```
 1: ********************************************************************************
 2:  Constructor Function and Procedure List of maXbox 3.9.9.110
 3: ********************************************************************************
 4:
 5: ////////////////////////////////////////////////////////////////////////////////
 6: ref Help Extraxt of EXE Functions of maxbox3.exe BigBitBox API HEX in BOX
 7: --------------------------------------------------------------------------------
 8:
 9: File Size of EXE: 23488000 V3.9.9.110 Nov 2014 To EKON/BASTA/JAX/IBZ/SWS/EU/DT/PASCON
10: ***************Now the Funclist*****************************************
11: Funclist Function : 13829 //10766 //10165 (7648)
12: ***************Now the Proclist*****************************************
13: Proclist Procedure Size is: 8444  //6792 //6401 4752
14: ***************Now Constructors*****************************************
15: Constructlist Constructor Size is: 1372 //995 //
16: def head:max: maXbox7: 12.11.2014 09:11:55
17: file E:\maxbox\maxbox3\docs\maxbox_extract_funclist399.txt
18: doc file: maxbox_extract_funclist399_.txt (sort function list)
19: --------------------------------------------------------------------------------
20: Funclist total Size all is: 23645! Constructor, Function and Procedure
21: AExtraxt of EXE Functions of maxbox3.exe, locs of file = 24064
22: ASize of EXE: 23488000 (22041600) (16586240) (13511680)
23: SHA1 Hash of maXbox 3.9.9.110: C47713EE2CFFD66F569249E63A16D10874B484B1
24:
25: --------------------------------------------------------------------------------
26: --------------------------------------------------------------------------------
27: ////////////////////////////////////////////////////////////////////////////////
28:
29:
30: FUNCTION Metric of Script: 256_findfunctions2_of_EXE.txt
31: Function *************Now the Funclist*****************
32: function  GetResStringChecked(Ident: string; const Args: array of const): string
33: Function ( Index : Longint) : Integer
34: function (Command: Word; Data: Longint; var CallHelp: Boolean): Boolean
35: Function _CheckAutoResult( ResultCode : HResult) : HResult
36: function _T(Name: tbtString): Variant;
37: function ABNFToText(const AText : String) : String
38: Function Abs(e : Extended) : Extended;
39: Function Ackermann( const A, B : Integer) : Integer
40: Function AcquireLayoutLock : Boolean
41: Function ActionByName( const AName : string) : TWebActionItem
42: Function ACTIVEBUFFER : PCHAR
43: Function Add : TAggregate
44: function Add : TCollectionItem
45: Function Add : TColumn
46: Function Add : TComboExItem
47: Function Add : TCookie
48: Function Add : TCoolBand
49: Function Add : TFavoriteLinkItem
50: Function Add : TFileTypeItem
51: Function Add : THeaderSection
52: Function Add : THTMLTableColumn
53: Function Add : TIdEMailAddressItem
54: Function Add : TIdMessagePart
55: Function Add : TIdUserAccount
56: Function Add : TListColumn
57: Function Add : TListItem
58: Function Add : TStatusPanel
59: Function Add : TTaskDialogBaseButtonItem
60: Function Add : TWebActionItem
61: Function Add : TWorkArea
62: Function Add( AClass : TClass) : Integer
63: Function Add( AComponent : TComponent) : Integer
64: Function Add( AItem, AData : Integer) : Integer
65: Function Add( AItem, AData : Pointer) : Pointer
66: Function Add( AItem, AData : TObject) : TObject
67: Function Add( AObject : TObject) : Integer
68: Function Add( const Access, Count : Cardinal; const Offset : Int64) : Integer
69: Function Add( const S : WideString) : Integer
70: Function Add( Image, Mask : TBitmap) : Integer
71: Function Add( Index : LongInt; const Text : string) : LongInt
72: Function Add( Sibling : TTreeNode; const S : string) : TTreeNode
73: Function Add(const S: string): Integer
74: function Add(S: string): Integer;
75: Function AddAt( const Access, Count : Cardinal; const Offset : Int64; const Address: Pointer) : Integer
76: Function ADDCHILD : TFIELDDEF
77: Function AddChild( Index : LongInt; const Text : string) : LongInt
78: Function AddChild( Parent : TTreeNode; const S : string) : TTreeNode
79: Function AddChildFirst( Parent : TTreeNode; const S : string) : TTreeNode
80: Function AddChildObject( Index : LongInt; const Text : string; const Data : Pointer) : LongInt
81: Function AddChildObject( Parent : TTreeNode; const S : string; Ptr : Pointer) : TTreeNode
82: Function AddChildObjectFirst( Parent : TTreeNode; const S : string; Ptr : Pointer) : TTreeNode
83: Function ADDFIELDDEF : TFIELDDEF
84: Function AddFileExtIfNecessary( AFileName, AExt : string) : string
85: Function AddFirst( Sibling : TTreeNode; const S : string) : TTreeNode
86: Function AddIcon( Image : TIcon) : Integer
87: Function AddImage( Value : TCustomImageList; Index : Integer) : Integer
88: Function ADDINDEXDEF : TINDEXDEF
89: Function AddItem(const Caption:String;const ImageIdx,SelectImageIdx,OverlayImagIdx,
    Indent:Int;Data:Ptr):TComboExItem
```

```
 90: Function AddItem( Item : THeaderSection; Index : Integer) : THeaderSection
 91: Function AddItem( Item : TListItem; Index : Integer) : TListItem
 92: Function AddItem( Item : TStatusPanel; Index : Integer) : TStatusPanel
 93: Function AddMapping( const FieldName : string) : Boolean
 94: Function AddMasked( Image : TBitmap; MaskColor : TColor) : Integer
 95: Function AddModuleClass( AClass : TComponentClass) : TComponent
 96: Function AddModuleName( const AClass : string) : TComponent
 97: Function AddNode(Node,Relative: TTreeNode;const S: string;Ptr:Pointer;Method:TNodeAttachMode):TTreeNode
 98: Function AddObject( const S : WideString; AObject : TObject) : Integer
 99: Function AddObject( Index : LongInt; const Text : string; const Data : Pointer) : LongInt
100: Function AddObject( Sibling : TTreeNode; const S : string; Ptr : Pointer) : TTreeNode
101: function AddObject(S:String;AObject:TObject):integer
102: Function AddObjectFirst( Sibling : TTreeNode; const S : string; Ptr : Pointer) : TTreeNode
103: Function AddParameter : TParameter
104: Function AddParamSQLForDetail(Params:TParams;SQL:WideStr;Native:Bool;QuoteChar:WideString):WideString
105:  Function Addr64ToAddr32(const Value: TJclAddr64): TJclAddr32;
106: Function Addr32ToAddr64(const Value: TJclAddr32): TJclAddr64;
107: function AdjustLineBreaksS(const S: string): string)
108: TTextLineBreakStyle', '(tlbsLF, tlbsCRLF)
109: Function AdjustLineBreaks(const S: string; Style: TTextLineBreakStyle): string;
110: Function AllData : string
111: function AllocMemCount: integer;
112: function AllocMemSize: integer;
113: Function AllocPatternBitmap( BkColor, FgColor : TColor) : TBitmap
114: Function AllowRegKeyForEveryone( Key : HKEY; Path : string) : Boolean
115: Function AlphaComponent( const Color32 : TColor32) : Integer
116: Function AlphaSort : Boolean
117: Function AlphaSort( ARecurse : Boolean) : Boolean
118: Function AnsiCat( const x, y : AnsiString) : AnsiString
119: Function AnsiCompareFileName( S1, S2 : string) : Integer
120: function AnsiCompareFileName(const S1: string; const S2: string): Integer)
121: Function AnsiCompareStr( S1, S2 : string) : Integer
122: function AnsiCompareStr(const S1: string; const S2: string): Integer;)
123: Function AnsiCompareText( S1, S2 : string) : Integer
124: function AnsiCompareText(const S1: string; const S2: string): Integer;)
125: Function AnsiContainsStr( const AText, ASubText : string) : Boolean
126: Function AnsiContainsText( const AText, ASubText : string) : Boolean
127: Function AnsiCopy( const src : AnsiString; index, count : Integer) : AnsiString
128: Function AnsiDequotedStr( S : string; AQuote : Char) : string
129: Function AnsiEndsStr( const ASubText, AText : string) : Boolean
130: Function AnsiEndsText( const ASubText, AText : string) : Boolean
131: Function AnsiExtractQuotedStr( var Src : PChar; Quote : Char) : string
132: function AnsiExtractQuotedStr(var Src: PChar; Quote: Char): string)
133: Function AnsiIndexStr( const AText : string; const AValues : array of string) : Integer
134: Function AnsiIndexText( const AText : string; const AValues : array of string) : Integer
135: Function AnsiLastChar( S : string) : PChar
136: function AnsiLastChar(const S: string): PChar)
137: Function AnsiLeftStr( const AText : AnsiString; const ACount : Integer) : AnsiString
138: Function AnsiLowerCase( S : string) : string
139: Function AnsiLowercase(s : String) : String;
140: Function AnsiLowerCaseFileName( S : string) : string
141: Function AnsiMatchStr( const AText : string; const AValues : array of string) : Boolean
142: Function AnsiMatchText( const AText : string; const AValues : array of string) : Boolean
143: Function AnsiMidStr( const AText : AnsiString; const AStart, ACount : Integer) : AnsiString
144: Function AnsiPos( const src, sub : AnsiString) : Integer
145: Function AnsiPos( Substr, S : string) : Integer
146: function AnsiPos(const Substr: string; const S: string): Integer;)
147: Function AnsiQuotedStr( S : string; Quote : Char) : string
148: Function AnsiReplaceStr( const AText, AFromText, AToText : string) : string
149: Function AnsiReplaceText( const AText, AFromText, AToText : string) : string
150: Function AnsiResemblesText( const AText, AOther : string) : Boolean
151: Function AnsiReverseString( const AText : AnsiString) : AnsiString
152: Function AnsiRightStr( const AText : AnsiString; const ACount : Integer) : AnsiString
153: function AnsiSameCaption(const Text1: string; const Text2: string): Boolean)
154: Function AnsiSameStr( S1, S2 : string) : Boolean
155: function AnsiSameStr(const S1: string; const S2: string): Boolean)
156: Function AnsiSameText( const S1, S2 : string) : Boolean
157: Function AnsiSameText( S1, S2 : string) : Boolean
158: function AnsiSameText(const S1: string; const S2: string): Boolean)
159: Function AnsiStartsStr( const ASubText, AText : string) : Boolean
160: Function AnsiStartsText( const ASubText, AText : string) : Boolean
161: Function AnsiStrComp( S1, S2 : PChar) : Integer
162: function AnsiStrComp(S1: PChar; S2: PChar): Integer)
163: Function AnsiStrIComp( S1, S2 : PChar) : Integer
164: function AnsiStrIComp(S1: PChar; S2: PChar): Integer)
165: Function AnsiStrLastChar( P : PChar) : PChar
166: function AnsiStrLastChar(P: PChar): PChar)
167: Function AnsiStrLComp( S1, S2 : PChar; MaxLen : Cardinal) : Integer
168: Function AnsiStrLIComp( S1, S2 : PChar; MaxLen : Cardinal) : Integer
169: Function AnsiStrLower( Str : PChar) : PChar
170: Function AnsiStrPos( Str, SubStr : PChar) : PChar
171: function AnsiStrPos(Str: PChar; SubStr: PChar): PChar)
172: Function AnsiStrScan(Str: PChar; Chr: Char): PChar)
173: Function AnsiStrUpper( Str : PChar) : PChar
174: Function AnsiToUtf8( const S : string) : UTF8String
175: Function AnsiToUtf8Ex( const S : string; const cp : integer) : UTF8String
176: Function AnsiUpperCase( S : string) : string
177: Function AnsiUppercase(s : String) : String;
178: Function AnsiUpperCaseFileName( S : string) : string
```

```
179: Function ApplyUpdates(const Delta: OleVariant;MaxErrors:Integer; out ErrorCount: Integer): OleVariant
180: Function ApplyUpdates(const Delta:OleVariant;MaxErrors: Integer;out ErrorCount: Integer) : OleVariant;
181: Function ApplyUpdates( MaxErrors : Integer) : Integer
182: Function ApplyUpdates1(const Delta:OleVar;MaxErrs:Int;out ErrCount:Int;var OwnerData:OleVar):OleVariant;
183: Function ArcCos( const X : Extended) : Extended
184: Function ArcCosh( const X : Extended) : Extended
185: Function ArcCot( const X : Extended) : Extended
186: Function ArcCotH( const X : Extended) : Extended
187: Function ArcCsc( const X : Extended) : Extended
188: Function ArcCscH( const X : Extended) : Extended
189: Function ArcSec( const X : Extended) : Extended
190: Function ArcSecH( const X : Extended) : Extended
191: Function ArcSin( const X : Extended) : Extended
192: Function ArcSinh( const X : Extended) : Extended
193: Function ArcTan( const X : Extended) : Extended
194: Function ArcTan2( const Y, X : Extended) : Extended
195: Function ArithmeticMean( const X : TDynDoubleArray) : Float
196: function ArrayLength: integer;
197: Function AsHex( const AValue : T4x4LongWordRecord) : string
198: Function AsHex( const AValue : T5x4LongWordRecord) : string
199: Function ASNDecLen( var Start : Integer; const Buffer : string) : Integer
200: Function ASNDecOIDItem( var Start : Integer; const Buffer : string) : Integer
201: Function ASNEncInt( Value : Integer) : string
202: Function ASNEncLen( Len : Integer) : string
203: Function ASNEncOIDItem( Value : Integer) : string
204: Function ASNEncUInt( Value : Integer) : string
205: Function ASNItem( var Start : Integer; const Buffer : string; var ValueType : Integer) : string
206: Function ASNObject( const Data : string; ASNType : Integer) : string
207: Function Assigned(I: Longint): Boolean;
208: Function AspectRatio(aWidth, aHeight: Integer): String;
209: Function AsWideString( Field : TField) : WideString
210: Function AtLeast( ACount : Integer) : Boolean
211: Function AttemptToUseSharedMemoryManager : Boolean
212: Function Authenticate : Boolean
213: Function AuthenticateUser( const AUsername, APassword : String) : Boolean
214: Function Authentication : String
215: Function BatchMove( ASource : TBDEDataSet; AMode : TBatchMode) : Longint
216: Function BcdCompare( const bcd1, bcd2 : TBcd) : Integer
217: Function BcdFromBytes( const AValue : TBytes) : TBcd
218: Function BcdPrecision( const Bcd : TBcd) : Word
219: Function BcdScale( const Bcd : TBcd) : Word
220: Function BcdToBytes( const Value : TBcd) : TBytes
221: Function BCDToCurr( const BCD : TBcd; var Curr : Currency) : Boolean
222: Function BcdToDouble( const Bcd : TBcd) : Double
223: Function BcdToInteger( const Bcd : TBcd; Truncate : Boolean) : Integer
224: Function BcdToStr( const Bcd : TBcd) : string;
225: Function BcdToStrF(const Bcd : TBcd; Format: TFloatFormat; const Precision, Digits:Integer):string
226: function beep2(dwFreq, dwDuration: integer): boolean;
227: Function BeginPeriod( const Period : Cardinal) : Boolean
228: Function BeginTrans : Integer
229: Function BeginTransaction : TDBXTransaction;
230: Function BeginTransaction1( Isolation : TDBXIsolation) : TDBXTransaction;
231: function BigMulu(aone, atwo: string): string;
232: function BigNumber(aone, atwo: string): string;
233: function BigExp(aone, atwo: string): string;
234: function BigMul(aone, atwo: string): string;
235: function BigAdd(aone, atwo: string): string;
236: function BigSub(aone, atwo: string): string;
237: function BigFactorial(aone: string): string;
238: Function BinaryToDouble( ABinary : string; DefValue : Double) : Double
239: Function BinomialCoeff( N, R : Cardinal) : Float
240: function BinominalCoefficient(n, k: Integer): string;
241: Function BinStrToInt( const ABinary : String) : Integer
242: Function BinToByte(Binary: String): Byte;
243: function BinToHex2(Binary: String): string;
244: function BinToInt(Binary: String): Integer;
245: Function BinToChar(St: String): Char;
246: Function BinToStr(ans: string): string;
247: Function BitBlt(hdcDest:HDC;nXDest,nYDest,nWidth,nHeigh:Int;hdcSrc:HDC;nXSrc,nYSrc:Int;dwRop:DWORD):Bool;
248: Function BitmapsAreIdentical( ABitmap1, ABitmap2 : TBitmap) : Boolean
249: Function BitsHighest( X : Byte) : Integer;
250: Function BitsHighest1( X : ShortInt) : Integer;
251: Function BitsHighest2( X : SmallInt) : Integer;
252: Function BitsHighest3( X : Word) : Integer;
253: Function BitsHighest4( X : Integer) : Integer;
254: Function BitsHighest5( X : Cardinal) : Integer;
255: Function BitsHighest6( X : Int64) : Integer;
256: Function BitsLowest( X : Byte) : Integer;
257: Function BitsLowest1( X : Shortint) : Integer;
258: Function BitsLowest2( X : Smallint) : Integer;
259: Function BitsLowest3( X : Word) : Integer;
260: Function BitsLowest4( X : Cardinal) : Integer;
261: Function BitsLowest5( X : Integer) : Integer;
262: Function BitsLowest6( X : Int64) : Integer;
263: Function BitsNeeded( const X : Byte) : Integer;
264: Function BitsNeeded1( const X : Word) : Integer;
265: Function BitsNeeded2( const X : Integer) : Integer;
266: Function BitsNeeded3( const X : Int64) : Integer;
267: Function BlueComponent( const Color32 : TColor32) : Integer
```

```
268: Function BooleanToInteger( const Pb : Boolean) : Integer
269: Function BoolToStr(B: Boolean; UseBoolStrs: Boolean): string)
270: Function BoolToStr1(value : boolean) : string;
271: Function booltoint( aBool : Boolean) : LongInt
272: Function inttobool( aInt : LongInt) : Boolean
273: Function Bounds( ALeft, ATop, AWidth, AHeight : Integer) : TRect
274: function Bounds(ALeft, ATop, AWidth, AHeight: Integer): TRect)
275: Function BreakApart( BaseString, BreakString : string; StringList : TStrings) : TStrings
276: Function BrightColor( const Color : TColor; const Pct : Single) : TColor
277: Function BrightColorChannel( const Channel : Byte; const Pct : Single) : Byte
278: Function BufferRequest( Length : Integer) : TStream
279: Function BuildFileList( const Path : string; const Attr : Integer; const List : TStrings) : Boolean
280: Function Buttons : PTaskDialogButton
281: Function BytesPerScanline( PixelsPerScanline, BitsPerPixel, Alignment : Longint) : Longint
282: Function BytesToCardinal( const AValue : TIdBytes; const AIndex : Integer) : Cardinal
283: Function BytesToChar( const AValue : TIdBytes; const AIndex : Integer) : Char
284: Function BytesToInt64( const AValue : TIdBytes; const AIndex : Integer) : Int64
285: Function BytesToInteger( const AValue : TIdBytes; const AIndex : Integer) : Integer
286: Function BytesToIPv6( const AValue : TIdBytes; const AIndex : Integer) : TIdIPv6Address
287: Function BytesToShort( const AValue : TIdBytes; const AIndex : Integer) : Short
288: Function BytesToString(ABytes:TIdBytes; AStartIndex:Integer; AMaxCount:Integer): string;
289: Function BytesToStr(const Value: TBytes): String;
290: Function BytesToWord( const AValue : TIdBytes; const AIndex : Integer) : Word
291: Function ByteToBin(Int: Byte): String;
292: Function ByteToCharIndex( S : string; Index : Integer) : Integer
293: function ByteToCharIndex(const S: string; Index: Integer): Integer)
294: Function ByteToCharLen( S : string; MaxLen : Integer) : Integer
295: function ByteToCharLen(const S: string; MaxLen: Integer): Integer)
296: Function ByteToHex( const AByte : Byte) : string
