address in an INI-file IniFilePutString Write data to a given address in an INI-file

LicenseGetCode For the developers internal use, make license code for applications

LicenseIdbTools Check for legal license code for IdbTools users LicenseProgram Check for legal license code for applications

Modulus10 Append a CDV (Control Digit Verifier) to number, 10 method

Modulus10Calc Return the CDV for a number, 10 method

Modulus10Valid Check CDV in number and return false / true, 10 method Modulus11 Append a CDV (Control Digit Verifier) to number, 11 method

Modulus 11 Calc Return the CDV for a number, 11 method

Modulus11Valid Check CDV in number and return false / true, 11 method Num0 Translate from number to string with leading zeros

Pick Pick a substring from string PickWord Pick a word from a string

PickWords Pick more then one word from a string
Place Insert a substring into an other string
Strip Remove a given character from a string

Subst Substitute one substring with an other within a string SubstAll Substitute all matching substrings within a string

SwapChrs Exchange two characters within a string. SwapDate Exchange positions in a datestring.

SwapStr Exchange positions in a string according to a formatted mask

SysInfo Return system information as string.
SysInfoNum Return system information as integer

Include IDBTOOLS.BAS in your projects

See also IDBTABLE.WRI for description of table functions in IdbTools.

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Function AnsiToAscii

Translate string from Windows to DOS character set.

```
Usage:
Result$ = AnsiToAscii(StringIn$)
Example:
' We want to write some text containg special characters to a DOS file:
Open "scan-dos.txt" For Output As #1
Write #1, "In Norway and Denmark, we use some special characters:"
Write #1, AnsiToAscii("
                                              [E] = [AE], [\emptyset] = [OE] and [A] = [AA]")
Write #1, AnsiToAscii("
                                              [æ] = [ae], [ø] = [oe] and [å] = [aa]")
Write #1, AnsiToAscii("In Sweden, they use [\ddot{A}] instead of [E],")
Write #1, AnsiToAscii("
                                              [\ddot{a}] = [ae],
                                                           [\ddot{O}] = [\varnothing] and [\ddot{O}] = [\varnothing].")
Close #1
' From DOS, we can look at the file we just made:
C:\IDBTOOLS\TEST> type scan-dos.txt
In Norway and Denmark, we use some special characters:
            [E]=[AE], [\emptyset]=[OE] and [\mathring{A}]=[AA]
            [æ]=[ae], [ø]=[oe] and [å]=[aa]
In Sweden, they use [A] instead of [E],
            [\ddot{a}]=[\tilde{x}], \quad [\ddot{0}]=[\tilde{y}] \quad \text{and} \quad [\ddot{0}]=[\tilde{y}].
' If we had not called AnsiToAscii, the result would have looked like this:
In Norway and Denmark, we use some special characters:
            [\mathcal{A}]=[AE], [\mathcal{O}]=[OE] and [\mathring{A}]=[AA]
[\mu]=[ae], [\mathring{e}]=[oe] and [\mathring{a}]=[aa]
In Sweden, they use [-] instead of [E],
            [\ddot{\mathbf{a}}] = [\mu], \quad [\ddot{O}] = [\varnothing] \quad \text{and} \quad [\div] = [°].
' The message would have lost its meaning because
' of incompatible character sets.
```

Function AsciiToAnsi

Translate string from DOS to Windows character set.

```
Usage:
```

```
Result$ = AsciiToAnsi(StringIn$)
```

Example:

' Read a Dos file to a Windows listbox after proper translation:

Open "DosFil.Txt" For Input As #1

Do While (Not EOF(1))

Line Input #1, dostext\$

ListBox.AddItem AsciiToAnsi(dostext\$)

```
Loop
```

Close #1

Function CRLF

Replace the control character pairs CR (Carrriage Return, ascii=13) and LF (Line Feed, ascii=10) with a given character (represented by its ascii value), or the other way around (when value is negative).

This function can be used for translating text files between DOS and UNIX.

The function can be very useful when reading and writing MultiLine TextBoxes in Windows.

Usage:

```
Result$ = CRLF(StringIn$, asciiValue%)
```

If <u>asciiValue</u>% is positive, then all CR/LF character pairs in <u>StringIn</u>\$ will be replaced with the character represented by <u>asciiValue</u>% and returned in <u>Result</u>\$.