297: Function ByteToOctal( const AByte : Byte) : string
298: Function ByteType( S : string; Index : Integer) : TMbcsByteType
299: function ByteType(const S: string; Index: Integer): TMbcsByteType)
300: Function CalcTitleRect( Col : TColumn; ARow : Integer; var MasterCol : TColumn) : TRect
301: Function CalculateDFAFingerprint( oStates : TList) : integer
302: function CallTerminateProcs: Boolean)
303: function CANFOCUS:BOOLEAN
304: Function CanLoad( const Ext : string) : Boolean
305: Function CanParse( AWebRequest : TWebRequest) : Boolean
306: Function CanSave( const Ext : string) : Boolean
307: Function CanStart( cChar : char) : boolean
308: Function CaptureScreen : TBitmap;
309: Function CaptureScreen1( Rec : TRect) : TBitmap;
310: Function CardinalToFourChar( ACardinal : LongWord) : string
311: Function CastSoapToNative(Info:PTypeInfo;const SoapData:WideString;NatData:Pointer;IsNull:Boolean): Boolean
312: Function CastSoapToVariant1( SoapInfo : PTypeInfo; const SoapData : WideString) : Variant;
313: Function Ceil( const X : Extended) : Integer
314: Function Ceil16( X : Integer) : Integer
315: Function Ceil4( X : Integer) : Integer
316: Function Ceil8( X : Integer) : Integer
317: Function Ceiling( const X : Extended) : Integer
318: Function CellRect( ACol, ARow : Longint) : TRect
319: Function CelsiusToFahrenheit( const AValue : Double) : Double
320: Function CenterPoint( const Rect : TRect) : TPoint
321: function CenterPoint(const Rect: TRect): TPoint)
322: Function ChangeFileExt( FileName, Extension : string) : string
323: function ChangeFileExt(const FileName: string; const Extension: string): string)
324: Function CharInSet2( const Ch : Char; const SetOfChar : TSetOfChar) : Boolean
325: Function CharInSet( const Ch : Char; const testSet: TSysCharSet): Boolean
326: Function CharIsInEOF( const AString : string; ACharPos : Integer) : Boolean
327: Function CharIsInSet( const AString : string; const ACharPos : Integer; const ASet : String) : Boolean
328: Function CharLength( S : String; Index : Integer) : Integer
329: Function CharRange( const AMin, AMax : Char) : String
330: function CharsetToIdent(Charset: Longint; var Ident: string): Boolean)
331: Function CharToBin(vChr: Char): String;
332: Function CharNext(lpsz: PChar): PChar; stdcall;
333: Function CharToByteIndex( S : string; Index : Integer) : Integer
334: Function CharToByteIndex(const S: string; Index: Integer): Integer)
335: Function CharToByteLen( S : string; MaxLen : Integer) : Integer
336: function CharToByteLen(const S: string; MaxLen: Integer): Integer)
337: Function CharToHex(const APrefix : String; const cc : Char) : shortstring;
338: function CharToHexStr(Value: char): string);
339: function CharToOem(ins, outs: PChar):boolean;
340: function CharToUniCode(Value: Char): string;
341: Function CheckMenuDropdown : Boolean
342: Function CheckMessages : longint
343: Function CheckBox: string;
344: Function CheckOpen( Status : DBIResult) : Boolean
345: Function CheckPassword( const APassword : String) : Boolean
346: Function CheckResponse(const AResponse:SmallInt;const AAllowedResponses:array of SmallInt): SmallInt
347: Function CheckCrc32( var X : array of Byte; N : Integer; Crc : Cardinal) : Integer;
348: function CheckSynchronize(Timeout: Integer): Boolean
349: Function CheckWin32Version( AMajor : Integer; AMinor : Integer) : Boolean
350: Function CheckCom(AComNumber: Integer): Integer;');
351: Function CheckLPT1: string;');
352: function ChrA(const a: byte): char;
353: Function ClassIDToProgID(const ClassID: TGUID): string;
354: Function ClassNameIs(const Name: string): Boolean
355: Function ClearBit( const Value : Byte; const Bit : TBitRange) : Byte;
356: Function ClearBit1( const Value : Shortint; const Bit : TBitRange) : Shortint;
```

```
357: Function ClearBit2( const Value : Smallint; const Bit : TBitRange) : Smallint;
358: Function ClearBit3( const Value : Word; const Bit : TBitRange) : Word;
359: Function ClearBit4( const Value : Integer; const Bit : TBitRange) : Integer;
360: Function ClearBit5( const Value : Cardinal; const Bit : TBitRange) : Cardinal;
361: Function ClearBit6( const Value : Int64; const Bit : TBitRange) : Int64;
362: function CLIENTTOSCREEN(POINT:TPOINT):TPOINT
363: Function Clipboard : TClipboard
364: Function ClipCodes( const X, Y, MinX, MinY, MaxX, MaxY : Float) : TClipCodes;
365: Function ClipCodes1( const X, Y : Float; const ClipRect : TRect) : TClipCodes;
366: Function ClipLine( var X1, Y1, X2, Y2 : Integer; const ClipRect : TRect) : Boolean;
367: Function ClipLineToRect( var P1, P2 : TFloatPoint; const Rect : TFloatRect) : Boolean
368: Function Clone( out stm : IStream) : HResult
369: Function CloneConnection : TSQLConnection
370: Function CloneMemoryStream( Original : TMemoryStream) : TMemoryStream
371: function CLOSEQUERY:BOOLEAN
372: Function CloseVolume( var Volume : THandle) : Boolean
373: Function CloseHandle(Handle: Integer): Integer; stdcall;
374: Function CPlApplet( hwndCPl : THandle; uMsg : DWORD; lParam1, lParam2 : Longint) : Longint
375: Function CmdLine: PChar;
376: function CmdShow: Integer;
377: // type TPos = (tLat, tLon);TShowFmt = (sfNautical, sfStatute, sfMetric);
378: Function CoordinateStr(Idx: Integer; PosInSec: Double; PosLn: TPos): string;
379: Function Color32( const R, G, B : Byte; const A : Byte) : TColor32;
380: Function Color32( WinColor : TColor) : TColor32;
381: Function Color321( const Index : Byte; const Palette : TPalette32) : TColor32;
382: Function ColorAdjustLuma( clrRGB : TColor; n : Integer; fScale :BOOLean) : TColor
383: Function ColorHLSToRGB( Hue, Luminance, Saturation : Word) : TColorRef
384: Function ColorToHTML( const Color : TColor) : String
385: function ColorToIdent(Color: Longint; var Ident: string): Boolean)
386: Function ColorToRGB(color: TColor): Longint
387: function ColorToString(Color: TColor): string)
388: Function ColorToWebColorName( Color : TColor) : string
389: Function ColorToWebColorStr( Color : TColor) : string
390: Function ColumnAtDepth( Col : TColumn; ADepth : Integer) : TColumn
391: Function Combination(npr, ncr: integer): extended;
392: Function CombinationInt(npr, ncr: integer): Int64;
393: Function CombineInfo( Bitmap : TCustomBitmap32) : TCombineInfo
394: Function CommaAdd( const AStr1, AStr2 : String) : string
395: Function CommercialRound( const X : Extended) : Int64
396: Function Commit( grfCommitFlags : Longint) : HResult
397: Function Compare( const NameExt : string) : Boolean
398: function CompareDate(const A, B: TDateTime): TValueRelationship;
399: Function CompareDateTime( const ADateTime1, ADateTime2 : TDateTime) : Integer
400: Function CompareFiles(const FN1,FN2 :string; Breathe:TNotifyEvent;BreathingSender:TObject): boolean
401: Function CompareMemoryStreams( S1, S2 : TMemoryStream) : boolean
402: Function CompareStr( S1, S2 : string) : Integer
403: function CompareStr(const S1: string; const S2: string): Integer)
404: function CompareString(const S1: string; const S2: string): Integer)
405: Function CompareText( S1, S2 : string) : Integer
406: function CompareText(const S1: string; const S2: string): Integer)
407: Function CompareTextLike(cWildStr,cStr:string;const cWildChar:char;lCaseSensitive:boolean): boolean
408: function CompareTime(const A, B: TDateTime): TValueRelationship;
409: function CompareValueE(const A, B: Extended; Epsilon: Extended = 0): TValueRelationship; overload;
410: function CompareValueD(const A, B: Double; Epsilon: Double = 0): TValueRelationship; overload;
411: function CompareValueS(const A, B: Single; Epsilon: Single = 0): TValueRelationship; overload;
412: function CompareValueI(const A, B: Integer): TValueRelationship; overload;
413: function CompareValueI64(const A, B: Int64): TValueRelationship; overload;
414: Function CompatibleConversionType( const AType : TConvType; const AFamily : TConvFamily) : Boolean
415: Function CompatibleConversionTypes( const AFrom, ATo : TConvType) : Boolean
416: Function ComponentTypeToString( const ComponentType : DWORD) : string
417: Function ComposeDateTime(Date,Time : TDateTime) : TDateTime;');
418: Function ComponentToStringProc(Component: TComponent): string;
419: Function StringToComponentProc(Value: string): TComponent;
420: Function CompToCurrency( Value : Comp) : Currency
421: Function CompToDouble( Value : Comp) : Double
422: function ComputeFileCRC32(const FileName : String) : Integer;
423: function ComputeSHA256(astr: string; amode: char): string)  //mode F:File, S:String
424: function ComputeSHA512(astr: string; amode: char): string)  //mode F:File, S:String
425: function ComPortSelect: Integer;  // Search for the first available port
426: Function Concat(s: string): string
427: Function ConnectAndGetAll : string
428: Function Connected : Boolean
429: function constrain(x, a, b: integer): integer;
430: Function ConstraintCallBack( Req : DsInfoReq; var ADataSources : DataSources) : DBIResult
431: Function ConstraintsDisabled : Boolean
432: function CONTAINSCONTROL(CONTROL:TCONTROL):BOOLEAN
433: Function ContainsState( oState : TniRegularExpressionState) : boolean
434: Function ContainsStr( const AText, ASubText : string) : Boolean
435: Function ContainsText( const AText, ASubText : string) : Boolean
436: Function ContainsTransition( oTransition : TniRegularExpressionTransition) : boolean
437: Function Content : string
438: Function ContentFromStream( Stream : TStream) : string
439: Function ContentFromString( const S : string) : string
440: Function CONTROLSDISABLED : BOOLEAN
441: Function Convert( const AValue : Double; const AFrom, ATo : TConvType) : Double;
442: Function Convert1( const AValue : Double; const AFrom1, AFrom2, ATo1, ATo2 : TConvType) : Double;
443: Function ConvertFrom( const AFrom : TConvType; const AValue : Double) : Double
444: Function ConvertReadStream( Stream : TStream; Buffer : PChar; BufSize : Integer) : Integer
445: Function ConvertTo( const AValue : Double; const ATo : TConvType) : Double
```

```
446: Function ConvertWriteStream( Stream : TStream; Buffer : PChar; BufSize : Integer) : Integer
447: Function ConvFamilyToDescription( const AFamily : TConvFamily) : string
448: Function ConvTypeToDescription( const AType : TConvType) : string
449: Function ConvTypeToFamily( const AFrom, ATo : TConvType) : TConvFamily;
450: Function ConvTypeToFamily( const AType : TConvType) : TConvFamily;
451: Function ConvAdd(const AVal:Dbl;const AType1:TConvType;const AVal2:Dbl;const AType2,
     AResultType:TConvType): Double
452: Function ConvCompareValue(const AValue1:Double;const AType1:TConvType;const AValue2:Double;const
     AType2:TConvType): TValueRelationship
453: Function ConvDec( const AValue : Double; const AType, AAmountType : TConvType) : Double;
454: Function ConvDec1(const AValue:Dbl;const AType:TConvType;const AAmount:Dble;const
     AAmountType:TConvType):Double;
455: Function ConvDiff(const AVal1:Dbl;const AType1:TConvType;const AVal2:Dble;const AType2,
     AResuType:TConvType):Double
456: Function ConvInc( const AValue : Double; const AType, AAmountType : TConvType) : Double;
457: Function ConvInc1(const AValue:Dbl;const AType:TConvType;const AAmount:Double;const
     AAmountType:TConvType):Double;
458: Function ConvSameValue(const AValue1:Dbl;const AType1:TConvType;const AValue2:Dbl;const
     AType2:TConvType):Bool
459: Function ConvToStr( const AValue : Double; const AType : TConvType) : string
460: Function ConvWithinNext( const AValue, ATest : Double; const AType : TConvType; const AAmount : Double;
     const AAmountType : TConvType) : Boolean
461: Function ConvWithinPrevious(const AValue,ATest:Double;const AType:TConvType; const AAmount:Double;const
     AAmountType: TConvType) : Boolean
462: function Copy(s: AnyString; iFrom, iCount: Longint): AnyString;
463: Function CopyFile( Source, Dest : string; CanOverwrite : Boolean) : Boolean
464: Function CopyFileEx( Source, Dest : string; Flags : FILEOP_FLAGS) : Boolean
465: Function CopyFileTo( const Source, Destination : string) : Boolean
466: function CopyFrom(Source:TStream;Count:Int64):LongInt
467: Function CopyPalette( Palette : HPALETTE) : HPALETTE
468: Function CopyTo( Length : Integer) : string
469: Function CopyTo(stm: IStream; cb: Largeint;out cbRead: Largeint;out cbWritten:Largeint): HResult
470: Function CopyToEOF : string
471: Function CopyToEOL : string
472: Function Cos(e : Extended) : Extended;
473: Function Cosecant( const X : Extended) : Extended
474: Function Cot( const X : Extended) : Extended
475: Function Cotan( const X : Extended) : Extended
476: Function CotH( const X : Extended) : Extended
477: Function Count : Integer
478: Function CountBitsCleared( X : Byte) : Integer;
479: Function CountBitsCleared1( X : Shortint) : Integer;
480: Function CountBitsCleared2( X : Smallint) : Integer;
481: Function CountBitsCleared3( X : Word) : Integer;
482: Function CountBitsCleared4( X : Integer) : Integer;
483: Function CountBitsCleared5( X : Cardinal) : Integer;
484: Function CountBitsCleared6( X : Int64) : Integer;
485: Function CountBitsSet( X : Byte) : Integer;
486: Function CountBitsSet1( X : Word) : Integer;
487: Function CountBitsSet2( X : Smallint) : Integer;
488: Function CountBitsSet3( X : ShortInt) : Integer;
489: Function CountBitsSet4( X : Integer) : Integer;
490: Function CountBitsSet5( X : Cardinal) : Integer;
491: Function CountBitsSet6( X : Int64) : Integer;
492: function countDirfiles(const apath: string): integer;
493: function CountGenerations(Ancestor,Descendent: TClass): Integer
494: Function Coversine( X : Float) : Float
495: function CRC32(const fileName: string): LongWord;
496: Function CREATEBLOBSTREAM( FIELD : TFIELD; MODE : TBLOBSTREAMMODE) : TSTREAM
497: Function CreateColumns : TDBGridColumns
498: Function CreateDataLink : TGridDataLink
499: Function CreateDir( Dir : string) : Boolean
500: function CreateDir(const Dir: string): Boolean)
501: Function CreateDOSProcessRedirected( const CommandLine, InputFile, OutputFile : string) : Boolean
502: Function CreateEnvironmentBlock(const Options:TEnvironmentOptions;const AdditionalVars:TStrings): PChar
503: Function CREATEFIELD(OWNER:TCOMPONENT;PARENTFIELD:TOBJECTFIELD;const
     FIELDNAME:String;CREATECHILDREN:BOOL):TFIELD
504: Function CreateGlobber( sFilespec : string) : TniRegularExpression
505: Function CreateGrayMappedBmp( Handle : HBITMAP) : HBITMAP
506: Function CreateGrayMappedRes( Instance : THandle; ResName : PChar) : HBITMAP
507: function CreateGUID(out Guid: TGUID): HResult)
508: Function CreateInstance( const unkOuter : IUnknown; const iid : TGUID; out obj) : HResult
509: Function CreateMappedBmp( Handle : HBITMAP; const OldColors, NewColors : array of TColor) : HBITMAP
510: Function CreateMappedRes(Instance:THandle;ResName:PChar;const OldColors,NewColors:array of TColor):HBITMAP
511: Function CreateMessageDialog(const Msg:string; DlgType:TMsgDlgType; Buttons: TMsgDlgButtons) : TForm;
512: Function CreateMessageDialog1(const
     Msg:string;DlgType:TMsgDlgType;Btns:TMsgDlgBtns;DefaultBtn:TMsgDlgBtn):TForm;
513: function CreateOleObject(const ClassName: String): IDispatch;
514: Function CREATEPARAM( FLDTYPE : TFIELDTYPE; const PARAMNAME : String; PARAMTYPE : TPARAMTYPE) : TPARAM
515: Function CreateParameter(const
     Name:WideString;DataType:TDataType;Direction:TParameterDirection;Size:Integer;Value: OleVariant):TParameter
516: Function CreateLocate( DataSet : TDataSet) : TJvLocateObject
517: Function CreateMappedBmp( Handle : HBITMAP; const OldColors, NewColors : array of TColor) : HBITMAP
518: Function CreateMappedRes(Instance:THandle;ResName:PChar;const OldColors,NewColors:array of TColor):HBITMAP
519: Function CreateRecordBuffer( Length : Integer) : TRecordBuffer
520: Function CreateValueBuffer( Length : Integer) : TValueBuffer
521: Function CreatePopupCalculator( AOwner : TComponent; ABiDiMode : TBiDiMode) : TWinControl
522: Function CreateRecordBuffer( Length : Integer) : TRecordBuffer
523: Function CreateRotatedFont( Font : TFont; Angle : Integer) : HFONT
```

```
524: Function CreateTwoColorsBrushPattern( Color1, Color2 : TColor) : TBitmap
525: Function CreateValueBuffer( Length : Integer) : TValueBuffer
526: Function CreateHexDump( AOwner : TWinControl) : THexDump
527: Function Csc( const X : Extended) : Extended
528: Function CscH( const X : Extended) : Extended
529: function currencyDecimals: Byte
530: function currencyFormat: Byte
531: function currencyString: String
532: Function CurrentProcessId : TIdPID
533: Function CurrentReadBuffer : string
534: Function CurrentThreadId : TIdPID
535: Function CurrentYear : Word
536: Function CurrToBCD(const Curr: Currency; var BCD: TBcd; Precision: Integer; Decimals: Integer): Boolean
537: Function CurrToStr( Value : Currency) : string;
538: Function CurrToStrF( Value : Currency; FormatSettings : TFormatSettings; Digits: Integer) : string;
539: Function CurrToStrFS(Value:Currency;Format:TFloatFormat;Digits:Int;const
     FormatSettings:TFormatSettings):string;
540: function CursorToIdent(cursor: Longint; var Ident: string): Boolean;
541: function CursorToString(cursor: TCursor): string;
542: Function CustomSort( SortProc : TLVCompare; lParam : Longint) : Boolean
543: Function CustomSort( SortProc : TTVCompare; Data : Longint; ARecurse : Boolean) : Boolean
544: Function CycleToDeg( const Cycles : Extended) : Extended
545: Function CycleToGrad( const Cycles : Extended) : Extended
546: Function CycleToRad( const Cycles : Extended) : Extended
547: Function D2H( N : Longint; A : Byte) : string
548: Function DarkColor( const Color : TColor; const Pct : Single) : TColor
549: Function DarkColorChannel( const Channel : Byte; const Pct : Single) : Byte
550: Function DataLinkDir : string
551: Function DataRequest( Data : OleVariant) : OleVariant
552: Function DataRequest( Input : OleVariant) : OleVariant
553: Function DataToRawColumn( ACol : Integer) : Integer
554: Function Date : TDateTime
555: function Date: TDateTime;
556: Function DateIsNull( const pdtValue : TDateTime; const pdtKind : TdtKind) : Boolean
557: Function DateOf( const AValue : TDateTime) : TDateTime
558: function DateSeparator: char;
559: Function DateTimeGMTToHttpStr( const GMTValue : TDateTime) : String
560: Function DateTimeToFileDate( DateTime : TDateTime) : Integer
561: function DateTimeToFileDate(DateTime: TDateTime): Integer;
562: Function DateTimeToGmtOffSetStr( ADateTime : TDateTime; SubGMT : Boolean) : string
563: Function DateTimeToInternetStr( const Value : TDateTime; const AIsGMT : Boolean) : String
564: Function DateTimeToJulianDate( const AValue : TDateTime) : Double
565: Function DateTimeToModifiedJulianDate( const AValue : TDateTime) : Double
566: Function DateTimeToStr( DateTime : TDateTime) : string;
567: Function DateTimeToStr2( DateTime : TDateTime; FormatSettings : TFormatSettings) : string;
568: function DateTimeToTimeStamp(DateTime: TDateTime): TTimeStamp
569: Function DateTimeToUnix( const AValue : TDateTime) : Int64
570: function DateTimeToUnix(D: TDateTime): Int64;
571: Function DateToStr( DateTime : TDateTime) : string;
572: function DateToStr(const DateTime: TDateTime): string;
573: function DateToStr(D: TDateTime): string;
574: Function DateToStr2( DateTime : TDateTime; FormatSettings : TFormatSettings) : string;
575: Function DayOf( const AValue : TDateTime) : Word
576: Function DayOfTheMonth( const AValue : TDateTime) : Word
577: function DayOfTheMonth(const AValue: TDateTime): Word;
578: Function DayOfTheWeek( const AValue : TDateTime) : Word
579: Function DayOfTheYear( const AValue : TDateTime) : Word
580: function DayOfTheYear(const AValue: TDateTime): Word;
581: Function DayOfWeek( DateTime : TDateTime) : Word
582: function DayOfWeek(const DateTime: TDateTime): Word;
583: Function DayOfWeekStr( DateTime : TDateTime) : string
584: Function DaysBetween( const ANow, AThen : TDateTime) : Integer
585: Function DaysInAMonth( const AYear, AMonth : Word) : Word
586: Function DaysInAYear( const AYear : Word) : Word
587: Function DaysInMonth( const AValue : TDateTime) : Word
588: Function DaysInYear( const AValue : TDateTime) : Word
589: Function DaySpan( const ANow, AThen : TDateTime) : Double
590: Function DBUseRightToLeftAlignment( AControl : TControl; AField : TField) : Boolean
591: function DecimalSeparator: char;
592: Function DecLimit( var B : Byte; const Limit : Byte; const Decr : Byte) : Byte;
593: Function DecLimit1( var B : Shortint; const Limit : Shortint; const Decr : Shortint) : Shortint;
594: Function DecLimit2( var B : Smallint; const Limit : Smallint; const Decr : Smallint) : Smallint;
595: Function DecLimit3( var B : Word; const Limit : Word; const Decr : Word) : Word;
596: Function DecLimit4( var B : Integer; const Limit : Integer; const Decr : Integer) : Integer;
597: Function DecLimit5( var B : Cardinal; const Limit : Cardinal; const Decr : Cardinal) : Cardinal;
598: Function DecLimit6( var B : Int64; const Limit : Int64; const Decr : Int64) : Int64;
599: Function DecLimitClamp( var B : Byte; const Limit : Byte; const Decr : Byte) : Byte;
600: Function DecLimitClamp1( var B : Shortint; const Limit : Shortint; const Decr : Shortint) : Shortint;
601: Function DecLimitClamp2( var B : Smallint; const Limit : Smallint; const Decr : Smallint) : Smallint;
602: Function DecLimitClamp3( var B : Word; const Limit : Word; const Decr : Word) : Word;
603: Function DecLimitClamp4( var B : Integer; const Limit : Integer; const Decr : Integer) : Integer;
604: Function DecLimitClamp5( var B : Cardinal; const Limit : Cardinal; const Decr : Cardinal) : Cardinal;
605: Function DecLimitClamp6( var B : Int64; const Limit : Int64; const Decr : Int64) : Int64;
606: Function DecodeDateFully( DateTime : TDateTime; var Year, Month, Day, DOW : Word) : Boolean
607: Function DecodeSoundexInt( AValue : Integer) : string
608: Function DecodeSoundexWord( AValue : Word) : string
609: Function DefaultAlignment : TAlignment
610: Function DefaultCaption : string
611: Function DefaultColor : TColor
```

```
612: Function DefaultFont : TFont
613: Function DefaultImeMode : TImeMode
614: Function DefaultImeName : TImeName
615: Function DefaultReadOnly : Boolean
616: Function DefaultWidth : Integer
617: Function DegMinSecToFloat( const Degs, Mins, Secs : Float) : Float
618: Function DegToCycle( const Degrees : Extended) : Extended
619: Function DegToGrad( const Degrees : Extended) : Extended
620: Function DegToGrad( const Value : Extended) : Extended;
621: Function DegToGrad1( const Value : Double) : Double;
622: Function DegToGrad2( const Value : Single) : Single;
623: Function DegToRad( const Degrees : Extended) : Extended
624: Function DegToRad( const Value : Extended) : Extended;
625: Function DegToRad1( const Value : Double) : Double;
626: Function DegToRad2( const Value : Single) : Single;
627: Function DelChar( const pStr : string; const pChar : Char) : string
628: Function DelEnvironmentVar( const Name : string) : Boolean
629: Function Delete( const MsgNum : Integer) : Boolean
630: Function DeleteDirectory( const DirectoryName : string; MoveToRecycleBin : Boolean) : Boolean
631: Function DeleteFile(const FileName: string): boolean)
632: Function DeleteFileEx( FileName : string; Flags : FILEOP_FLAGS) : Boolean
633: Function DelimiterPosn( const sString : string; const sDelimiters: string): integer;
634: Function DelimiterPosn1(const sString:string;const sDelimiters:string;out cDelimiter: char) : integer;
635: Function DelSpace( const pStr : string) : string
636: Function DelString( const pStr, pDelStr : string) : string
637: Function DelTree( const Path : string) : Boolean
638: Function Depth : Integer
639: Function Description : string
640: Function DescriptionsAvailable : Boolean
641: Function DescriptionToConvFamily( const ADescription : string; out AFamily : TConvFamily) : Boolean
642: Function DescriptionToConvType( const ADescription : string; out AType : TConvType) : Boolean;
643: Function DescriptionToConvType1(const AFamil:TConvFamily;const ADescr:string;out AType:TConvType):Boolean;
644: Function DetectUTF8Encoding( const s : UTF8String) : TEncodeType
645: Function DialogsToPixelsX( const Dialogs : Word) : Word
646: Function DialogsToPixelsY( const Dialogs : Word) : Word
647: Function Digits( const X : Cardinal) : Integer
648: Function DirectoryExists( const Name : string) : Boolean
649: Function DirectoryExists( Directory : string) : Boolean
650: Function DiskFree( Drive : Byte) : Int64
651: function DiskFree(Drive: Byte): Int64)
652: Function DiskInDrive( Drive : Char) : Boolean
653: Function DiskSize( Drive : Byte) : Int64
654: function DiskSize(Drive: Byte): Int64)
655: Function DISPATCHCOMMAND( ACOMMAND : WORD) : BOOLEAN
656: Function DispatchEnabled : Boolean
657: Function DispatchMask : TMask
658: Function DispatchMethodType : TMethodType
659: Function DISPATCHPOPUP( AHANDLE : HMENU) : BOOLEAN
660: Function DispatchRequest( Sender : TObject; Request : TWebRequest; Response : TWebResponse) : Boolean
661: Function DisplayCase( const S : String) : String
662: Function DisplayRect( Code : TDisplayCode) : TRect
663: Function DisplayRect( TextOnly : Boolean) : TRect
664: Function DisplayStream( Stream : TStream) : string
665: TBufferCoord', 'record Char : integer; Line : integer; end
666: TDisplayCoord', 'record Column : integer; Row : integer; end
667: Function DisplayCoord( AColumn, ARow : Integer) : TDisplayCoord
668: Function BufferCoord( AChar, ALine : Integer) : TBufferCoord
669: Function DomainName( const AHost : String) : String
670: Function DownloadFile(SourceFile, DestFile: string): Boolean;  //fast!
671: Function DownloadFileOpen(SourceFile, DestFile: string): Boolean;  //open process
672: Function DosPathToUnixPath( const Path : string) : string
673: Function DottedLineTo( const Canvas : TCanvas; const X, Y : Integer) : Boolean;
674: Function DoubleDecliningBalance( const Cost, Salvage : Extended; Life, Period : Integer) : Extended
675: Function DoubleToBcd( const AValue : Double) : TBcd;
676: Function DoubleToHex( const D : Double) : string
677: Function DoUpdates : Boolean
678: Function Dragging: Boolean;
679: Function DrawCaption( p1 : HWND; p2 : HDC; const p3 : TRect; p4 : UINT) : BOOL
680: Function DrawAnimatedRects( hwnd : HWND; idAni : Integer; const lprcFrom, lprcTo : TRect) : BOOL
681: Function DrawEdge( hdc : HDC; var qrc : TRect; edge : UINT; grfFlags : UINT) : BOOL
682: Function DrawFrameControl( DC : HDC; const Rect : TRect; uType, uState : UINT) : BOOL
683: {Works like InputQuery but displays 2edits. If PasswordChar <> #0, the second edit's PasswordChar is set}
684: Function DualInputQuery(const ACapt,Prpt1,Prpt2:string;var AVal1,AVal2:string;PasswrdChar:Char= #0):Bool;
685: Function DupeString( const AText : string; ACount : Integer) : string
686: Function Edit : Boolean
687: Function EditCaption : Boolean
688: Function EditText : Boolean
689: Function EditFolderList( Folders : TStrings) : Boolean
690: Function EditQueryParams( DataSet : TDataSet; List : TParams; AHelpContext : THelpContext) : Boolean
691: Function Elapsed( const Update : Boolean) : Cardinal
692: Function EnableProcessPrivilege( const Enable : Boolean; const Privilege : string) : Boolean
693: Function EnableThreadPrivilege( const Enable : Boolean; const Privilege : string) : Boolean
694: Function EncodeDate( Year, Month, Day : Word) : TDateTime
695: function EncodeDate(Year, Month, Day: Word): TDateTime;
696: Function EncodeDateDay( const AYear, ADayOfYear : Word) : TDateTime
697: Function EncodeDateMonthWeek( const AYear, AMonth, AWeekOfMonth, ADayOfWeek : Word) : TDateTime
698: Function EncodeDateTime(const AYear,AMonth,ADay,AHour,AMinute,ASecond,AMilliSecond: Word): TDateTime
699: Function EncodeDateWeek( const AYear, AWeekOfYear : Word; const ADayOfWeek : Word) : TDateTime
700: Function EncodeDayOfWeekInMonth( const AYear, AMonth, ANthDayOfWeek, ADayOfWeek : Word) : TDateTime
```

```
701: Function EncodeString( s : string) : string
702: Function DecodeString( s : string) : string
703: Function EncodeTime( Hour, Min, Sec, MSec : Word) : TDateTime
704: function EncodeTime(Hour, Min, Sec, MSec: Word): TDateTime;
705: Function EndIP : String
706: Function EndOfADay( const AYear, AMonth, ADay : Word) : TDateTime;
707: Function EndOfADay1( const AYear, ADayOfYear : Word) : TDateTime;
708: Function EndOfAMonth( const AYear, AMonth : Word) : TDateTime
709: Function EndOfAWeek( const AYear, AWeekOfYear : Word; const ADayOfWeek : Word) : TDateTime
710: Function EndOfAYear( const AYear : Word) : TDateTime
711: Function EndOfTheDay( const AValue : TDateTime) : TDateTime
712: Function EndOfTheMonth( const AValue : TDateTime) : TDateTime
713: Function EndOfTheWeek( const AValue : TDateTime) : TDateTime
714: Function EndOfTheYear( const AValue : TDateTime) : TDateTime
715: Function EndPeriod( const Period : Cardinal) : Boolean
716: Function EndsStr( const ASubText, AText : string) : Boolean
717: Function EndsText( const ASubText, AText : string) : Boolean
718: Function EnsureMsgIDBrackets( const AMsgID : String) : String
719: Function EnsureRange( const AValue, AMin, AMax : Integer) : Integer;
720: Function EnsureRange1( const AValue, AMin, AMax : Int64) : Int64;
721: Function EnsureRange2( const AValue, AMin, AMax : Double) : Double;
722: Function EOF: boolean
723: Function EOln: boolean
724: Function EqualRect( const R1, R2 : TRect) : Boolean
725: function EqualRect(const R1, R2: TRect): Boolean)
726: Function Equals( Strings : TWideStrings) : Boolean
727: function Equals(Strings: TStrings): Boolean;
728: Function EqualState( oState : TniRegularExpressionState) : boolean
729: Function ErrOutput: Text)
730: function ExceptionParam: String;
731: function ExceptionPos: Cardinal;
732: function ExceptionProc: Cardinal;
733: function ExceptionToString(er: TIFException; Param: String): String;
734: function ExceptionType: TIFException;
735: Function ExcludeTrailingBackslash( S : string) : string
736: function ExcludeTrailingBackslash(const S: string): string)
737: Function ExcludeTrailingPathDelimiter( const APath : string) : string
738: Function ExcludeTrailingPathDelimiter( S : string) : string
739: function ExcludeTrailingPathDelimiter(const S: string): string)
740: function ExecConsoleApp(const AppName, Parameters: String; AppOutput: TStrings): boolean;
741: Function ExecProc : Integer
742: Function ExecSQL : Integer
743: Function ExecSQL( ExecDirect : Boolean) : Integer
744: Function Execute : _Recordset;
745: Function Execute : Boolean
746: Function Execute : Boolean;
747: Function Execute( const SQL : string; Params : TParams; Cache : Boolean; cursor : phDBICur) : Integer
748: Function Execute( const SQL : WideString; Params : TParams; ResultSet : TPSResult) : Integer
749: Function Execute( ParentWnd : HWND) : Boolean
750: Function Execute1(constCommText:WideString;const CType:TCommType;const
     ExecuteOpts:TExecuteOpts):_Recordset;
751: Function Execute1( const Parameters : OleVariant) : _Recordset;
752: Function Execute1( ParentWnd : HWND) : Boolean;
753: Function Execute2( var RecordsAffected : Integer; const Parameters : OleVariant) : _Recordset;
754: Function ExecuteAction( Action : TBasicAction) : Boolean
755: Function ExecuteDirect( const SQL : WideString) : Integer
756: Function ExecuteFile(const FileName:string;const Params:string;const DefDir:string;ShowCmd:Int):THandle
757: Procedure ExecuteThread2(afunc:TThreadFunction2;thrOK:boolean);AddTypeS('TThreadFunction2','procedure
758: Function CreateThread2(ThreadFunc: TThreadFunction2) : THandle
759: function ExeFileIsRunning(ExeFile: string): boolean;
760: function ExePath: string;
761: function ExePathName: string;
762: Function Exists( AItem : Pointer) : Boolean
763: Function ExitWindows( ExitCode : Cardinal) : Boolean
764: function Exp(x: Extended): Extended;
765: Function ExpandEnvironmentVar( var Value : string) : Boolean
766: Function ExpandFileName( FileName : string) : string
767: function ExpandFileName(const FileName: string): string)
768: Function ExpandUNCFileName( FileName : string) : string
769: function ExpandUNCFileName(const FileName: string): string)
770: Function ExpJ( const X : Float) : Float;
771: Function Exsecans( X : Float) : Float
772: Function Extract( const AByteCount : Integer) : string
773: Function Extract( Item : TClass) : TClass
774: Function Extract( Item : TComponent) : TComponent
775: Function Extract( Item : TObject) : TObject
776: Function ExtractFileDir( FileName : string) : string
777: function ExtractFileDir(const FileName: string): string)
778: Function ExtractFileDrive( FileName : string) : string
779: function ExtractFileDrive(const FileName: string): string)
780: Function ExtractFileExt( FileName : string) : string
781: function ExtractFileExt(const FileName: string): string)
782: Function ExtractFileExtNoDot( const FileName : string) : string
783: Function ExtractFileExtNoDotUpper( const FileName : string) : string
784: Function ExtractFileName( FileName : string) : string
785: function ExtractFileName(const filename: string):string;
786: Function ExtractFilePath( FileName : string) : string
787: function ExtractFilePath(const filename: string):string;
788: Function ExtractRelativePath( BaseName, DestName : string) : string
```

```
789: function ExtractRelativePath(const BaseName: string; const DestName: string): string)
790: Function ExtractShortPathName( FileName : string) : string
791: function ExtractShortPathName(const FileName: string): string)
792: function ExtractStrings(Separators, WhiteSpace: TSysCharSet; Content: PChar;Strings: TStrings): Integer
793: function ExtractStrings(Separators:TSysCharSet;WhiteSpace:TSysCharSet;Content:PChar;Str:TStrings): Integer)
794: Function Fact(numb: integer): Extended;
795: Function FactInt(numb: integer): int64;
796: Function Factorial( const N : Integer) : Extended
797: Function FahrenheitToCelsius( const AValue : Double) : Double
798: function FalseBoolStrs: array of string
799: Function Fetch(var AInput:string;const ADelim:string;const ADelete:Bool;const ACaseSensitive:Bool):string
800: Function FetchCaseInsensitive(var AInput:string; const ADelim:string; const ADelete:Boolean): string
801: Function Fibo(numb: integer): Extended;
802: Function FiboInt(numb: integer): Int64;
803: Function Fibonacci( const N : Integer) : Integer
804: Function FIELDBYNAME( const FIELDNAME : STRING) : TFIELD
805: Function FIELDBYNAME( const FIELDNAME : WIDESTRING) : TFIELD
806: Function FIELDBYNAME( const NAME : String) : TFIELD
807: Function FIELDBYNAME( const NAME : String) : TFIELDDEF
808: Function FIELDBYNUMBER( FIELDNO : INTEGER) : TFIELD
809: Function FileAge( FileName : string) : Integer
810: Function FileAge(const FileName: string): integer)
811: Function FileCompareText( const A, B : String) : Integer
812: Function FileContains(const FileName:string;Text:string;CaseSensitive:Bool;ExceptionOnError:Bool): Boolean
813: Function FileCreate( FileName : string) : Integer;
814: Function FileCreate(const FileName: string): integer)
815: Function FileCreateTemp( var Prefix : string) : THandle
816: Function FileDateToDateTime( FileDate : Integer) : TDateTime
817: function FileDateToDateTime(FileDate: Integer): TDateTime;
818: Function FileExists( const FileName : string) : Boolean
819: Function FileExists( FileName : string) : Boolean
820: function fileExists(const FileName: string): Boolean;
821: Function FileGetAttr( FileName : string) : Integer
822: Function FileGetAttr(const FileName: string): integer)
823: Function FileGetDate( Handle : Integer) : Integer
824: Function FileGetDate(handle: integer): integer
825: Function FileGetDisplayName( const FileName : string) : string
826: Function FileGetSize( const FileName : string) : Integer
827: Function FileGetTempName( const Prefix : string) : string
828: Function FileGetTypeName( const FileName : string) : string
829: Function FileIsReadOnly( FileName : string) : Boolean
830: Function FileLoad( ResType : TResType; const Name : string; MaskColor : TColor) : Boolean
831: Function FileOpen( FileName : string; Mode : LongWord) : Integer
832: Function FileOpen(const FileName: string; mode:integer): integer)
833: Function FileRead(handle: integer; Buffer: PChar; count: LongWord): integer
834: Function FileSearch( Name, DirList : string) : string
835: Function FileSearch(const Name, dirList: string): string)
836: Function FileSeek( Handle : Integer; Offset : Int64; Origin : Integer) : Int64;
837: Function FileSeek( Handle, Offset, Origin : Integer) : Integer;
838: Function FileSeek(handle, offset, origin: integer): integer
839: Function FileSetAttr( FileName : string; Attr : Integer) : Integer
840: function FileSetAttr(const FileName: string; Attr: Integer): Integer)