When <u>asciiValue</u>% is negative, all the occurences of <u>Chr\$(-asciiValue</u>%) in <u>StringIn\$</u> will be replaced with CR/LF and returned in <u>Result</u>\$.

```
' Simple trix for adding several lines to a MultiLine TextBox:
MText1 = CRLF("Line1@Line2@Line3", -Asc("@")) ' Replace "@" with CR/LF
' Read MultiLine TextBox and convert linefeeds to space:
Text1 = CRLF(MText1, Asc(" ")) ' -> "Line1 Line2 Line3"
' Convert file from UNIX format to DOS format (VERY FAST):
Sub UnixToDos (ByVal FromFile$, ByVal ToFile$)
   BytesToRead& = FileLen(FromFile$)
   If <u>FileLength</u>(ToFile$) > 0 Then Kill (ToFile$)' see ITabDir sample
   Open FromFile$ For Input As #1
   Open ToFile$ For Binary Access Write As #2
   Const maxBuff& = 30000 ' Read up to 30000 bytes each time
   Do While BytesToRead& > 0
      BuffSize& = BytesToRead&
      If BuffSize& > maxBuff& Then BuffSize& = maxBuff&
      buffer$ = CRLF(Input$(BuffSize&, #1), -10) ' convert LF to CR/LF
      Put #2, , buffer$
      BytesToRead& = BytesToRead& - BuffSize&
   Loop
   Close #1
   Close #2
End Sub
```

Function Decrypt*

There are 3 sets of this function. The syntax is equal for all of them. Decryption is the reverse operation to encryption.

Type: Decrypt Decrypt a string encrypted by Encrypt
Decrypt7 DecryptZ Decrypt a string encrypted by EncryptZ
Decrypt a string encrypted by EncryptZ

Usage:

Result\$ = Decrypt(EncryptedText\$, EncryptionKey\$)

Example:

```
'Crypt$ => "<'srogja'ågkw4åfkae5g0+wk4r935283592+r qawæsqg"
Secretkey$="MyCode"
DecryptedString$ = Decrypt(Crypt$, secretkey$)
'=> DecryptedString$ = "This is the secret text which shall be encrypted"
```

Function Encrypt*

There are 3 sets of this function. The syntax is equal for all of them.

Type: EnCrypt Return 8-bit characters without control characters

Encrypt7 Return only characters from 7 bit ascii values

EncryptZ Return only folded letters (A .. Z) and/or digits (0 .. 9).

Usage:

```
Result$ = Encrypt(TextIn$, EncryptionKey$)
```

Example:

```
TextIn$= "This is the secret text which shall be encrypted"
Secretkey$="MyCode"
Crypt$ = Encrypt(TextIn$, SecretKey$)
```

Function Find

Search for a substring within an other string from the given position. The position of the found substring is returned, else 0. (In nature equal to the function InStr in Basic).

Usage:

```
Result% = Find(subString$, inString$, Pos%)
```

```
Instring$ = "12345@@67890"
Pos% = Find("5@", Instring$, 1) ' Pos => 5
Pos% = Find("@", Instring$, 1) ' Pos => 6
Pos% = Find("@", Instring$, 6) ' Pos => 7
```

Function FullPath

Return full path for a file pattern. The full path will include drive and all directory names for the given pattern.

Usage:

```
Result$ = FullPath(filePattern$)
```

Examples:

Function IdbToolsVersion

Get the version-number of IDBTOOLS.DLL.

Usage:

```
Result$ = IdbToolsVersion()
```

Example:

```
VersionText$ = "IdbTools ver: " & IdbToolsVersion()
```

Sub IdbTrace

Output a line of text followed by a linefeed to the debug output device. The debug output device can be a secondary monochrome screen, a screen connected to a Com-port or a window on the screen. You have to run a special program for activating the debug device. A suitable program for this purpose is DBWIN.EXE.

Usage:

```
IdbTrace debugText$
```

This routine together with IdbTraceStr is a good alternative to the standard debug in Visual Basic. It can be used for dumping contents of variables, tracing events etc.

Example:

```
IdbTrace "Click event: Mouse button=" & Button & ", X=" & X & ", Y=" & Y output: Click event: Mouse button=1, X=12, Y=43
```

Sub IdbTraceStr

Output a text string to the debug output device. See also <u>IdbTrace</u>.

Usage

```
IdbTraceStr debugText$
```

```
IdbTraceStr "Click event: Mouse button="
IdbTraceStr Button
IdbTraceStr ", X=" & X
IdbTrace ", Y=" & Y ' terminate line.
' output: Click event: Mouse button=2, X=122, Y=143
```

Function IniFileGetString

Read data from an INI-file. Filename, section and a profile name is given and the function returns a string containing the profile string. If the profile name do not exist, the return value is an empty string. If the filename is given without any path, the system will start looking for the file in the Windows directory.