841: Function FileSetDate(FileName : string; Age : Integer) : Integer;
842: Function FileSetDate(handle: integer; age: integer): integer
843: Function FileSetDate2(FileHandle : Integer; Age : Integer) : Integer;
844: Function FileSetDateH( Handle : Integer; Age : Integer) : Integer;
845: Function FileSetReadOnly( FileName : string; ReadOnly : Boolean) : Boolean
846: Function FileSize( const FileName : string) : int64
847: Function FileSizeByName( const AFilename : string) : Longint
848: function FileWrite(Handle: Integer; const Buffer: pChar; Count: LongWord): Integer)
849: Function FilterSpecArray : TComdlgFilterSpecArray
850: Function FIND( ACAPTION : String) : TMENUITEM
851: Function Find( AItem : Pointer; out AData : Pointer) : Boolean
852: Function FIND( const ANAME : String) : TNAMEDITEM
853: Function Find( const DisplayName : string) : TAggregate
854: Function Find( const Item : TBookmarkStr; var Index : Integer) : Boolean
855: Function FIND( const NAME : String) : TFIELD
856: Function FIND( const NAME : String) : TFIELDDEF
857: Function FIND( const NAME : String) : TINDEXDEF
858: Function Find( const S : WideString; var Index : Integer) : Boolean
859: function Find(S:String;var Index:Integer):Boolean
860: Function FindAuthClass( AuthName : String) : TIdAuthenticationClass
861: Function FindBand( AControl : TControl) : TCoolBand
862: Function FindBoundary( AContentType : string) : string
863: Function FindButton( AModalResult : TModalResult) : TTaskDialogBaseButtonItem
864: Function FindCaption(StartIndex: Integer;Value: string; Partial,Inclusive,Wrap: Boolean): TListItem
865: Function FindCdLineSwitch( Switch : string; IgnoreCase : Boolean) : Boolean;
866: Function FindCloseW(FindFile: Integer): LongBool; stdcall;
867: Function FindCmdLineSwitch( Switch : string; Chars : TSysCharSet; IgnoreCase : Boolean) : Boolean;
868: Function FindCmmdLineSwitch( Switch : string) : Boolean;
869: function FindComponent(AName: String): TComponent;
870: function FindComponent(vlabel: string): TComponent;
871: function FindComponent2(vlabel: string): TComponent;
872: function FindControl(Handle: HWnd): TWinControl;
873: Function FindData( StartIndex : Integer; Value : Pointer; Inclusive, Wrap : Boolean) : TListItem
874: Function FindDatabase( const DatabaseName : string) : TDatabase
875: function FindDragTarget(const Pos: TPoint; AllowDisabled: Boolean): TControl;
876: Function FINDFIELD( const FIELDNAME : STRING) : TFIELD
877: Function FINDFIELD( const FIELDNAME : WideString) : TFIELD
```

```
878: Function FindFirst2(const Path: string; Attr: Integer; var F: TSearchRec):Integer)
879: Function FindNext2(var F: TSearchRec): Integer)
880: procedure FindClose2(var F: TSearchRec)
881: Function FINDFIRST : BOOLEAN
882: TJvSpecialFolder = (sfRecycleBin, sfControlPanel, sfDesktop, sfDesktopDirectory,
883:   sfMyComputer, sfFonts, sfNetHood, sfNetwork, sfPersonal, sfPrinters, sfPrograms,sfRecent,sfSendTo,
     sfStartMenu, stStartUp, sfTemplates);
884:  FFolder: array [TJvSpecialFolder] of Integer =
885:     (CSIDL_BITBUCKET, CSIDL_CONTROLS, CSIDL_DESKTOP, CSIDL_DESKTOPDIRECTORY,
886:      CSIDL_DRIVES, CSIDL_FONTS, CSIDL_NETHOOD, CSIDL_NETWORK, CSIDL_PERSONAL,
887:      CSIDL_PRINTERS, CSIDL_PROGRAMS, CSIDL_RECENT, CSIDL_SENDTO, CSIDL_STARTMENU,
888:      CSIDL_STARTUP, CSIDL_TEMPLATES);
889: Function FindFilesDlg(StartIn: string; SpecialFolder: TJvSpecialFolder; UseFolder: Boolean): Boolean);
890: function Findfirst(const filepath: string; attr: integer): integer;
891: function FindFirst2(const Path: string; Attr: Integer; var F: TSearchRec): Integer)
892: Function FindFirstNotOf( AFind, AText : String) : Integer
893: Function FindFirstOf( AFind, AText : String) : Integer
894: Function FindImmediateTransitionOn( cChar : char) : TniRegularExpressionState
895: Function FINDINDEXFORFIELDS( const FIELDS : String) : TINDEXDEF
896: Function FindInstanceOf( AClass : TClass; AExact : Boolean; AStartAt : Integer) : Integer
897: Function FINDITEM( VALUE : INTEGER; KIND : TFINDITEMKIND) : TMENUITEM
898: function FindItemId( Id : Integer) : TCollectionItem
899: Function FindKey( const KeyValues : array of const) : Boolean
900: Function FINDLAST : BOOLEAN
901: Function FindLineControl( ComponentType, ControlType : DWORD) : TJclMixerLineControl
902: Function FindModuleClass( AClass : TComponentClass) : TComponent
903: Function FindModuleName( const AClass : string) : TComponent
904: Function FINDNEXT : BOOLEAN
905: function FindNext: integer;
906: function FindNext2(var F: TSearchRec): Integer)
907: Function FindNextPage( CurPage : TTabSheet; GoForward, CheckTabVisible : Boolean) : TTabSheet
908: Function FindNextToSelect : TTreeNode
909: Function FINDPARAM( const VALUE : String) : TPARAM
910: Function FindParam( const Value : WideString) : TParameter
911: Function FINDPRIOR : BOOLEAN
912: Function FindResource( ModuleHandle : HMODULE; ResourceName, ResourceType : PChar) : TResourceHandle
913: Function FindSession( const SessionName : string) : TSession
914: function FindStringResource(Ident: Integer): string)
915: Function FindText( const SearchStr:string;StartPos,Length: Integer; Options: TSearchTypes):Integer
916: Function FindUnusedFileName( const FileName, FileExt, Suffix : AnsiString) : AnsiString
917: function FindVCLWindow(const Pos: TPoint): TWinControl;
918: function FindWindow(C1, C2: PChar): Longint;
919: Function FindInPaths(const fileName,paths: String): String;
920: Function Finger : String
921: Function First : TClass
922: Function First : TComponent
923: Function First : TObject
924: Function FirstDelimiter( const delimiters : string; const Str : String) : integer;
925: Function FirstDelimiter1( const delimiters : WideString; const Str : WideString) : integer;
926: Function FirstInstance( const ATitle : string) : Boolean
927: Function FloatPoint( const X, Y : Float) : TFloatPoint;
928: Function FloatPoint1( const P : TPoint) : TFloatPoint;
929: Function FloatPtInRect( const Rect : TFloatRect; const P : TFloatPoint) : Boolean
930: Function FloatRect( const ALeft, ATop, ARight, ABottom : Double) : TFloatRect;
931: Function FloatRect1( const Rect : TRect) : TFloatRect;
932: Function FloatsEqual( const X, Y : Float) : Boolean
933: Function FloatToBin(const D: Double): string;     //doubletohex -> hextobin! in buffer
934: Function FloatToCurr( Value : Extended) : Currency
935: Function FloatToDateTime( Value : Extended) : TDateTime
936: Function FloatToStr( Value : Extended) : string;
937: Function FloatToStr(e : Extended) : String;
938: Function FloatToStrF( Value : Extended; Format : TFloatFormat; Precision, Digits : Integer) : string;
939: function FloatToStrF(Value: Extended; Format: TFloatFormat;Precision:Integer; Digits: Integer): string)
940: Function FloatToStr2( Value : Extended; Format : TFloatFormat; Precision, Digits : Integer; FormatSettings
     : TFormatSettings) : string;
941: Function FloatToStrFS( Value : Extended; Format : TFloatFormat; Precision, Digits : Integer;
     FormatSettings : TFormatSettings) : string;
942: function FloatToText(BufferArg: PChar; const Value: Extended; ValueType: TFloatValue;Format: TFloatFormat;
     Precision,Digits: Integer): Integer)
943: Function Floor( const X : Extended) : Integer
944: Function FloorInt( Value : Integer; StepSize : Integer) : Integer
945: Function FloorJ( const X : Extended) : Integer
946: Function Flush( const Count : Cardinal) : Boolean
947: Function Flush(var t: Text): Integer
948: function FmtLoadStr(Ident: Integer; const Args: array of const): string)
949: function FOCUSED:BOOLEAN
950: Function ForceBackslash( const PathName : string) : string
951: Function ForceDirectories( const Dir : string) : Boolean
952: Function ForceDirectories( Dir : string) : Boolean
953: Function ForceDirectories( Name : string) : Boolean
954: Function ForceInBox( const Point : TPoint; const Box : TRect) : TPoint
955: Function ForceInRange( A, Min, Max : Integer) : Integer
956: Function ForceInRangeR( const A, Min, Max : Double) : Double
957: Function ForEach( AProc : TBucketProc; AInfo : Pointer) : Boolean;
958: Function ForEach1( AEvent : TBucketEvent) : Boolean;
959: Function ForegroundTask: Boolean
960: function Format(const Format: string; const Args: array of const): string;
961: Function FormatBcd( const Format : string; Bcd : TBcd) : string
962: FUNCTION FormatBigInt(s: string): STRING;
```

```
963: function FormatByteSize(const bytes: int64): string;
964: function FormatBuf(var Buffer:PChar;BufLen:Card;const Format:string;FmtLen:Card;const Args:array of
     const):Cardinal
965: Function FormatCount( iCount : integer; const sSingular : string; const sPlural : string) : string
966: Function FormatCurr( Format : string; Value : Currency) : string;
967: function FormatCurr(const Format: string; Value: Currency): string)
968: Function FormatDateTime( Format : string; DateTime : TDateTime) : string;
969: Function FormatDateTime(const fmt: string; D: TDateTime): string;
970: Function FormatFloat( Format : string; Value : Extended) : string;
971: function FormatFloat(const Format: string; Value: Extended): string)
972: Function FormatFloat( Format : string; Value : Extended) : string;
973: Function FormatFloat2( Format : string; Value : Extended; FormatSettings : TFormatSettings) : string;
974: Function FormatCurr( Format : string; Value : Currency) : string;
975: Function FormatCurr2(Format: string; Value : Currency; FormatSettings : TFormatSettings) : string;
976: Function Format2(const Format:string;const Args:array of const;const FSettings:TFormatSettings): string
977: FUNCTION FormatInt(i: integer): STRING;
978: FUNCTION FormatInt64(i: int64): STRING;
979: Function FormatMaskText( const EditMask : string; const Value : string) : string
980: Function FormatValue( AValue : Cardinal) : string
981: Function FormatVersionString( const HiV, LoV : Word) : string;
982: Function FormatVersionString1( const Major, Minor, Build, Revision : Word) : string;
983: function Frac(X: Extended): Extended);
984: Function FreeResource( ResData : HGLOBAL) : LongBool
985: Function FromCommon( const AValue : Double) : Double
986: function FromCommon(const AValue: Double): Double;
987: Function FTPGMTDateTimeToMLS( const ATimeStamp : TDateTime; const AIncludeMSecs : Boolean) : String
988: Function FTPLocalDateTimeToMLS( const ATimeStamp : TDateTime; const AIncludeMSecs : Boolean) : String
989: Function FTPMLSToGMTDateTime( const ATimeStamp : String) : TDateTime
990: Function FTPMLSToLocalDateTime( const ATimeStamp : String) : TDateTime
991: Function FuncIn(AValue: Variant; ASet: Variant): Boolean;
992: //Function Funclist Size is: 6444 of mX3.9.8.9
993: Function FutureValue(const Rate:Extended;NPeriods:Integer;const Payment,PresentValue:Extended;PaymentTime:
     TPaymentTime):Extended
994: Function FullTimeToStr(SUMTime: TDateTime): string;');
995: Function Gauss( const x, Spread : Double) : Double
996: function Gauss(const x,Spread: Double): Double;
997: Function GCD(x, y : LongInt) : LongInt;
998: Function GCDJ( X, Y : Cardinal) : Cardinal
999: Function GDAL: LongWord
1000: Function GdiFlush : BOOL
1001: Function GdiSetBatchLimit( Limit : DWORD) : DWORD
1002: Function GdiGetBatchLimit : DWORD
1003: Function GenerateHeader : TIdHeaderList
1004: Function GeometricMean( const X : TDynFloatArray) : Float
1005: Function Get( AURL : string) : string;
1006: Function Get2( AURL : string) : string;
1007: Function Get8087CW : Word
1008: function GetActiveOleObject(const ClassName: String): IDispatch;
1009: Function GetAliasDriverName( const AliasName : string) : string
1010: Function GetAPMBatteryFlag : TAPMBatteryFlag
1011: Function GetAPMBatteryFullLifeTime : DWORD
1012: Function GetAPMBatteryLifePercent : Integer
1013: Function GetAPMBatteryLifeTime : DWORD
1014: Function GetAPMLineStatus : TAPMLineStatus
1015: Function GetAppdataFolder : string
1016: Function GetAppDispatcher : TComponent
1017: function GetArrayLength: integer;
1018: Function GetASCII: string;
1019: Function GetASCIILine: string;
1020: Function GetAsHandle( Format : Word) : THandle
1021: function GetAssociatedProgram(const Extension: string; var Filename, Description: string): boolean;
1022: Function GetBackupFileName( const FileName : string) : string
1023: Function GetBaseAddress(PID:DWORD):DWORD;  //Process API
1024: Function GetBBitmap( Value : TBitmap) : TBitmap
1025: Function GetBIOSCopyright : string
1026: Function GetBIOSDate : TDateTime
1027: Function GetBIOSExtendedInfo : string
1028: Function GetBIOSName : string
1029: Function getBitmap(apath: string): TBitmap;
1030: Function GetBitmap( Index : Integer; Image : TBitmap) : Boolean  //object
1031: Function getBitMapObject(const bitmappath: string): TBitmap;
1032: Function GetButtonState( Button : TPageScrollerButton) : TPageScrollerButtonState
1033: Function GetCapsLockKeyState : Boolean
1034: function GetCaptureControl: TControl;
1035: Function GetCDAudioTrackList( var TrackList : TJclCdTrackInfoArray; Drive : Char) : TJclCdTrackInfo;
1036: Function GetCDAudioTrackList1( TrackList : TStrings; IncludeTrackType : Boolean; Drive : Char) : string;
1037: Function GetCdInfo( InfoType : TJclCdMediaInfo; Drive : Char) : string
1038: Function GetChangedText( const Text : string; SelStart, SelLength : Integer; Key : Char) : string
1039: Function GetClientThread( ClientSocket : TServerClientWinSocket) : TServerClientThread
1040: Function GetClockValue : Int64
1041: function getCmdLine: PChar;
1042: function getCmdShow: Integer;
1043: function GetCPUSpeed: Double;
1044: Function GetColField( DataCol : Integer) : TField
1045: Function GetColorBlue( const Color : TColor) : Byte
1046: Function GetColorFlag( const Color : TColor) : Byte
1047: Function GetColorGreen( const Color : TColor) : Byte
1048: Function GetColorRed( const Color : TColor) : Byte
1049: Function GetComCtlVersion : Integer
```

```
1050: Function GetComPorts: TStringlist;
1051: Function GetCommonAppdataFolder : string
1052: Function GetCommonDesktopdirectoryFolder : string
1053: Function GetCommonFavoritesFolder : string
1054: Function GetCommonFilesFolder : string
1055: Function GetCommonProgramsFolder : string
1056: Function GetCommonStartmenuFolder : string
1057: Function GetCommonStartupFolder : string
1058: Function GetComponent( Owner, Parent : TComponent) : TComponent
1059: Function GetConnectionRegistryFile( DesignMode : Boolean) : string
1060: Function GetCookiesFolder : string
1061: Function GetCPUSpeed( var CpuSpeed : TFreqInfo) : Boolean
1062: Function GetCurrent : TFavoriteLinkItem
1063: Function GetCurrent : TListItem
1064: Function GetCurrent : TTaskDialogBaseButtonItem
1065: Function GetCurrent : TToolButton
1066: Function GetCurrent : TTreeNode
1067: Function GetCurrent : WideString
1068: Function GetCurrentDir : string
1069: function GetCurrentDir: string)
1070: Function GetCurrentFolder : string
1071: Function GETCURRENTRECORD( BUFFER : PCHAR) : BOOLEAN
1072: Function GetCurrentProcessId : TIdPID
1073: Function GetCurrentThreadHandle : THandle
1074: Function GetCurrentThreadID: LongWord; stdcall;
1075: Function GetCustomHeader( const Name : string) : String
1076: Function GetDataItem( Value : Pointer) : Longint
1077: Function GetDataLinkFiles( FileNames : TWideStrings; Directory : string) : Integer;
1078: Function GetDataLinkFiles1( FileNames : TStrings; Directory : string) : Integer;
1079: Function GETDATASIZE : INTEGER
1080: Function GetDC(hdwnd: HWND): HDC;
1081: Function GetDefaultFileExt( const MIMEType : string) : string
1082: Function GetDefaults : Boolean
1083: Function GetDefaultSchemaName : WideString
1084: Function GetDefaultStreamLoader : IStreamLoader
1085: Function GetDesktopDirectoryFolder : string
1086: Function GetDesktopFolder : string
1087: Function GetDFAState( oStates : TList) : TniRegularExpressionState
1088: Function GetDirectorySize( const Path : string) : Int64
1089: Function GetDisplayWidth : Integer
1090: Function GetDLLVersion( const DLLName : string; var pdwMajor, pdwMinor : Integer) : Boolean
1091: Function GetDomainName : string
1092: Function GetDriverRegistryFile( DesignMode : Boolean) : string
1093: function GetDriveType(rootpath: pchar): cardinal;
1094: Function GetDriveTypeStr( const Drive : Char) : string
1095: Function GetEnumerator : TFavoriteLinkItemsEnumerator
1096: Function GetEnumerator : TListItemsEnumerator
1097: Function GetEnumerator : TTaskDialogButtonsEnumerator
1098: Function GetEnumerator : TToolBarEnumerator
1099: Function GetEnumerator : TTreeNodesEnumerator
1100: Function GetEnumerator : TWideStringsEnumerator
1101: Function GetEnvVar( const VarName : string) : string
1102: Function GetEnvironmentVar( const AVariableName : string) : string
1103: Function GetEnvironmentVariable( const VarName : string) : string
1104: Function GetEnvironmentVar( const Name : string; var Value : string; Expand : Boolean) : Boolean
1105: Function GetEnvironmentVars( const Vars : TStrings; Expand : Boolean) : Boolean
1106: Function getEnvironmentString: string;
1107: Function GetExceptionHandler : TObject
1108: Function GetFavoritesFolder : string
1109: Function GetFieldByName( const Name : string) : string
1110: Function GetFieldInfo( const Origin : Widestring; var FieldInfo : TFieldInfo) : Boolean
1111: Function GetFieldValue( ACol : Integer) : string
1112: Function GetFileAgeCoherence( const FileName : string) : Boolean
1113: Function GetFileCreation( const FileName : string) : TFileTime
1114: Function GetFileCreationTime( const Filename : string) : TDateTime
1115: Function GetFileInformation( const FileName : string) : TSearchRec
1116: Function GetFileLastAccess( const FileName : string) : TFileTime
1117: Function GetFileLastWrite( const FileName : string) : TFileTime
1118: Function GetFileList(FileList: TStringlist; apath: string): TStringlist;
1119: Function GetFileList1(apath: string): TStringlist;
1120: Function GetFileMIMEType( const AFileName : string) : string
1121: Function GetFileSize( const FileName : string) : Int64
1122: Function GetFileVersion( AFileName : string) : Cardinal
1123: Function GetFileVersion( const AFilename : string) : Cardinal
1124: Function GetFileSize2(Handle: Integer; x: Integer): Integer; stdcall;
1125: Function GetFileDate(aFile:string; aWithTime:Boolean):string;
1126: Function GetFileCount(adirmask: string): integer;  //files count in directory!
1127: Function GetFilterData( Root : PExprNode) : TExprData
1128: Function getFirstChild : LongInt
1129: Function getFirstChild : TTreeNode
1130: Function GetFirstDelimitedToken( const cDelim : char; const cStr : string) : string
1131: Function GetFirstNode : TTreeNode
1132: Function GetFontsFolder : string
1133: Function GetFormulaValue( const Formula : string) : Extended
1134: Function GetFreePageFileMemory : Integer
1135: Function GetFreePhysicalMemory : Integer
1136: Function GetFreeSystemResources( const ResourceType : TFreeSysResKind) : Integer;
1137: Function GetFreeSystemResources1 : TFreeSystemResources;
1138: Function GetFreeVirtualMemory : Integer
```

```
1139: Function GetFromClipboard : Boolean
1140: Function GetFullURI( const AOptionalFileds : TIdURIOptionalFieldsSet) : String
1141: Function GetGBitmap( Value : TBitmap) : TBitmap
1142: Function GetGMTDateByName( const AFileName : TIdFileName) : TDateTime
1143: Function GetGroupState( Level : Integer) : TGroupPosInds
1144: Function GetHandle : HWND
1145: Function GETHELPCONTEXT( VALUE : INTEGER; BYCOMMAND : BOOLEAN) : THELPCONTEXT
1146: Function GetHexArray(ahexdig: THexArray): THexArray;
1147: Function GetHighLightColor( const Color : TColor; Luminance : Integer) : TColor
1148: function GetHINSTANCE: longword;
1149: Function GetHistoryFolder : string
1150: Function GetHitTestInfoAt( X, Y : Integer) : THitTests
1151: function getHMODULE: longword;
1152: Function GetHostByName(const AComputerName: String): String;
1153: Function GetHostName : string
1154: Function getHostIP: string;
1155: Function GetHotSpot : TPoint
1156: Function GetHueBitmap( Value : TBitmap) : TBitmap
1157: Function GetImageBitmap : HBITMAP
1158: Function GETIMAGELIST : TCUSTOMIMAGELIST
1159: Function GetIncome( const aNetto : Currency) : Currency
1160: Function GetIncome( const aNetto : Extended) : Extended
1161: Function GetIncome( const aNetto : Extended): Extended
1162: Function GetIncome(const aNetto : Extended) : Extended
1163: function GetIncome(const aNetto: Currency): Currency
1164: Function GetIncome2( const aNetto : Currency) : Currency
1165: Function GetIncome2( const aNetto : Currency): Currency
1166: Function getIndex_Attrs( tag : string; var idx : Integer; var Attrs : string) : string
1167: Function GETINDEXFORFIELDS( const FIELDS : String; CASEINSENSITIVE : BOOLEAN) : TINDEXDEF
1168: Function GetIndexForOrderBy( const SQL : WideString; DataSet : TDataSet) : TIndexDef
1169: Function GetInstRes(Instance:THandle;ResType:TResType;const
      Name:string;Width:Integer;LoadFlags:TLoadResources;MaskColor:TColor):Boolean;
1170: Function
      GetInstRes1(Instance:THandle;ResType:TResType;ResID:DWORD;Width:Int;LoadFlags:TLoadResources;MaskColor:TColor):Bool;
1171: Function GetIntelCacheDescription( const D : Byte) : string
1172: Function GetInteractiveUserName : string
1173: Function GetInternetCacheFolder : string
1174: Function GetInternetFormattedFileTimeStamp( const AFilename : String) : String
1175: Function GetIPAddress( const HostName : string) : string
1176: Function GetIP( const HostName : string) : string
1177: Function GetIPHostByName(const AComputerName: String): String;
1178: Function GetIsAdmin: Boolean;
1179: Function GetItem( X, Y : Integer) : LongInt
1180: Function GetItemAt( X, Y : Integer) : TListItem
1181: Function GetItemHeight(Font: TFont): Integer;
1182: Function GetItemPath( Index : Integer) : string
1183: Function GetKeyFieldNames( List : TStrings) : Integer;
1184: Function GetKeyFieldNames1( List : TWideStrings) : Integer;
1185: Function GetKeyState( const VirtualKey : Cardinal) : Boolean
1186: Function GetLastChild : LongInt
1187: Function GetLastChild : TTreeNode
1188: Function GetLastDelimitedToken( const cDelim : char; const cStr : string) : string
1189: function GetLastError: Integer
1190: Function GetLAT_CONV_FACTOR: double;  //for WGS84 power(1 - 1 / 298.257223563, 2);
1191: Function GetLinesCount(sFileName : String): Integer;
1192: Function GetLoader( Ext : string) : TBitmapLoader
1193: Function GetLoadFilter : string
1194: Function GetLocalComputerName : string
1195: Function GetLocaleChar( Locale, LocaleType : Integer; Default : Char) : Char
1196: Function GetLocaleStr( Locale, LocaleType : Integer; Default : string) : string
1197: Function GetLocalUserName : string
1198: Function GetLoginUsername : WideString
1199: function getLongDayNames: string)
1200: Function GetLongHint(const hint: string): string
1201: function getLongMonthNames: string)
1202: Function GetMacAddresses( const Machine : string; const Addresses : TStrings) : Integer
1203: Function GetMainAppWndFromPid( PID : DWORD) : HWND
1204: Function GetMapX(C_form,apath: string; const Data: string): boolean; //c_form: [html/json/xml]
1205: //if GetMAPX('html',ExePath+'cologne2mapX.html','cathedral cologne') then
1206: Procedure GetGEOMap(C_form,apath: string; const Data: string);
1207: Function GetMapXGeoReverse(C_form: string; const lat,long: string): string;
1208: //if GetMapXGeoReverse('XML',topPath,'47.0397826','7.62914761277888') then
1209: Function GetGeoCode(C_form,apath: string; const data: string; sfile: boolean): string;
1210: Function GetMaskBitmap : HBITMAP
1211: Function GetMaxAppAddress : Integer
1212: Function GetMciErrorMessage( const MciErrNo : MCIERROR) : string
1213: Function GetMemoryLoad : Byte
1214: Function GetMIMEDefaultFileExt( const MIMEType : string) : TIdFileName
1215: Function GetMIMETypeFromFile( const AFile : string) : string
1216: Function GetMIMETypeFromFile( const AFile : TIdFileName) : string
1217: Function GetMinAppAddress : Integer
1218: Function GetModule : TComponent
1219: Function GetModuleHandle( ModuleName : PChar) : HMODULE
1220: Function GetModuleName( Module : HMODULE) : string
1221: Function GetModulePath( const Module : HMODULE) : string
1222: Function GetModuleFileName(Module: Integer; Filename: PChar;Size: Integer): Integer; stdcall;
1223: Function GetMorseID(InChar : Char): Word;');
1224: Function GetMorseString2(InChar : Char): string;');
1225: Function GetMorseLine(dots: boolean): string;');  //whole table!  {1 or dots}
```

```
1226: Function GetMorseTable(dots: boolean): string;');  //whole table!
1227: Function GetMorseSign(InChar : Char): string;');
1228: Function GetCommandLine: PChar; stdcall;
1229: Function GetMonochromeBitmap( Value : TBitmap) : TBitmap
1230: Function GetMultiN(aval: integer): string;
1231: Function GetName : String
1232: Function GetNearestItem( Point : TPoint; Direction : TSearchDirection) : TListItem
1233: Function GetNethoodFolder : string
1234: Function GetNext : TTreeNode
1235: Function GetNextChild( Value : LongInt) : LongInt
1236: Function GetNextChild( Value : TTreeNode) : TTreeNode
1237: Function GetNextDelimitedToken( const cDelim : char; var cStr : String) : String
1238: Function GetNextItem( StartItem: TListItem;Direction:TSearchDirection;States:TItemStates) : TListItem
1239: Function GetNextPacket : Integer
1240: Function getNextSibling : TTreeNode
1241: Function GetNextVisible : TTreeNode
1242: Function GetNode( ItemId : HTreeItem) : TTreeNode
1243: Function GetNodeAt( X, Y : Integer) : TTreeNode
1244: Function GetNodeDisplayWidth( Node : TOutlineNode) : Integer
1245: function GetNumberOfProcessors: longint;
1246: Function GetNumLockKeyState : Boolean
1247: Function GetObjectProperty( Instance : TPersistent; const PropName : string) : TObject
1248: Function GetOnlyTransitionOn( cChar : char) : TniRegularExpressionState
1249: Function GetOptionalParam( const ParamName : string) : OleVariant
1250: Function GetOSName: string;
1251: Function GetOSVersion: string;
1252: Function GetOSNumber: string;
1253: Function GetOsVersionInfo: TOSVersionInfo;      //thx to wischnewski
1254: Function GetPackageModuleHandle( PackageName : PChar) : HMODULE
1255: function GetPageSize: Cardinal;
1256: Function GetParameterFileName : string
1257: Function GetParams( var OwnerData : OleVariant) : OleVariant
1258: Function GETPARENTCOMPONENT : TCOMPONENT
1259: Function GetParentForm(control: TControl): TForm
1260: Function GETPARENTMENU : TMENU
1261: Function GetPassword : Boolean
1262: Function GetPassword : string
1263: Function GetPersonalFolder : string
1264: Function GetPidFromProcessName( const ProcessName : string) : DWORD
1265: function getPI: extended;        //of const PI math
1266: Function GetPosition : TPoint
1267: Function GetPrev : TTreeNode
1268: Function GetPrevChild( Value : LongInt) : LongInt
1269: Function GetPrevChild( Value : TTreeNode) : TTreeNode
1270: Function getPrevSibling : TTreeNode
1271: Function GetPrevVisible : TTreeNode
1272: Function GetPrinthoodFolder : string
1273: Function GetPrivilegeDisplayName( const PrivilegeName : string) : string
1274: Function getProcessList: TStrings;
1275: Function GetProcessId : TIdPID
1276: Function GetProcessNameFromPid( PID : DWORD) : string
1277: Function GetProcessNameFromWnd( Wnd : HWND) : string
1278: Function GetProcessMemoryInfo(Process: THandle;ppsmemCounters: TProcessMemoryCounters;cb: DWORD):BOOL
1279: Function getProcessAllMemory(ProcessID : DWORD): TProcessMemoryCounters;
1280: Function getProcessMemoryInfo2(ProcessID : DWORD): TProcessMemoryCounters;
1281: Function GetProgramFilesFolder : string
1282: Function GetProgramsFolder : string
1283: Function GetProxy : string
1284: Function GetQuoteChar : WideString
1285: Function GetQrCode4(Width,Height:Word; Correct_Level:string;const
      Data:string;aformat:string):TLinearBitmap;
1286: Function GetQrCodetoFile(Width,Height:Word;Correct_Level:string;const
      Data:string;aformat:string):TLinearBitmap;
1287: Function GetRate : Double
1288: Function getPerfTime: string;
1289: Function getRuntime: string;
1290: Function GetRBitmap( Value : TBitmap) : TBitmap
1291: Function GetReadableName( const AName : string) : string
1292: Function GetRecentDocs : TStringList
1293: Function GetRecentFolder : string
1294: Function GetRecords( Count : Integer; out RecsOut : Integer; Options : Integer) : OleVariant;
1295: Function GetRecords1(Count:Integer; out RecsOut:Integer;Options:Integer;const CommandText:WideString;var
      Params, OwnerData : OleVariant) : OleVariant;
1296: Function GetRecordset( const CommandText : WideString; ConnectionString : WideString) : _Recordset
1297: Function GetRegisteredCompany : string
1298: Function GetRegisteredOwner : string
1299: Function GetResource(ResType:TResType;const
      Name:string;Width:Int;LoadFlags:TLoadResources;MaskColor:TColor:Bool
1300: Function GetResourceName( ObjStream : TStream; var AName : string) : Boolean
1301: Function GetResponse( const AAllowedResponses : array of SmallInt) : SmallInt;
1302: Function GetResponse1( const AAllowedResponse : SmallInt) : SmallInt;
1303: Function GetRValue( rgb : DWORD) : Byte
1304: Function GetGValue( rgb : DWORD) : Byte
1305: Function GetBValue( rgb : DWORD) : Byte
1306: Function GetCValue( cmyk : COLORREF) : Byte
1307: Function GetMValue( cmyk : COLORREF) : Byte
1308: Function GetYValue( cmyk : COLORREF) : Byte
1309: Function GetKValue( cmyk : COLORREF) : Byte
1310: Function CMYK( c, m, y, k : Byte) : COLORREF
```

```
1311: Procedure GetScreenShot(var ABitmap : TBitmap);
1312: Function GetOSName: string;
1313: Function GetProcAddress( hModule : HMODULE; lpProcName : LPCSTR) : FARPROC
1314: Function GetProcAddress(Module : HMODULE; Proc : PChar): Dword
1315: Function GetSafeCallExceptionMsg : String
1316: Function GetSaturationBitmap( Value : TBitmap) : TBitmap
1317: Function GetSaveFilter : string
1318: Function GetSaver( Ext : string) : TBitmapLoader
1319: Function GetScrollLockKeyState : Boolean
1320: Function GetSearchString : string
1321: Function GetSelections( AList : TList) : TTreeNode
1322: function GETSELTEXTBUF(BUFFER:PCHAR;BUFSIZE:INTEGER):INTEGER
1323: Function GetSendToFolder : string
1324: Function GetServer : IAppServer
1325: Function GetServerList : OleVariant
1326: Function GetShadowColor( const Color : TColor; Luminance : Integer) : TColor
1327: Function GetShellProcessHandle : THandle
1328: Function GetShellProcessName : string
1329: Function GetShellVersion : Cardinal
1330: function getShortDayNames: string)
1331: Function GetShortHint(const hint: string): string
1332: function getShortMonthNames: string)
1333: Function GetSizeOfFile( const FileName : string) : Int64;
1334: Function GetSizeOfFile1( Handle : THandle) : Int64;
1335: Function GetStdHandle(nStdHandle: Integer): Integer; stdcall;
1336: Function GetStartmenuFolder : string
1337: Function GetStartupFolder : string
1338: Function GetStringProperty( Instance : TPersistent; const PropName : string) : WideString
1339: Function GetSuccessor( cChar : char) : TniRegularExpressionState
1340: Function GetSwapFileSize : Integer
1341: Function GetSwapFileUsage : Integer
1342: Function GetSystemLocale : TIdCharSet
1343: Function GetSystemMetrics( nIndex : Integer) : Integer
1344: Function GetSystemPathSH(Folder: Integer): TFilename ;
1345: Function GetTableNameFromQuery( const SQL : Widestring) : Widestring
1346: Function GetTableNameFromSQL( const SQL : WideString) : WideString
1347: Function GetTableNameFromSQLEx( const SQL : WideString; IdOption : IDENTIFIEROption) : WideString
1348: Function GetTasksList( const List : TStrings) : Boolean
1349: Function getTeamViewerID: string;
1350: Function GetTemplatesFolder : string
1351: Function GetText : PwideChar
1352: function GetText:PChar
1353: Function GetTextBuf( Buffer : PChar; BufSize : Integer) : Integer
1354: function GETTEXTBUF(BUFFER:PCHAR;BUFSIZE:INTEGER):INTEGER
1355: Function GetTextItem( const Value : string) : Longint
1356: function GETTEXTLEN:INTEGER
1357: Function GetThreadLocale: Longint; stdcall
1358: Function GetCurrentThreadID: LongWord; stdcall;
1359: Function GetTickCount : Cardinal
1360: Function GetTickDiff( const AOldTickCount, ANewTickCount : Cardinal) : Cardinal
1361: Function GetTicketNr : longint
1362: Function GetTime : Cardinal
1363: Function GetTime : TDateTime
1364: Function GetTimeout : Integer
1365: Function GetTimeStr: String
1366: Function GetTimeString: String
1367: Function GetTodayFiles(startdir, amask: string): TStringlist;
1368: Function getTokenCounts : integer
1369: Function GetTotalPageFileMemory : Integer
1370: Function GetTotalPhysicalMemory : Integer
1371: Function GetTotalVirtualMemory : Integer
1372: Function GetUniqueFileName( const APath, APrefix, AExt : String) : String
1373: Function GetUseNowForDate : Boolean
1374: Function GetUserDomainName( const CurUser : string) : string
1375: Function GetUserName : string
1376: Function GetUserName: string;
1377: Function GetUserObjectName( hUserObject : THandle) : string
1378: Function GetValueBitmap( Value : TBitmap) : TBitmap
1379: Function GetValueMSec : Cardinal
1380: Function GetValueStr : String
1381: Function GetVersion: int;
1382: Function GetVersionString(FileName: string): string;
1383: Function getVideoDrivers: string;
1384: Function GetVisibleNode( Index : LongInt) : TOutlineNode
1385: Function GetVolumeFileSystem( const Drive : string) : string
1386: Function GetVolumeName( const Drive : string) : string
1387: Function GetVolumeSerialNumber( const Drive : string) : string
1388: Function GetWebAppServices : IWebAppServices
1389: Function GetWebRequestHandler : IWebRequestHandler
1390: Function GetWindowCaption( Wnd : HWND) : string
1391: Function GetWindowDC(hdwnd: HWND): HDC;
1392: Function GetWindowIcon( Wnd : HWND; LargeIcon : Boolean) : HICON
1393: Function GetWindowRect(hwnd: HWND; arect: TRect): Boolean
1394: Function GetWindowsComputerID : string
1395: function GetWindowsDirectory(lpBuffer: PChar; uSize: longword): longword;
1396: Function GetWindowsFolder : string
1397: Function GetWindowsServicePackVersion : Integer
1398: Function GetWindowsServicePackVersionString : string
1399: Function GetWindowsSystemFolder : string
```

```
1400: Function GetWindowsTempFolder : string
1401: Function GetWindowsUserID : string
1402: Function GetWindowsVersion : TWindowsVersion
1403: Function GetWindowsVersionString : string
1404: Function GmtOffsetStrToDateTime( S : string) : TDateTime
1405: Function GMTToLocalDateTime( S : string) : TDateTime
1406: Function GotoKey : Boolean
1407: Function GradToCycle( const Grads : Extended) : Extended
1408: Function GradToDeg( const Grads : Extended) : Extended
1409: Function GradToDeg( const Value : Extended) : Extended;
1410: Function GradToDeg1( const Value : Double) : Double;
1411: Function GradToDeg2( const Value : Single) : Single;
1412: Function GradToRad( const Grads : Extended) : Extended
1413: Function GradToRad( const Value : Extended) : Extended;
1414: Function GradToRad1( const Value : Double) : Double;
1415: Function GradToRad2( const Value : Single) : Single;
1416: Function Gray32( const Intensity : Byte; const Alpha : Byte) : TColor32
1417: Function GreenComponent( const Color32 : TColor32) : Integer
1418: function GUIDToString(const GUID: TGUID): string)
1419: Function HandleAllocated : Boolean
1420: function HandleAllocated: Boolean;
1421: Function HandleRequest : Boolean
1422: Function HandleRequest( Request : TWebRequest; Response : TWebResponse) : Boolean
1423: Function HarmonicMean( const X : TDynFloatArray) : Float
1424: Function HasAsParent( Value : TTreeNode) : Boolean
1425: Function HASCHILDDEFS : BOOLEAN
1426: Function HasCurValues : Boolean
1427: Function HasExtendCharacter( const s : UTF8String) : Boolean
1428: Function HasFormat( Format : Word) : Boolean
1429: Function HashValue( AStream : TStream) : T5x4LongWordRecord;
1430: Function HashValue(AStream : TStream) : T4x4LongWordRecord
1431: Function HashValue(AStream: TStream): LongWord
1432: Function HashValue(AStream: TStream): Word
1433: Function HashValue1( AStream : TStream; const ABeginPos, AEndPos : Int64) : T5x4LongWordRecord;
1434: Function HashValue1(AStream : TStream): T4x4LongWordRecord
1435: Function HashValue128(const ASrc: string): T4x4LongWordRecord;
1436: Function HashValue128Stream(AStream: TStream): T4x4LongWordRecord;
1437: Function HashValue16( const ASrc : string) : Word;
1438: Function HashValue16stream( AStream : TStream) : Word;
1439: Function HashValue32( const ASrc : string) : LongWord;
1440: Function HashValue32Stream( AStream : TStream) : LongWord;
1441: Function HasMergeConflicts : Boolean
1442: Function hasMoreTokens : boolean
1443: Function HASPARENT : BOOLEAN
1444: function HasParent: Boolean
1445: Function HasTransaction( Transaction : TDBXTransaction) : Boolean
1446: Function HasUTF8BOM( S : TStream) : boolean;
1447: Function HasUTF8BOM1( S : AnsiString) : boolean;
1448: Function Haversine( X : Float) : Float