Usage:

```
Result$ = IniFileGetString(FileName$, Section$, Name$)
```

The section name must be given without brackets,

```
Wrong => "[SectionName]"
Correct => "SectionName"
```

Examples:

```
StartProg$ = IniFileGetString("SYSTEM.INI", "boot", "shell")
' Returns perhaps "progman.exe"

String$ = IniFileGetString("WIN.INI", "MS user info", "DefName")
' Return information about the user from "WIN.INI"
```

Function IniFilePutString

Write data to an INI-file. Given the filename, section, name and the data to be written. If the filename is given without any path, the system will start looking for the file in the Windows directory. The session name must be given without brackets. The function returns True(-1) if the call was successful, else False(0).

Usage:

```
Result% = IniFilePutString(FileName$, Section$, Name$, Data$)
```

```
Examples:
Result%=IniFilePutString("MYPROG.INI", "Licence", "Name", "John Doe")

' Will write within the file "\WINDOWS\MYPROG.INI":

[Licence]
Name = John Doe

OK%=IniFilePutString("WIN.INI", "Desktop", "Wallpaper", "c:\pic\my.bmp")
'This statement will change the wallpaper, taking effect from the next startup of Windows.
```

Function LicenseGetCode

This function is meant to be used in a stand-alone program and the purpose is to generate licence code for applications. See function <u>LicenceProgram</u>.

Usage:

```
Result$ = LicenseGetCode(Name$ , Key$)
```

Example:

```
Code$ = LicenseGetCode("Douglas Moore", "Key key key 1")
```

Function LicenseIdbTools

The buyer of this product will receive a code from **Idb Micro Adept AS**. This will make him/her a registered user of the product and he/she can use the product freely in his/her system.

The table functions are protected by a code for those who have not bought the product. In Visual Basic runmode the protection is in a mild form. When an exefile is made the protection becomes more aggressive and will more often remind the user of the lack of payment. Despite this, the user can fully test the product or use the 'free to use functions' in the package.

Usage:

```
Result% = LicenseIdbTools(Name$ , Code$)
```

Result% will contain a True(-1) if a legal code is given, else False(0).

Example:

```
Status% = LicenseIdbTools("Douglas Moore", "TT4LBT")
```

Function LicenseProgram

This function must be placed in the start-form of your application. If the code and the key is matching, the function returns True(-1) else False(0). See also function <u>LicenseGetCode</u>.

Usage:

```
Result% = LicenseProgram(CustomerName$, Code$, Key$)
```

```
Status% = LicenseProgram("Smart Software Ltd", "ABXY12", "Key Key Key 1")
```

Function Modulus10

Append a Control Digit Verifier to the input string based on the modulus 10 formula . Other characters then digits in the StrIn\$ are ignored during calculation.

Usage:

Result\$ = Modulus10(StrIn\$)

Example:

Function Modulus11

Append a Control Digit Verifier to the input string based on the modulus 11 formula. Other characters then digits in the StrIn\$ are ignored during calculation.

Usage:

Result\$ = Modulus11(StrIn\$)

Example:

Function Modulus10Calc

The function returns a control digit based on CDV modulus 10 calculation over the StrIn\$.

Usage:

Result\$ = Modulus10Calc(StrIn\$)

Example:

CD\$ = Modulus10Calc("95101201230") ' CD\$ = "2"

Function Modulus11Calc

The function returns a control digit based on CDV modulus 11 calculation over the StrIn\$.

Usage:

Result\$ = Modulus11Calc(StrIn\$)

Example:

CD\$ = Modulus11Calc("9521.05.6932") ' CD\$ = "5"

Function Modulus 10 Valid

The function returns True(-1) if the last character of StrIn\$ is a valid CDV based on the modulus 10 formula, else it returns False(0).

Usage:

Result% = Modulus10Valid(StrIn\$)

Example:

If Modulus10Valid("9521.05.69325") Then Status="OK"

Function Modulus11Valid

The function returns True(-1) if the last character of StrIn\$ is a valid CDV based on the modulus 11 formula, else it returns False(0).

Usage:

```
Result% = Modulus11Valid(StrIn$)
```

Example:

```
If Not Modulus11Valid("9521.05.69328") Then Status="ERROR"
```

Function Num0

Convert a positive number to a string with leading zeros.