1449: Function Head( s : string; const subs : string; var tail : string) : string
1450: function HELPCOMMAND(COMMAND:INTEGER;DATA:LONGINT):BOOLEAN
1451: function HELPCONTEXT(CONTEXT:THELPCONTEXT):BOOLEAN
1452: function HELPJUMP(JUMPID:STRING):BOOLEAN
1453: Function HeronianMean( const a, b : Float) : Float
1454: function HexStrToStr(Value: string): string;
1455: function HexToBin(Text,Buffer:PChar; BufSize:Integer):Integer;
1456: function HexToBin2(HexNum: string): string;
1457: Function HexToDouble( const Hex : string) : Double
1458: function HexToInt(hexnum: string): LongInt;
1459: function HexToStr(Value: string): string;
1460: Function HexifyBlock( var Buffer, BufferSize : Integer) : string
1461: function Hi(vdat: word): byte;
1462: function HiByte(W: Word): Byte)
1463: function High: Int64;
1464: Function HighlightCell(DataCol,DataRow: Integer; const Value:string; AState:TGridDrawState): Boolean
1465: function HINSTANCE: longword;
1466: function HiWord(l: DWORD): Word)
1467: function HMODULE: longword;
1468: Function HourOf( const AValue : TDateTime) : Word
1469: Function HourOfTheDay( const AValue : TDateTime) : Word
1470: Function HourOfTheMonth( const AValue : TDateTime) : Word
1471: Function HourOfTheWeek( const AValue : TDateTime) : Word
1472: Function HourOfTheYear( const AValue : TDateTime) : Word
1473: Function HoursBetween( const ANow, AThen : TDateTime) : Int64
1474: Function HourSpan( const ANow, AThen : TDateTime) : Double
1475: Function HSLToRGB1( const H, S, L : Single) : TColor32;
1476: Function HTMLDecode( const AStr : String) : String
1477: Function HTMLEncode( const AStr : String) : String
1478: Function HTMLEscape( const Str : string) : string
1479: Function HtmlTable( DataSet : TDataSet; DataSetHandler : TDSTableProducer; MaxRows : Integer) : string
1480: Function HTTPDecode( const AStr : String) : string
1481: Function HTTPEncode( const AStr : String) : string
1482: Function Hypot( const X, Y : Extended) : Extended
1483: Function IBMax( n1, n2 : Integer) : Integer
1484: Function IBMin( n1, n2 : Integer) : Integer
1485: Function IBRandomString( iLength : Integer) : String
1486: Function IBRandomInteger( iLow, iHigh : Integer) : Integer
1487: Function IBStripString( st : String; CharsToStrip : String) : String
1488: Function IBFormatIdentifier( Dialect : Integer; Value : String) : String
```

```
1489: Function IBFormatIdentifierValue( Dialect : Integer; Value : String) : String
1490: Function IBExtractIdentifier( Dialect : Integer; Value : String) : String
1491: Function IBQuoteIdentifier( Dialect : Integer; Value : String) : String
1492: Function IBAddIBParamSQLForDetail(Params:TParams;SQL:string;Native:Boolean;Dialect:Integer):string
1493: Procedure IBDecomposeDatabaseName(DatabaseName:String;var ServerName,Protocol,DatabasePath:String)
1494:  Function RandomString( iLength : Integer) : String');
1495:  Function RandomInteger( iLow, iHigh : Integer) : Integer');
1496:  Function StripString( st : String; CharsToStrip : String) : String');
1497:  Function FormatIdentifier( Dialect : Integer; Value : String) : String');
1498:  Function FormatIdentifierValue( Dialect : Integer; Value : String) : String');
1499:  Function ExtractIdentifier( Dialect : Integer; Value : String) : String');
1500:  Function QuoteIdentifier( Dialect : Integer; Value : String) : String');
1501:  Function AddIBParamSQLForDetail(Params:TParams;SQL:string;Native:Boolean;Dialect:Integer):string;
1502:  Procedure DecomposeDatabaseName(DatabaseName:String;var ServerName,Protocol,DatabasePath:String;
1503:  function NextSQLToken(var p: PChar; var Token: String; CurSection: TSQLToken): TSQLToken;
1504: Function IconToBitmap( Ico : HICON) : TBitmap
1505: Function IconToBitmap2( Ico : HICON; Size : Integer; TransparentColor : TColor) : TBitmap
1506: Function IconToBitmap3( Ico : HICON; Size : Integer; TransparentColor : TColor) : TBitmap
1507: function IdentToCharset(const Ident: string; var Charset: Longint): Boolean)
1508: function IdentToColor(const Ident: string; var Color: Longint): Boolean)
1509: function IdentToCursor(const Ident: string; var cursor: Longint): Boolean;
1510: Function IdGetDefaultCharSet : TIdCharSet
1511: function IDispatchInvoke(Self:IDispatch;ProperSet:Boolean;const Name:String;Par:array of variant):variant
1512: Function IdPorts2 : TStringList
1513: Function IdToMib( const Id : string) : string
1514: Function IdSHA1Hash(apath: string): string;
1515: Function IdHashSHA1(apath: string): string;
1516: Function IfStr( const bCondition : boolean; const sTrue : string; const sFalse : string) : string
1517: Function IfThen( AValue : Boolean; const ATrue : string; AFalse : string) : string;
1518: Function IfThenInt( AValue : Boolean; const ATrue : integer; AFalse : integer): integer;');
1519: Function IfThenDouble( AValue : Boolean; const ATrue : double; AFalse : double): double;');
1520: Function IfThenBool( AValue : Boolean; const ATrue : boolean; AFalse : boolean): boolean;');
1521: Function iif1( ATest : Boolean; const ATrue : Integer; const AFalse : Integer) : Integer;
1522: Function iif2( ATest : Boolean; const ATrue : string; const AFalse : string) : string;
1523: Function iif3( ATest : Boolean; const ATrue : Boolean; const AFalse : Boolean) : Boolean;
1524: function ImportTest(S1: string;s2:longint; s3:Byte; s4:word; var s5:string): string;
1525: Function IncDay( const AValue : TDateTime; const ANumberOfDays : Integer) : TDateTime
1526: Function IncHour( const AValue : TDateTime; const ANumberOfHours : Int64) : TDateTime
1527: Function IncLimit( var B : Byte; const Limit : Byte; const Incr : Byte) : Byte;
1528: Function IncLimit1( var B : Shortint; const Limit : Shortint; const Incr : Shortint) : Shortint;
1529: Function IncLimit2( var B : Smallint; const Limit : Smallint; const Incr : Smallint) : Smallint;
1530: Function IncLimit3( var B : Word; const Limit : Word; const Incr : Word) : Word;
1531: Function IncLimit4( var B : Integer; const Limit : Integer; const Incr : Integer) : Integer;
1532: Function IncLimit5( var B : Cardinal; const Limit : Cardinal; const Incr : Cardinal) : Cardinal;
1533: Function IncLimit6( var B : Int64; const Limit : Int64; const Incr : Int64) : Int64;
1534: Function IncLimitClamp( var B : Byte; const Limit : Byte; const Incr : Byte) : Byte;
1535: Function IncLimitClamp1( var B : Shortint; const Limit : Shortint; const Incr : Shortint) : Shortint;
1536: Function IncLimitClamp2( var B : Smallint; const Limit : Smallint; const Incr : Smallint) : Smallint;
1537: Function IncLimitClamp3( var B : Word; const Limit : Word; const Incr : Word) : Word;
1538: Function IncLimitClamp4( var B : Integer; const Limit : Integer; const Incr : Integer) : Integer;
1539: Function IncLimitClamp5( var B : Cardinal; const Limit : Cardinal; const Incr : Cardinal) : Cardinal;
1540: Function IncLimitClamp6( var B : Int64; const Limit : Int64; const Incr : Int64) : Int64;
1541: Function IncludeTrailingBackslash( S : string) : string
1542: function IncludeTrailingBackslash(const S: string): string)
1543: Function IncludeTrailingPathDelimiter( const APath : string) : string
1544: Function IncludeTrailingPathDelimiter( S : string) : string
1545: function IncludeTrailingPathDelimiter(const S: string): string)
1546: Function IncludeTrailingSlash( const APath : string) : string
1547: Function IncMilliSecond( const AValue : TDateTime; const ANumberOfMilliSeconds : Int64) : TDateTime
1548: Function IncMinute( const AValue : TDateTime; const ANumberOfMinutes : Int64) : TDateTime
1549: Function IncMonth( DateTime : TDateTime; NumberOfMonths : Integer) : TDateTime
1550: function IncMonth(const DateTime: TDateTime; NumberOfMonths: Integer): TDateTime)
1551: Function IncSecond( const AValue : TDateTime; const ANumberOfSeconds : Int64) : TDateTime
1552: Function IncWeek( const AValue : TDateTime; const ANumberOfWeeks : Integer) : TDateTime
1553: Function IncYear( const AValue : TDateTime; const ANumberOfYears : Integer) : TDateTime
1554: Function IndexOf( AClass : TClass) : Integer
1555: Function IndexOf( AComponent : TComponent) : Integer
1556: Function IndexOf( AObject : TObject) : Integer
1557: Function INDEXOF( const ANAME : String) : INTEGER
1558: Function IndexOf( const DisplayName : string) : Integer
1559: Function IndexOf( const Item : TBookmarkStr) : Integer
1560: Function IndexOf( const S : WideString) : Integer
1561: Function IndexOf( const View : TJclFileMappingView) : Integer
1562: Function INDEXOF( FIELD : TFIELD) : INTEGER
1563: Function IndexOf( ID : LCID) : Integer
1564: Function INDEXOF( ITEM : TMENUITEM) : INTEGER
1565: Function IndexOf( Value : TListItem) : Integer
1566: Function IndexOf( Value : TTreeNode) : Integer
1567: function IndexOf(const S: string): Integer;
1568: Function IndexOfName( const Name : WideString) : Integer
1569: function IndexOfName(Name: string): Integer;
1570: Function IndexOfObject( AObject : TObject) : Integer
1571: function IndexofObject(AObject:tObject):Integer
1572: Function IndexOfTabAt( X, Y : Integer) : Integer
1573: Function IndexStr( const AText : string; const AValues : array of string) : Integer
1574: Function IndexText( const AText : string; const AValues : array of string) : Integer
1575: Function IndexOfInteger( AList : TStringList; Value : Variant) : Integer
1576: Function IndexOfFloat( AList : TStringList; Value : Variant) : Integer
1577: Function IndexOfDate( AList : TStringList; Value : Variant) : Integer
```

```
1578: Function IndexOfString( AList : TStringList; Value : Variant) : Integer
1579: Function IndyCompareStr( const A1 : string; const A2 : string) : Integer
1580: Function IndyGetHostName : string
1581: Function IndyInterlockedDecrement( var I : Integer) : Integer
1582: Function IndyInterlockedExchange( var A : Integer; B : Integer) : Integer
1583: Function IndyInterlockedExchangeAdd( var A : Integer; B : Integer) : Integer
1584: Function IndyInterlockedIncrement( var I : Integer) : Integer
1585: Function IndyLowerCase( const A1 : string) : string
1586: Function IndyStrToBool( const AString : String) : Boolean
1587: Function IndyUpperCase( const A1 : string) : string
1588: Function InitCommonControl( CC : Integer) : Boolean
1589: Function InitTempPath : string
1590: Function InMainThread : boolean
1591: Function inOpArray( W : WideChar; sets : array of WideChar) : boolean
1592: Function Input: Text)
1593: Function InputBox( const ACaption, APrompt, ADefault : string) : string
1594: function InputBox(const ACaption: string; const APrompt: string; const ADefault: string): string)
1595: Function InputLn(const AMask: string; AEcho:Boolean;ATabWidth:Integer;AMaxLineLength:Integer): string
1596: Function InputQuery( const ACaption, APrompt : string; var Value : string) : Boolean
1597: function InputQuery(const ACaption: string; const APrompt: string; var Value: string): Boolean)
1598: Function InquireSignal( RtlSigNum : Integer) : TSignalState
1599: Function InRangeR( const A, Min, Max : Double) : Boolean
1600: function Insert( Index : Integer) : TCollectionItem
1601: Function Insert( Index : Integer) : TComboExItem
1602: Function Insert( Index : Integer) : THeaderSection
1603: Function Insert( Index : Integer) : TListItem
1604: Function Insert( Index : Integer) : TStatusPanel
1605: Function Insert( Index : Integer) : TWorkArea
1606: Function Insert( Index : LongInt; const Text : string) : LongInt
1607: Function Insert( Sibling : TTreeNode; const S : string) : TTreeNode
1608: Function INSERTNEWLINEAFTER( AITEM : TMENUITEM) : INTEGER
1609: Function INSERTNEWLINEBEFORE( AITEM : TMENUITEM) : INTEGER
1610: Function InsertNode( Node, Sibling : TTreeNode; const S : string; Ptr : Pointer) : TTreeNode
1611: Function InsertObject( Index : LongInt; const Text : string; const Data : Pointer) : LongInt
1612: Function InsertObject( Sibling : TTreeNode; const S : string; Ptr : Pointer) : TTreeNode
1613: Function Instance : Longint
1614: function InstanceSize: Longint
1615: Function Int(e : Extended) : Extended;
1616: function Int64ToStr(i: Int64): String;
1617: Function IntegerToBcd( const AValue : Integer) : TBcd
1618: Function Intensity( const Color32 : TColor32) : Integer;
1619: Function Intensity( const R, G, B : Single) : Single;
1620: Function InterestPayment(const Rate:Extended;Period,NPeriods:Integer;const PresentValue,
      FutureValue:Extended; PaymentTime : TPaymentTime) : Extended
1621: Function InterestRate(NPeriods:Integer;const Payment,PresVal,
      FutureVal:Extended;PaymentTime:TPaymentTime):Extended
1622: Function InternalDecodeDate( DateTime : TDateTime; var Year, Month, Day, DOW : Word) : Boolean
1623: Function InternalRateOfReturn( const Guess : Extended; const CashFlows : array of Double) : Extended
1624: Function InternalUpdateRecord( Tree : TUpdateTree) : Boolean
1625: Function IntersectRect( out Rect : TRect; const R1, R2 : TRect) : Boolean
1626: function IntersectRect(out Rect: TRect; const R1, R2: TRect): Boolean)
1627: Function IntMibToStr( const Value : string) : string
1628: Function IntPower( const Base : Extended; const Exponent : Integer) : Extended
1629: Function IntToBin( Value : cardinal) : string
1630: Function IntToHex( Value : Integer; Digits : Integer) : string;
1631: function IntToHex(a: integer; b: integer): string;
1632: Function IntToHex64( Value : Int64; Digits : Integer) : string;
1633: function IntToHex64(Value: Int64; Digits: Integer): string)
1634: Function IntTo3Str( Value : Longint; separator: string) : string
1635: Function inttobool( aInt : LongInt) : Boolean
1636: function IntToStr(i: Int64): String;
1637: Function IntToStr64(Value: Int64): string)
1638: function IOResult: Integer
1639: Function IPv6AddressToStr(const AValue: TIdIPv6Address): string
1640: function IPAddrToHostName(const IP: string): string;
1641: Function IsAccel(VK: Word; const Str: string): Boolean
1642: Function IsAddressInNetwork( Address : String) : Boolean
1643: Function IsAdministrator : Boolean
1644: Function IsAlias( const Name : string) : Boolean
1645: Function IsApplicationRunning( const AClassName, ApplName : string) : Boolean
1646: Function IsASCII( const AByte : Byte) : Boolean;
1647: Function IsASCIILDH( const AByte : Byte) : Boolean;
1648: Function IsAssembly(const FileName: string): Boolean;
1649: Function IsBcdNegative( const Bcd : TBcd) : Boolean
1650: Function IsBinary(const AChar : Char) : Boolean
1651: function IsConsole: Boolean)
1652: Function IsDelimiter( Delimiters, S : string; Index : Integer) : Boolean
1653: function IsDelimiter(const Delimiters: string; const S: string; Index: Integer): Boolean)
1654: Function IsDelphiDesignMode : boolean
1655: Function IsDelphiRunning : boolean
1656: Function IsDFAState : boolean
1657: Function IsDirectory( const FileName : string) : Boolean
1658: Function IsDomain( const S : String) : Boolean
1659: function IsDragObject(Sender: TObject): Boolean;
1660: Function IsEditing : Boolean
1661: Function ISEMPTY : BOOLEAN
1662: Function IsEqual( Value : TParameters) : Boolean
1663: Function ISEQUAL( VALUE : TPARAMS) : BOOLEAN
1664: function IsEqualGUID(const guid1, guid2: TGUID): Boolean)
```

```
1665: Function IsFirstNode : Boolean
1666: Function IsFloatZero( const X : Float) : Boolean
1667: Function IsFormatRegistered( Extension, AppID : string) : Boolean
1668: Function IsFormOpen(const FormName: string): Boolean;
1669: Function IsFQDN( const S : String) : Boolean
1670: Function IsGrayScale : Boolean
1671: Function IsHex( AChar : Char) : Boolean;
1672: Function IsHexString(const AString: string): Boolean;
1673: Function IsHostname( const S : String) : Boolean
1674: Function IsInfinite( const AValue : Double) : Boolean
1675: Function IsInLeapYear( const AValue : TDateTime) : Boolean
1676: Function IsInternet: boolean;
1677: Function IsLeadChar( ACh : Char) : Boolean
1678: Function IsLeapYear( Year : Word) : Boolean
1679: function IsLeapYear(Year: Word): Boolean)
1680: function IsLibrary: Boolean)
1681: Function ISLINE : BOOLEAN
1682: Function IsLinkedTo( DataSet : TDataSet) : Boolean
1683: Function ISLINKEDTO( DATASOURCE : TDATASOURCE) : BOOLEAN
1684: Function IsLiteralChar( const EditMask : string; Offset : Integer) : Boolean
1685: Function IsMatch( const Pattern, Text : string) : Boolean  //Grep like RegEx
1686: Function IsMainAppWindow( Wnd : HWND) : Boolean
1687: Function IsMediaPresentInDrive( Drive : Char) : Boolean
1688: function IsMemoryManagerSet: Boolean)
1689: Function IsMultiTableQuery( const SQL : WideString) : Boolean
1690: function IsMultiThread: Boolean)
1691: Function IsNumeric( AChar : Char) : Boolean;
1692: Function IsNumeric2( const AString : string) : Boolean;
1693: Function IsNTFS: Boolean;
1694: Function IsOctal( AChar : Char) : Boolean;
1695: Function IsOctalString(const AString: string) : Boolean;
1696: Function IsPathDelimiter( S : string; Index : Integer) : Boolean
1697: function IsPathDelimiter(const S: string; Index: Integer): Boolean)
1698: Function IsPM( const AValue : TDateTime) : Boolean
1699: Function IsPositiveFloatArray( const X : TDynFloatArray) : Boolean
1700: Function IsPortAvailable( ComNum : Cardinal) : Boolean');
1701: Function IsCOMPortReal( ComNum : Cardinal) : Boolean');
1702: Function IsCOM( ComNum : Cardinal) : Boolean');
1703: Function IsCOMPort: Boolean');
1704: Function IsPrimeFactor( const F, N : Cardinal) : Boolean
1705: Function IsPrimeRM( N : Cardinal) : Boolean  //rabin miller
1706: Function IsPrimeTD( N : Cardinal) : Boolean  //trial division
1707: Function IsPrivilegeEnabled( const Privilege : string) : Boolean
1708: Function ISqrt( const I : Smallint) : Smallint
1709: Function IsReadOnly(const Filename: string): boolean;
1710: Function IsRectEmpty( const Rect : TRect) : Boolean
1711: function IsRectEmpty(const Rect: TRect): Boolean)
1712: Function IsRelativePrime( const X, Y : Cardinal) : Boolean
1713: Function ISRIGHTTOLEFT : BOOLEAN
1714: function IsRightToLeft: Boolean
1715: Function IsSameDay( const AValue, ABasis : TDateTime) : Boolean
1716: Function ISSEQUENCED : BOOLEAN
1717: Function IsSystemModule( const Module : HMODULE) : Boolean
1718: Function IsSystemResourcesMeterPresent : Boolean
1719: Function IsTCPPortOpen(dwPort : Word; ipAddressStr: String): boolean;
1720: Function IsToday( const AValue : TDateTime) : Boolean
1721: function IsToday(const AValue: TDateTime): Boolean;
1722: Function IsTopDomain( const AStr : string) : Boolean
1723: Function IsUTF8LeadByte( Lead : Char) : Boolean
1724: Function IsUTF8String( const s : UTF8String) : Boolean
1725: Function IsUTF8TrailByte( Lead : Char) : Boolean
1726: Function ISVALIDCHAR( INPUTCHAR : CHAR) : BOOLEAN
1727: Function IsValidDate( const AYear, AMonth, ADay : Word) : Boolean
1728: Function IsValidDateDay( const AYear, ADayOfYear : Word) : Boolean
1729: Function IsValidDateMonthWeek( const AYear, AMonth, AWeekOfMonth, ADayOfWeek : Word) : Boolean
1730: Function IsValidDateTime(const AYear,AMonth, ADay,AHour,AMinute, ASecond, AMilliSecond: Word): Boolean
1731: Function IsValidDateWeek( const AYear, AWeekOfYear, ADayOfWeek : Word) : Boolean
1732: Function IsValidIdent( Ident : string) : Boolean
1733: function IsValidIdent1(const Ident: string; AllowDots: Boolean): Boolean)
1734: Function IsValidIP( const S : String) : Boolean
1735: Function IsValidTime( const AHour, AMinute, ASecond, AMilliSecond : Word) : Boolean
1736: Function IsValidPNG(stream: TStream): Boolean;
1737: Function IsValidJPEG(stream: TStream): Boolean;
1738: Function IsValidISBN( const ISBN : AnsiString) : Boolean
1739: Function IsVariantManagerSet: Boolean; //deprecated;
1740: Function IsVirtualPcGuest : Boolean;
1741: Function IsVmWareGuest : Boolean;
1742: Function IsVCLControl(Handle: HWnd): Boolean;
1743: Function IsWhiteString( const AStr : String) : Boolean
1744: Function IsWindowResponding( Wnd : HWND; Timeout : Integer) : Boolean
1745: Function IsWoW64: boolean;
1746: Function IsWin64: boolean;
1747: Function IsWow64String(var s: string): Boolean;
1748: Function IsWin64String(var s: string): Boolean;
1749: Function IsWindowsVista: boolean;
1750: Function isPowerof2(num: int64): boolean;
1751: Function powerOf2(exponent: integer): int64;
1752: function IsZero(const A: Extended; Epsilon: Extended): Boolean //overload;
1753: function IsZero1(const A: Double; Epsilon: Double): Boolean //overload;
```

```
1754: function IsZero2(const A: Single; Epsilon: Single): Boolean //overload;
1755: Function ItemAtPos( Pos : TPoint; IgnoreTabHeight : Boolean) : Integer
1756: function ITEMATPOS(POS:TPOINT;EXISTING:BOOLEAN):INTEGER
1757: Function ItemRect( Index : Integer) : TRect
1758: function ITEMRECT(INDEX:INTEGER):TRECT
1759: Function ItemWidth( Index : Integer) : Integer
1760: Function JavahashCode(val: string): Integer;
1761: Function JosephusG(n,k: integer; var graphout: string): integer;
1762: Function JulianDateToDateTime( const AValue : Double) : TDateTime
1763: Function JustName(PathName : string) : string;  //in path and ext
1764: Function JvMessageBox( const Text, Caption : string; Flags : DWORD) : Integer;
1765: Function JvMessageBox1( const Text : string; Flags : DWORD) : Integer;
1766: Function KeepAlive : Boolean
1767: Function KeysToShiftState(Keys: Word): TShiftState;
1768: Function KeyDataToShiftState(KeyData: Longint): TShiftState;
1769: Function KeyboardStateToShiftState2(const KeyboardState: TKeyboardState): TShiftState;
1770: Function KeyboardStateToShiftState: TShiftState; overload;
1771: Function Languages : TLanguages
1772: Function Last : TClass
1773: Function Last : TComponent
1774: Function Last : TObject
1775: Function LastDelimiter( Delimiters, S : string) : Integer
1776: function LastDelimiter(const Delimiters: string; const S: string): Integer)
1777: Function LastPos( const ASubstr : string; const AStr : string) : Integer
1778: Function Latitude2WGS84(lat: double): double;
1779: Function LCM(m,n:longint):longint;
1780: Function LCMJ( const X, Y : Cardinal) : Cardinal
1781: Function Ldexp( const X : Extended; const P : Integer) : Extended
1782: Function LeftStr( const AText : AnsiString; const ACount : Integer) : AnsiString;
1783: Function LeftStr( const AText : WideString; const ACount : Integer) : WideString;
1784: function Length: Integer;
1785: Procedure LetFileList(FileList: TStringlist; apath: string);
1786: function lengthmp3(mp3path: string):integer;
1787: Function LineInRect( const P1, P2 : TPoint; const Rect : TRect) : Boolean;
1788: Function LineInRect1( const P1, P2 : TFloatPoint; const Rect : TFloatRect) : Boolean;
1789: function LinesCount(sfilename:string):extended;
1790: function TextFileLineCount(const FileName: string): integer;
1791: Function LineSegmentIntersection(const L1P1 : TFloatPoint; L1P2 : TFloatPoint; const L2P1 : TFloatPoint;
      L2P2 : TFloatPoint; var P : TFloatPoint) : Boolean
1792: function LineStart(Buffer, BufPos: PChar): PChar
1793: function LineStart(Buffer, BufPos: PChar): PChar)
1794: function ListSeparator: char;
1795: function Ln(x: Extended): Extended;
1796: Function LnXP1( const X : Extended) : Extended
1797: function Lo(vdat: word): byte;
1798: Function LoadCursor(hInstance: HINST; lpCursorName: PChar): HCURSOR
1799: Function LoadedModulesList( const List : TStrings; ProcessID : DWORD; HandlesOnly : Boolean) : Boolean
1800: Function LoadFileAsString( const FileName : string) : string
1801: Function LoadFromFile( const FileName : string) : TBitmapLoader
1802: function LoadFile(const FileName: TFileName): string;
1803: Function LoadLibraryEx(LibName: PChar; hFile: Longint; Flags: Longint): Longint; stdcall;
1804: Function LoadPackage(const Name: string): HMODULE
1805: Function LoadResource( ModuleHandle : HMODULE; ResHandle : TResourceHandle) : HGLOBAL
1806: Function LoadStr( Ident : Integer) : string
1807: Function LoadString(Instance: Longint; IDent: Integer; Buffer: PChar; Size: Integer): Integer; stdcall;
1808: Function LoadWideStr( Ident : Integer) : WideString
1809: Function LOCATE(const KEYFIELDS: String;const KEYVALUES:VARIANT;OPTIONS: TLOCATEOPTIONS) : BOOLEAN
1810: Function LockRegion( libOffset : Longint; cb : Largeint; dwLockType : Longint) : HResult
1811: Function LockServer( fLock : LongBool) : HResult
1812: Function LockVolume( const Volume : string; var Handle : THandle) : Boolean
1813: Function Log( const X : Extended) : Extended
1814: Function Log10( const X : Extended) : Extended
1815: Function Log2( const X : Extended) : Extended
1816: function LogBase10(X: Float): Float;
1817: Function LogBase2(X: Float): Float;
1818: Function LogBaseN(Base, X: Float): Float;
1819: Function LogN( const Base, X : Extended) : Extended
1820: Function LogOffOS : Boolean
1821: Function LoginDialog( const ADatabaseName : string; var AUserName, APassword : string) : Boolean
1822: Function LoginDialogEx(const ADatabaseName:string;var AUserName,APassword:string;NameReadOnly:Bool):Bool;
1823: Function LongDateFormat: string;
1824: function LongTimeFormat: string;
1825: Function LongWordToFourChar( ACardinal : LongWord) : string
1826: Function LOOKUP(const KEYFIELDS: String; const KEYVALUES: VARIANT; const RESULTFIELDS: String): VARIANT
1827: Function LookupName( const name : string) : TInAddr
1828: Function LookupService( const service : string) : Integer
1829: function Low: Int64;
1830: Function LowerCase( S : string) : string
1831: Function Lowercase(s : AnyString) : AnyString;
1832: Function LRot( const Value : Byte; const Count : TBitRange) : Byte;
1833: Function LRot1( const Value : Word; const Count : TBitRange) : Word;
1834: Function LRot2( const Value : Integer; const Count : TBitRange) : Integer;
1835: function MainInstance: longword
1836: function MainThreadID: longword
1837: Function Map(x, in_min, in_max, out_min, out_max: integer): integer;  //arduino
1838: Function mapMax(ax, in_min, in_max, out_min, out_max: integer): integer;
1839: Function MakeCanonicalIPv4Address( const AAddr : string) : string
1840: Function MakeCanonicalIPv6Address( const AAddr : string) : string
1841: Function MakeDIB( out Bitmap : PBitmapInfo) : Integer
```

```
1842: Function MakeDWordIntoIPv4Address( const ADWord : Cardinal) : string
1843: Function MakeFile(const FileName: string): integer)');
1844: function MakeLong(A, B: Word): Longint)
1845: Function MakeTempFilename( const APath : String) : string
1846: Function MakeValidFileName( const Str : string) : string
1847: Function MakeValueMap( Enumeration : string; ToCds : Boolean) : string
1848: function MakeWord(A, B: Byte): Word)
1849: Function MakeYear4Digit( Year, Pivot : Integer) : Integer
1850: Function MapDateTime(const DateFormatType:string; DateFormat:string;Value:string;ToCds:Boolean): string
1851: Function MapValues( Mapping : string; Value : string) : string
1852: Function MaskDoFormatText( const EditMask : string; const Value : string; Blank : Char) : string
1853: Function MaskGetCharType( const EditMask : string; MaskOffset : Integer) : TMaskCharType
1854: Function MaskGetCurrentDirectives( const EditMask : string; MaskOffset : Integer) : TMaskDirectives
1855: Function MaskGetFldSeparator( const EditMask : string) : Integer
1856: Function MaskGetMaskBlank( const EditMask : string) : Char
1857: Function MaskGetMaskSave( const EditMask : string) : Boolean
1858: Function MaskIntlLiteralToChar( IChar : Char) : Char
1859: Function MaskOffsetToOffset( const EditMask : String; MaskOffset : Integer) : Integer
1860: Function MaskOffsetToWideOffset( const EditMask : String; MaskOffset : Integer) : Integer
1861: Function MaskString( Mask, Value : String) : String
1862: Function Match( const sString : string) : TniRegularExpressionMatchResul
1863: Function Match1( const sString : string; iStart : integer) : TniRegularExpressionMatchResult
1864: Function Matches( const Filename : string) : Boolean
1865: Function MatchesMask( const Filename, Mask : string) : Boolean
1866: Function MatchStr( const AText : string; const AValues : array of string) : Boolean
1867: Function MatchText( const AText : string; const AValues : array of string) : Boolean
1868: Function Max( AValueOne, AValueTwo : Integer) : Integer
1869: function Max(const x,y: Integer): Integer;
1870: Function Max1( const B1, B2 : Shortint) : Shortint;
1871: Function Max2( const B1, B2 : Smallint) : Smallint;
1872: Function Max3( const B1, B2 : Word) : Word;
1873: function Max3(const x,y,z: Integer): Integer;
1874: Function Max4( const B1, B2 : Integer) : Integer;
1875: Function Max5( const B1, B2 : Cardinal) : Cardinal;
1876: Function Max6( const B1, B2 : Int64) : Int64;
1877: Function Max64( const AValueOne, AValueTwo : Int64) : Int64
1878: Function MaxFloat( const X, Y : Float) : Float
1879: Function MaxFloatArray( const B : TDynFloatArray) : Float
1880: Function MaxFloatArrayIndex( const B : TDynFloatArray) : Integer
1881: function MaxIntValue(const Data: array of Integer):Integer)
1882: Function MaxJ( const B1, B2 : Byte) : Byte;
1883: function MaxPath: string;
1884: function MaxValue(const Data: array of Double): Double)
1885: Function MaxCalc( const Formula : string) : Extended  //math expression parser
1886: Procedure MaxCalcF( const Formula : string);   //out to console memo2
1887: function MD5(const fileName: string): string;
1888: Function Mean( const Data : array of Double) : Extended
1889: Function Median( const X : TDynFloatArray) : Float
1890: Function Memory : Pointer
1891: Function MemoryPos( const ASubStr : string; MemBuff : PChar; MemorySize : Integer) : Integer
1892: Function MessageBox(hndl: cardinal; text, caption: string; utype: cardinal): Integer;
1893: function MESSAGEBOX(TEXT,CAPTION:PCHAR;FLAGS:WORD):INTEGER
1894: Function MessageDlg(const Msg:string;DlgType:TMsgDlgType;Buttons:TMsgDlgButtons;HelpCtx:Longint): Integer;
1895: Function MessageDlg1(const
      Msg:string;DlgType:TMsgDlgType;Buttons:TMsgDlgButtons;HelpCtx:Longint;DefaultButton:TMsgDlgBtn): Integer;
1896: Function MessageDlgPos(const Msg:string;DlgType:TMsgDlgType;Buttons:TMsgDlgButtons;HelpCtx:Longint;X,
      Y:Integer):Integer;
1897: Function MessageDlgPos1( const Msg : string; DlgType : TMsgDlgType; Buttons : TMsgDlgButtons; HelpCtx :
      Longint; X, Y : Integer; DefaultButton : TMsgDlgBtn) : Integer;
1898: Function MessageDlgPosHelp( const Msg : string; DlgType : TMsgDlgType; Buttons : TMsgDlgButtons; HelpCtx :
      Longint; X, Y : Integer; const HelpFileName : string) : Integer;
1899: Function MessageDlgPosHelp1( const Msg : string; DlgType : TMsgDlgType; Buttons : TMsgDlgButtons; HelpCtx
      : Longint; X, Y : Integer; const HelpFileName : string; DefaultButton : TMsgDlgBtn) : Integer;
1900: Function MibToId( Mib : string) : string
1901: Function MidStr( const AText : AnsiString; const AStart, ACount : Integer) : AnsiString;
1902: Function MidStr( const AText : WideString; const AStart, ACount : Integer) : WideString;
1903: function microsecondsToCentimeters(mseconds: longint): longint;  //340m/s speed of sound
1904: Function Micros(const Timer:THPTimer;const TimerRunning:Boolean):Int64//TypeS('THPTimer', 'Int64
1905: Function MIDIOut( DeviceID : Cardinal) : IJclMIDIOut
1906: Procedure GetMidiOutputs( const List : TStrings)
1907: // GetGEOMAPX('html',ExePath+'cologne2mapX.html','cathedral cologne')
1908: Procedure GetGEOMap(C_form,apath: string; const Data: string); //c_form: [html/json/xml]
1909: Function MIDISingleNoteTuningData( Key : TMIDINote; Frequency : Single) : TSingleNoteTuningData
1910: Function MIDINoteToStr( Note : TMIDINote) : string
1911: Function WinMidiOut( DeviceID : Cardinal) : IJclWinMidiOut
1912: Procedure GetMidiOutputs( const List : TStrings)
1913: Procedure MidiOutCheck( Code : MMResult)
1914: Procedure MidiInCheck( Code : MMResult)
1915: Function MilliSecondOf( const AValue : TDateTime) : Word
1916: Function MilliSecondOfTheDay( const AValue : TDateTime) : LongWord
1917: Function MilliSecondOfTheHour( const AValue : TDateTime) : LongWord
1918: Function MilliSecondOfTheMinute( const AValue : TDateTime) : LongWord
1919: Function MilliSecondOfTheMonth( const AValue : TDateTime) : LongWord
1920: Function MilliSecondOfTheSecond( const AValue : TDateTime) : Word
1921: Function MilliSecondOfTheWeek( const AValue : TDateTime) : LongWord
1922: Function MilliSecondOfTheYear( const AValue : TDateTime) : Int64
1923: Function MilliSecondsBetween( const ANow, AThen : TDateTime) : Int64
1924: Function MilliSecondSpan( const ANow, AThen : TDateTime) : Double
1925: Function milliToDateTime( MilliSecond : LongInt) : TDateTime');
```

```
1926: Function Micros( const Timer : THPTimer; const TimerRunning : Boolean) : Int64
1927: Function millis: int64;
1928: Function Min( AValueOne, AValueTwo : Integer) : Integer
1929: Function Min1( const B1, B2 : Shortint) : Shortint;
1930: Function Min2( const B1, B2 : Smallint) : Smallint;
1931: Function Min3( const B1, B2 : Word) : Word;
1932: Function Min4( const B1, B2 : Integer) : Integer;
1933: Function Min5( const B1, B2 : Cardinal) : Cardinal;
1934: Function Min6( const B1, B2 : Int64) : Int64;
1935: Function Min64( const AValueOne, AValueTwo : Int64) : Int64
1936: Function MinClientRect : TRect;
1937: Function MinClientRect1( IncludeScroller : Boolean) : TRect;
1938: Function MinClientRect2( TabCount : Integer; IncludeScroller : Boolean) : TRect;
1939: Function MinFloat( const X, Y : Float) : Float
1940: Function MinFloatArray( const B : TDynFloatArray) : Float
1941: Function MinFloatArrayIndex( const B : TDynFloatArray) : Integer
1942: Function MinimizeName( const Filename : string; Canvas : TCanvas; MaxLen : Integer) : string
1943: Function MinimizeName( const Filename : TFileName; Canvas : TCanvas; MaxLen : Integer) : TFileName
1944: function MinimizeName(const Filename: String; Canvas: TCanvas;MaxLen: Integer): TFileName
1945: Function MinIntValue( const Data : array of Integer) : Integer
1946: function MinIntValue(const Data: array of Integer):Integer)
1947: Function MinJ( const B1, B2 : Byte) : Byte;
1948: Function MinuteOf( const AValue : TDateTime) : Word
1949: Function MinuteOfTheDay( const AValue : TDateTime) : Word
1950: Function MinuteOfTheHour( const AValue : TDateTime) : Word
1951: Function MinuteOfTheMonth( const AValue : TDateTime) : Word
1952: Function MinuteOfTheWeek( const AValue : TDateTime) : Word
1953: Function MinuteOfTheYear( const AValue : TDateTime) : LongWord
1954: Function MinutesBetween( const ANow, AThen : TDateTime) : Int64
1955: Function MinuteSpan( const ANow, AThen : TDateTime) : Double
1956: Function MinValue( const Data : array of Double) : Double
1957: function MinValue(const Data: array of Double): Double)
1958: Function MixerLeftRightToArray( Left, Right : Cardinal) : TDynCardinalArray
1959: Function MMCheck( const MciError : MCIERROR; const Msg : string) : MCIERROR
1960: Function ModFloat( const X, Y : Float) : Float
1961: Function ModifiedJulianDateToDateTime( const AValue : Double) : TDateTime
1962: Function Modify( const Key : string; Value : Integer) : Boolean
1963: Function ModuleCacheID : Cardinal
1964: Function ModuleFromAddr( const Addr : Pointer) : HMODULE
1965: Function MonitorFromPoint( const Point : TPoint; MonitorDefault : TMonitorDefaultTo) : TMonitor
1966: Function MonitorFromRect( const Rect : TRect; MonitorDefault : TMonitorDefaultTo) : TMonitor
1967: Function MonitorFromWindow( const Handle : THandle; MonitorDefault : TMonitorDefaultTo) : TMonitor
1968: Function MonthOf( const AValue : TDateTime) : Word
1969: Function MonthOfTheYear( const AValue : TDateTime) : Word
1970: Function MonthsBetween( const ANow, AThen : TDateTime) : Integer
1971: Function MonthSpan( const ANow, AThen : TDateTime) : Double
1972: Function MonthStr( DateTime : TDateTime) : string
1973: Function MouseCoord( X, Y : Integer) : TGridCoord
1974: Function MOVEBY( DISTANCE : INTEGER) : INTEGER
1975: Function MoveFile( Source, Dest : string; Flags : FILEOP_FLAGS) : Boolean
1976: Function MoveNext : Boolean
1977: Function MSecsToTimeStamp( MSecs : Comp) : TTimeStamp
1978: function MSecsToTimeStamp(MSecs: Comp): TTimeStamp)
1979: Function Name : string
1980: Function NetPresentValue(const Rate:Extended;const CashFlows:array of
      Double;PaymentTime:TPaymentTime):Extended
1981: function NetworkVolume(DriveChar: Char): string
1982: Function NEWBOTTOMLINE : INTEGER
1983: Function NewCompareNode( Field : TField; Operator : TCANOperator; const Value : Variant) : PExprNode
1984: Function NEWITEM( const ACAPTION : String; ASHORTCUT : TSHORTCUT; ACHECKED, AENABLED : BOOLEAN; AONCLICK :
      TNOTIFYEVENT; HCTX : WORD; const ANAME : String) : TMENUITEM
1985: Function NEWLINE : TMENUITEM
1986: Function NEWMENU( OWNER : TCOMPONENT; const ANAME : STRING; ITEMS : array of TMenuItem) : TMAINMENU
1987: Function NewNode(Kind: TExprNodeKind; Operator:TCANOperator; const Data:Variant; Left,
      Right:PExprNode):PExprNode
1988: Function NEWPOPUPMENU(OWNER:TCOMPONENT;const ANAME:String; ALIGNMENT:TPOPUPALIGNMENT;AUTOPOPUP:BOOLEAN;
      const ITEMS : array of TCMENUITEM) : TPOPUPMENU
1989: Function NewState( eType : TniRegularExpressionStateType) : TniRegularExpressionState
1990: Function NEWSUBMENU(const ACAPT:String;HCTX:WORD;const ANAME:String;ITEMS:array of
      TMenuItem;AENABLED:BOOL): TMENUITEM
1991: Function NEWTOPLINE : INTEGER
1992: Function Next : TIdAuthWhatsNext