The number of digits must be given in the call, max 9.

Usage:

```
Result$ = Num0(Number&, Digits%)
```

Example:

```
String$ = Num0(1,3) => "001"

String$ = Num0(1234,9) => "000001234", max number of digits.

String$ = Num0(1234,10) => "1234"
```

Function Pick

Pick one or more characters from a text string. The position of the first character, and the wanted number of characters from that position must be given in the call. The function returns a string.

Usage:

```
Result$ = Pick(StringIn$, FromPos$, Length$)
```

Requiring more characters than the input sting contains, causes the function to fill the surplus characters with blanks.

If the wanted number of characters is set to 0, the function will return rest of the string from the given position.

If the position is given as a negative number, the start position will be relative to the end of the string. -1 is the last position in the string, -2 is the last but one, and so on. 0 as position will be interpreted as the position after the last character.

If the number wanted is given as a negative number, the routine will pick characters from the left of the given position, inclusive.

Function PickWord

Pick a word from a string. Declaring the position number of the wanted word and the delimiter, the function returns the wanted word as a string.

Usage:

```
Result$ = PickWord(StringIn$, WordNumber%, Delimiter%)
```

The delimiter must be given as an ascii value. For the purpose of increasing the readability the VB function "Asc()" can be used. Given semicolon as delimiter: Asc (";"). Having a do-while-loop where PickWord will be called many times, it would be profitable to initialize a variable outside the loop: Semicolon% = Asc (";") Ignoring leading delimiters and /or deal with them as one connected delimiter, the negative ascii value for the delimiter should be given: Semicolon% = -Asc(";")

Example:

Function PickWords

Pick more than one word from a string. If you only need one word, you ought to use PickWord.

Usage:

```
Result$ = PickWords(StringIn$, WordNumber%, NumWanted%, Delimiter%)
```

Given the word number for the first word in the string and the number of wanted words, the function returns a string.

In order to get all words from a given wordnumber, 0 as number must be used.

The delimiter must be given as an ascii value. For the purpose of increasing the readability the VB function "Asc()" can be used. Given semicolon as delimiter: Asc (";"). Having a do-while-loop where PickWord will be called many times, it would be profitable to initialize a variable outside the loop: Semicolon% = Asc (";")

Ignoring leading delimiters and /or deal with them as one connected delimiter, the negative ascii value for the delimiter should be given: Semicolon% = -Asc(";")

Function Place

Superimpose a string on a copy of "tostring" in the given position and return the result as a string. If one want the whole "fromstring" one can use 0 as the number of wanted characters, else use the actual number of wanted characters picked from "fromstring". If the given number is greater then the length of the "fromstring", the function will fill the surplus number by space.

Usage:

```
Result$ = Place(FromString$, ToString$, Pos$, Length$)
```

Example:

Function Strip

Remove a given charcter, given as an ascii value, from a string.

Usage:

```
Result$ = Strip(StringIn$, AsciiValue*, Type*)

Type:

STRIP_L Remove leading delimiters, (as LTRIM i Basic)

STRIP_T Remove trailing delmiters, (as RTRIM i Basic)

STRIP_LT Remove leading and trailing delmiters, (as TRIM i Basic)

STRIP_ALL Remove all delmiters

Example:
```

String\$ = "***T*E*S*T***"

If one want to remove repeating delimiters, the operator *PickWords* can be suitable.

```
String$ = ";;This;;is;an;;;example;using;;PickWords;;"
Result$ = PickWord(String$, 1, 0, -Asc(";"))
'Result$ :"This;is;an;example;using;PickWords"
```

Function Subst

Exchange a substring with an other string from a given position in the third string and return the resultstring. The position must be given as a variable. The variable will be changed by the function. Into this variable the next position is given if there are more than one occurrence of the substring in the instring after the position, else a zero will be returned. The returned position will be related to the resultstring.

Usage:

```
Result$ = Subst(OldStr$, NewStr$, inString$, Pos%)
```

This call will change the variable Pos%.

Example:

```
| 'startpos for searching in the instring | Inn = "5 hours a kr 100: kr 500" | Res = Subst("kr", "NOK", Inn , pos | 'Res : "5 hours a NOK 100: Kr 500 | 'pos : 20 to next occurrence | Res = Subst("kr", "NOK", Inn , pos | 'Res : "5 hours a NOK 100: NOK 500 | 'pos : 0
```

Function SubstAll

Exchange all the occurences of oldstring\$ with newstring\$ in a copy of the instring\$ which is returned as a result.

Usage:

```
Result$ = SubstAll(OldStr$, NewStr$, inString$)
```

Example:

```
res$ = SubstAll("1 ", "@@", "1111 222221 33333 444441 555555")
res$ = "111@@222222@@33333 44444@@555555"
res$ = SubstAll("is", "was", "This is an example")
res$ = "Thwas was an example"
```

Function SwapChrs

Swap two characters within a string. The argument "Character" contains the two characters which are to be swapped. The function returns a string where all the occurrences of the specified characters are swapped. A typical example would be to swap the characters period(.) and comma(,).

Usage

```
Result$ = SwapChrs(String$, Characters$)
```

```
Result$ = SwapChrs("1.234.567,00", ".,") '=> "1,234,567.00"
```

Function SwapDate

Swap the position of the year and day within a datestring with format "YYMMDD" or "DDMMYY".

Usage:

```
Result$ = SwapDate(Date$)
```

Example:

Function SwapStr

This function can replace SwapDate, but can also be used in other occasions. The "fromFmt\$" and the "toFmt\$" consist of letters which describe the wanted formate. E.g. "DD-MM-YY", YYMMDD", (Year, Month, Day).

Usage:

```
Result$ = SwapStr(StrIn$, FromFmt$, ToFmt$)
```

Letters which are found in both $\underline{\mathtt{FromFmt}}$ and the $\underline{\mathtt{ToFmt}}$ give the position and length, repeating equal letters, of the string which to be be picked from "StrIn\$" and placed in the $\underline{\mathtt{Result}}$. The $\underline{\mathtt{ToFmt}}$ is the template for the $\underline{\mathtt{Result}}$. All positions which are not overwritten will be left in the $\underline{\mathtt{Result}}$ untouched. If the length of the substring $\underline{\mathtt{FromFmt}}$ is less then the length of the $\underline{\mathtt{ToFmt}}$, leading zeros will be put into the $\underline{\mathtt{Result}}$. If the length of the substring $\underline{\mathtt{ToFmt}}$ is less then the length of $\underline{\mathtt{FromFmt}}$ then the function picks the number of characters from the left which can be placed according the template. E.g. 1994 (yy) => 94.

```
ResultString$ = SwapStr("241294", "ddmmyy", "yymmdd") ' "941224"

ResultString$ = SwapStr("941224", "yymmdd", "dd/mm-yy") ' "24/12-94"

ResultString$ = SwapStr("12-24-1994", "mm dd yyyy", "ddmmyy")' "241294"
```

Function SysInfo / Function SysInfoNum

This returns system information about the PC's environment as string. SysInfoNum as long integer when possible.

Usage:

```
Result$ = SysInfo(What%)
Result& = SysInfoNum(What%)
```

What%	Result\$/Result&
SCREEN_SIZE_X	The width of the screeen
SCREEN_SIZE_Y	The height of the screeen
SCREEN_SIZE_PALETTE	The number of colors available
MEMORY_FREE_KB	Free memory measured in KiloBytes
MEMORY_BIGGEST_FREE_BLOCK_KB	Biggest free memory block measured in KiloBytes
DISK_DRIVE	Current drive, (1="A", 2="B", 3="C")
DISK_FREE_KB	Free disk space measured in KiloBytes
DISK_SIZE_KB	Total disk space measured in KiloBytes
DISK_TYPE	Drive type (see below)

The following is only defined for **SysInfo** (string only):

```
DIR WINDOWS
                                  Current path for the \WINDOWS directory
DIR WINDOWS SYSTEM
                                  Current path for the \WINDOWS\SYSTEM directory
DISK PATH
                                  Current D:\DIRECTORY\NAME
                                  Disk label, (name, 11 char.)
DISK VOLUME LABEL
DISK VOLUME DATE
                                  Volume label date "YYYYMMDD"
                                  Volume label time "TT:MM:SS"
DISK VOLUME TIME
DISK TYPE returns
                    for SysInfoNum
                                                for SysInfo
                    DRIVE REMOVABLE
                                                "REMOVABLE"
                                                "FIXED"
                    DRIVE_FIXED
```

"REMOTE"

11 ? 11

For all "DISK_...." parameters, the current disk drive will be used unless a disk drive is specified. Specifying an other drive goes as follows:

Add the drive number or the ascii value of the drive letter to the argument (What%).

DRIVE REMOTE