1993: Function NextCharIndex( S : String; Index : Integer) : Integer
1994: Function NextRecordSet : TCustomSQLDataSet
1995: Function NextRecordset( var RecordsAffected : Integer) : _Recordset
1996: Function NextSQLToken1( var p : WideChar; out Token : WideString; CurSection : TSQLToken) : TSQLToken;
1997: Function NextToken : Char
1998: Function nextToken : WideString
1999: function NextToken:Char
2000: Function Norm( const Data : array of Double) : Extended
2001: Function NormalizeAngle( const Angle : Extended) : Extended
2002: Function NormalizeBcd( const InBcd : TBcd; var OutBcd : TBcd; const Prec, Scale : Word) : Boolean
2003: Function NormalizeRect( const Rect : TRect) : TRect
2004: function NormalizeRect(const Rect: TRect): TRect;
2005: Function Now : TDateTime
2006: function Now2: tDateTime
2007: Function NumProcessThreads : integer
2008: Function NumThreadCount : integer
2009: Function NthDayOfWeek( const AValue : TDateTime) : Word
```

```
2010: Function NtProductType : TNtProductType
2011: Function NtProductTypeString : string
2012: function Null: Variant;
2013: Function NullPoint : TPoint
2014: Function NullRect : TRect
2015: Function Null2Blank(aString:String):String;
2016: Function NumberOfPeriods( const Rate : Extended; Payment : Extended; const PresentValue, FutureValue :
      Extended; PaymentTime : TPaymentTime) : Extended
2017: Function NumIP : integer
2018: function Odd(x: Longint): boolean;
2019: Function OffsetFromUTC : TDateTime
2020: Function OffsetPoint( const P, Offset : TPoint) : TPoint
2021: Function OffsetRect( var Rect : TRect; DX : Integer; DY : Integer) : Boolean
2022: function OffsetRect(var Rect: TRect; DX:Integer; DY:Integer): Boolean)
2023: Function OffsetToMaskOffset( const EditMask : string; Offset : Integer) : Integer
2024: Function OkToChangeFieldAlignment( AField : TField; Alignment : TAlignment) : Boolean
2025: Function OldBCDToCurr( const BCD : TBcd; var Curr : Currency) : Boolean
2026: Function OldCurrToBCD(const Curr:Currency; var BCD:TBcd; Precision:Integer;Decimals:Integer): Boolean
2027: function OpenBit:Integer
2028: Function OpenDatabase : TDatabase
2029: Function OpenDatabase( const DatabaseName : string) : TDatabase
2030: Procedure OpenDir(adir: string);
2031: Function OpenGLColorToWinColor( const Red, Green, Blue : Float) : TColor
2032: Function OpenMap(const Data: string): boolean;
2033: Function OpenMapX(const Data: string): boolean;
2034: Function OpenObject( Value : PChar) : Boolean;
2035: Function OpenObject1( Value : string) : Boolean;
2036: Function OpenSession( const SessionName : string) : TSession
2037: Function OpenVolume( const Drive : Char) : THandle
2038: function OrdFourByteToCardinal(AByte1, AByte2, AByte3, AByte4 : Byte): Cardinal
2039: Function OrdFourByteToLongWord( AByte1, AByte2, AByte3, AByte4 : Byte) : LongWord
2040: Function OrdToBinary( const Value : Byte) : string;
2041: Function OrdToBinary1( const Value : Shortint) : string;
2042: Function OrdToBinary2( const Value : Smallint) : string;
2043: Function OrdToBinary3( const Value : Word) : string;
2044: Function OrdToBinary4( const Value : Integer) : string;
2045: Function OrdToBinary5( const Value : Cardinal) : string;
2046: Function OrdToBinary6( const Value : Int64) : string;
2047: Function OSCheck( RetVal : Boolean) : Boolean
2048: Function OSFileTypeToString( const OSFileType : DWORD; const OSFileSubType : DWORD) : string
2049: Function OSIdentToString( const OSIdent : DWORD) : string
2050: Function Output: Text)
2051: Function Overlay( ImageIndex : Integer; Overlay : TOverlay) : Boolean
2052: Function Owner : TCustomListView
2053: function Owner : TPersistent
2054: Function PadInputLiterals( const EditMask : String; const Value : string; Blank : Char) : string
2055: Function PadL( pStr : String; pLth : integer) : String
2056: Function Padl(s : AnyString;I : longInt) : AnyString;
2057: Function PadLCh( pStr : String; pLth : integer; pChr : char) : String
2058: Function PadR( pStr : String; pLth : integer) : String
2059: Function Padr(s : AnyString;I : longInt) : AnyString;
2060: Function PadRCh( pStr : String; pLth : integer; pChr : char) : String
2061: Function PadString( const AString : String; const ALen : Integer; const AChar : Char) : String
2062: Function Padz(s : AnyString;I : longInt) : AnyString;
2063: Function PaethPredictor( a, b, c : Byte) : Byte
2064: Function PARAMBYNAME( const VALUE : String) : TPARAM
2065: Function ParamByName( const Value : WideString) : TParameter
2066: Function ParamCount: Integer
2067: Function ParamsEncode( const ASrc : string) : string
2068: function ParamStr(Index: Integer): string)
2069: Function ParseDate( const DateStr : string) : TDateTime
2070: Function PARSESQL( SQL : String; DOCREATE : BOOLEAN) : String
2071: Function ParseSQL( SQL : WideString; DoCreate : Boolean) : WideString
2072: Function PathAddExtension( const Path, Extension : string) : string
2073: Function PathAddSeparator( const Path : string) : string
2074: Function PathAppend( const Path, Append : string) : string
2075: Function PathBuildRoot( const Drive : Byte) : string
2076: Function PathCanonicalize( const Path : string) : string
2077: Function PathCommonPrefix( const Path1, Path2 : string) : Integer
2078: Function PathCompactPath(const DC:HDC;const Path:string;const Width:Integer;CmpFmt:TCompactPath):string;
2079: Function PathCompactPath1(const Canv:TCanvas;const Path:string;const Width:Int;CmpFmt:TCompactPath):string;
2080: Function PathEncode( const ASrc : string) : string
2081: Function PathExtractFileDirFixed( const S : AnsiString) : AnsiString
2082: Function PathExtractFileNameNoExt( const Path : string) : string
2083: Function PathExtractPathDepth( const Path : string; Depth : Integer) : string
2084: Function PathGetDepth( const Path : string) : Integer
2085: Function PathGetLongName( const Path : string) : string
2086: Function PathGetLongName2( Path : string) : string
2087: Function PathGetShortName( const Path : string) : string
2088: Function PathIsAbsolute( const Path : string) : Boolean
2089: Function PathIsChild( const Path, Base : AnsiString) : Boolean
2090: Function PathIsDiskDevice( const Path : string) : Boolean
2091: Function PathIsUNC( const Path : string) : Boolean
2092: Function PathRemoveExtension( const Path : string) : string
2093: Function PathRemoveSeparator( const Path : string) : string
2094: Function Payment(Rate:Extended;NPeriods:Int;const PresentVal,
      FutureVal:Extended;PaymentTime:TPaymentTime):Extended
2095: Function Peek : Pointer
2096: Function Peek : TObject
```

```
2097: function PERFORM(MSG:CARDINAL;WPARAM,LPARAM:LONGINT):LONGINT
2098: Function PeriodPayment(const Rate:Extended;Period,NPeriods:Integer; const PresentValue, FutureValue :
      Extended; PaymentTime : TPaymentTime) : Extended
2099: function Permutation(npr, k: integer): extended;
2100: function PermutationInt(npr, k: integer): Int64;
2101: Function PermutationJ( N, R : Cardinal) : Float
2102: Function Pi : Extended;
2103: Function PiE : Extended;
2104: Function PixelsToDialogsX( const Pixels : Word) : Word
2105: Function PixelsToDialogsY( const Pixels : Word) : Word
2106: Function PlaySound(s: pchar; flag,syncflag: integer): boolean;
2107: Function Point( X, Y : Integer) : TPoint
2108: function Point(X, Y: Integer): TPoint)
2109: Function PointAssign( const X, Y : Integer) : TPoint
2110: Function PointDist( const P1, P2 : TPoint) : Double;
2111: function PointDist(const P1,P2: TFloatPoint): Double;
2112: Function PointDist1( const P1, P2 : TFloatPoint) : Double;
2113: function PointDist2(const P1,P2: TPoint): Double;
2114: Function PointEqual( const P1, P2 : TPoint) : Boolean
2115: Function PointIsNull( const P : TPoint) : Boolean
2116: Function PointToLineSegmentDist( const Point, LineP1, LineP2 : TFloatPoint) : Double
2117: Function Poly( const X : Extended; const Coefficients : array of Double) : Extended
2118: Function PortTCPIsOpen(dwPort : Word; ipAddressStr: String): boolean;
2119: Function IsTCPPortOpen(dwPort : Word; ipAddressStr: String): boolean;
2120: Function Pop : Pointer
2121: Function Pop : TObject
2122: Function PopnStdDev( const Data : array of Double) : Extended
2123: Function PopnVariance( const Data : array of Double) : Extended
2124: Function PopulationVariance( const X : TDynFloatArray) : Float
2125: function Pos(SubStr, S: AnyString): Longint;
2126: Function PosEqual( const Rect : TRect) : Boolean
2127: Function PosEx( const SubStr, S : string; Offset : Integer) : Integer
2128: Function PosInSmallIntArray( const ASearchInt : SmallInt; AArray : array of SmallInt) : Integer
2129: Function PosInStrArray(const SearchStr:string;Contents:array of string;const CaseSensitive:Boolean):Integer
2130: Function Post1( AURL : string; const ASource : TStrings) : string;
2131: Function Post2( AURL : string; const ASource : TStream) : string;
2132: Function Post3( AURL : string; const ASource : TIdMultiPartFormDataStream) : string;
2133: Function PostData( const UserData : WideString; const CheckSum : DWORD) : Boolean
2134: Function PostData( const UserData : WideString; const CheckSum : integer): Boolean
2135: function PostMessage(hWnd: HWND; Msg: longword; wParam: longint; lParam: longint): Boolean;
2136: Function Power( const Base, Exponent : Extended) : Extended
2137: Function PowerBig(aval, n:integer): string;
2138: Function PowerIntJ( const X : Float; N : Integer) : Float;
2139: Function PowerJ( const Base, Exponent : Float) : Float;
2140: Function PowerOffOS : Boolean
2141: Function PreformatDateString( Ps : string) : string
2142: Function PresentValue(const Rate:Extend;NPeriods:Int;const Payment,
      FutureVal:Extend;PaymentTime:TPaymentTime):Extended
2143: Function PrimeFactors( N : Cardinal) : TDynCardinalArray
2144: Function Printer : TPrinter
2145: Function ProcessPath2( const ABasePath:String; const APath: String; const APathDelim:string): string
2146: Function ProcessResponse : TIdHTTPWhatsNext
2147: Function ProduceContent : string
2148: Function ProduceContentFromStream( Stream : TStream) : string
2149: Function ProduceContentFromString( const S : string) : string
2150: Function ProgIDToClassID(const ProgID: string): TGUID;
2151: Function PromptDataLinkFile( ParentHandle : THandle; InitialFile : WideString) : WideString
2152: Function PromptDataSource( ParentHandle : THandle; InitialString : WideString) : WideString
2153: Function PromptForFileName( var AFileName : string; const AFilter : string; const ADefaultExt : string;
      const ATitle : string; const AInitialDir : string; SaveDialog : Boolean) : Boolean
2154: function PromptForFileName(var AFileName: string; const AFilter: string; const ADefaultExt: string;const
      ATitle: string; const AInitialDir: string; SaveDialog: Boolean): Boolean)
2155: Function PSScriptNeedFile(Sender:TObject;const OrginFileName:String;var FileName,Output:String):Boolean
2156: Function PtInRect( const Rect : TRect; const P : TPoint) : Boolean
2157: function PtInRect(const Rect: TRect; const P: TPoint): Boolean)
2158: Function Push( AItem : Pointer) : Pointer
2159: Function Push( AObject : TObject) : TObject
2160: Function Put1( AURL : string; const ASource : TStream) : string;
2161: Function Pythagoras( const X, Y : Extended) : Extended
2162: Function queryDLLInterface( var queryList : TStringList) : TStringList
2163: Function queryDLLInterfaceTwo( var queryList : TStringList) : TStringList
2164: Function QueryInterface(const IID: TGUID; out Obj): HResult, CdStdCall
2165: Function queryPerformanceCounter2(mse: int64): int64;
2166: //Function QueryPerformanceCounter(var lpPerformanceCount: Int64): LongBool; stdcall;
2167: //Function QueryPerformanceFrequency(mse: int64): boolean;
2168: Function QueryPerformanceCounter(var lcount: Int64): Boolean; stdcall;
2169: Function QueryPerformanceFrequency(var lfreq: int64): boolean; stdcall;
2170: Procedure QueryPerformanceCounter1(var aC: Int64);
2171: Function QueryPerformanceFrequency1(var freq: int64): boolean;
2172: Function Quote( const ACommand : String) : SmallInt
2173: Function QuotedStr( S : string) : string
2174: Function RadToCycle( const Radians : Extended) : Extended
2175: Function RadToDeg( const Radians : Extended) : Extended
2176: Function RadToDeg( const Value : Extended) : Extended;
2177: Function RadToDeg1( const Value : Double) : Double;
2178: Function RadToDeg2( const Value : Single) : Single;
2179: Function RadToGrad( const Radians : Extended) : Extended
2180: Function RadToGrad( const Value : Extended) : Extended;
2181: Function RadToGrad1( const Value : Double) : Double;
```

```
2182: Function RadToGrad2( const Value : Single) : Single;
2183: Function RandG( Mean, StdDev : Extended) : Extended
2184: function Random(const ARange: Integer): Integer;
2185: function random2(a: integer): double
2186: function RandomE: Extended;
2187: function RandomF: Extended;
2188: Function RandomFrom( const AValues : array of string) : string;
2189: Function RandomRange( const AFrom, ATo : Integer) : Integer
2190: function randSeed: longint
2191: Function RawToDataColumn( ACol : Integer) : Integer
2192: Function Read : Char
2193: Function Read( pv : Pointer; cb : Longint; pcbRead : PLongint) : HResult
2194: function Read(Buffer:String;Count:LongInt):LongInt
2195: Function ReadBinaryStream( const Section, Name : string; Value : TStream) : Integer
2196: Function ReadBool( const Section, Ident : string; Default : Boolean) : Boolean
2197: Function ReadCardinal( const AConvert : boolean) : Cardinal
2198: Function ReadChar : Char
2199: Function ReadClient( var Buffer, Count : Integer) : Integer
2200: Function ReadDate( const Section, Name : string; Default : TDateTime) : TDateTime
2201: Function ReadDateTime( const Section, Name : string; Default : TDateTime) : TDateTime
2202: Function ReadFloat( const Section, Name : string; Default : Double) : Double
2203: Function ReadFromStack(const ARaiseExceptfDisconnected:Bool;ATimeout:Int;const ARaiseExceptonTimeout:
      Bool):Int
2204: Function ReadInteger( const AConvert : boolean) : Integer
2205: Function ReadInteger( const Section, Ident : string; Default : Longint) : Longint
2206: Function ReadLn : string
2207: Function ReadLn( ATerminator : string; const ATimeout : Integer; AMaxLineLength : Integer) : string
2208: function Readln(question: string): string;
2209: Function readm: string;  //read last line in memo2 - console!
2210: Function ReadLnWait( AFailCount : Integer) : string
2211: Function ReadReg(Base: HKEY; KeyName, ValueName: string): string;
2212: Function ReadRegistry(Base: HKEY; KeyName, ValueName: string): string;
2213: Function ReadSmallInt( const AConvert : boolean) : SmallInt
2214: Function ReadString( const ABytes : Integer) : string
2215: Function ReadString( const Section, Ident, Default : string) : string
2216: Function ReadString( Count : Integer) : string
2217: Function ReadTime( const Section, Name : string; Default : TDateTime) : TDateTime
2218: Function ReadTimeStampCounter : Int64
2219: Function RebootOS : Boolean
2220: Function Receive( ATimeOut : Integer) : TReplyStatus
2221: Function ReceiveBuf( var Buf, Count : Integer) : Integer
2222: Function ReceiveLength : Integer
2223: Function ReceiveText : string
2224: Function ReceiveSerialData(var Data: TByteArray; DataSize: cardinal): cardinal
2225: Function ReceiveSerialText: string
2226: Function RecodeDate( const AValue : TDateTime; const AYear, AMonth, ADay : Word) : TDateTime
2227: Function RecodeDateTime(const AValue:TDateTime;const AYear,AMonth,ADay,AHr,AMin,ASec,
      AMilliSec:Word):TDateTime
2228: Function RecodeDay( const AValue : TDateTime; const ADay : Word) : TDateTime
2229: Function RecodeHour( const AValue : TDateTime; const AHour : Word) : TDateTime
2230: Function RecodeMilliSecond( const AValue : TDateTime; const AMilliSecond : Word) : TDateTime
2231: Function RecodeMinute( const AValue : TDateTime; const AMinute : Word) : TDateTime
2232: Function RecodeMonth( const AValue : TDateTime; const AMonth : Word) : TDateTime
2233: Function RecodeSecond( const AValue : TDateTime; const ASecond : Word) : TDateTime
2234: Function RecodeTime( const AValue: TDateTime;const AHour,AMinute,ASecond,AMilliSecond:Word):TDateTime
2235: Function RecodeYear( const AValue : TDateTime; const AYear : Word) : TDateTime
2236: Function Reconcile( const Results : OleVariant) : Boolean
2237: Function Rect( Left, Top, Right, Bottom : Integer) : TRect
2238: function Rect(ALeft: Integer; ATop: Integer; ARight: Integer; ABottom: Integer): TRect)
2239: Function Rect2( const ATopLeft, ABottomRight : TPoint) : TRect;
2240: Function RectAssign( const Left, Top, Right, Bottom : Integer) : TRect
2241: Function RectAssignPoints( const TopLeft, BottomRight : TPoint) : TRect
2242: Function RectBounds( const Left, Top, Width, Height : Integer) : TRect
2243: Function RectCenter( const R : TRect) : TPoint
2244: Function RectEqual( const R1, R2 : TRect) : Boolean
2245: Function RectHeight( const R : TRect) : Integer
2246: Function RectIncludesPoint( const R : TRect; const Pt : TPoint) : Boolean
2247: Function RectIncludesRect( const R1, R2 : TRect) : Boolean
2248: Function RectIntersection( const R1, R2 : TRect) : TRect
2249: Function RectIntersectRect( const R1, R2 : TRect) : Boolean
2250: Function RectIsEmpty( const R : TRect) : Boolean
2251: Function RectIsNull( const R : TRect) : Boolean
2252: Function RectIsSquare( const R : TRect) : Boolean
2253: Function RectIsValid( const R : TRect) : Boolean
2254: Function RectsAreValid( R : array of TRect) : Boolean
2255: Function RectUnion( const R1, R2 : TRect) : TRect
2256: Function RectWidth( const R : TRect) : Integer
2257: Function RedComponent( const Color32 : TColor32) : Integer
2258: Function Refresh : Boolean
2259: Function RefStringListCopy(aRefArray:TStringlist):TStringList;
2260: Function RegisterConversionFamily( const ADescription : string) : TConvFamily
2261: Function RegisterConversionType( AConvTypeInfo : TConvTypeInfo; out AType : TConvType) : Boolean;
2262: Function RegisterConversionType(const AFam:TConvFamil;const ADescr:string;const AFact:Double):TConvType
2263: Function RegistryRead(keyHandle: Longint; keyPath, myField: String): string;
2264: Function ReleaseDC(hdwnd: HWND; hdc: HDC): integer;
2265: Function ReleaseHandle : HBITMAP
2266: Function ReleaseHandle : HENHMETAFILE
2267: Function ReleaseHandle : HICON
2268: Function ReleasePalette : HPALETTE
```

```
2269: Function RemainderFloat( const X, Y : Float) : Float
2270: Function Remove( AClass : TClass) : Integer
2271: Function Remove( AComponent : TComponent) : Integer
2272: Function Remove( AItem : Integer) : Integer
2273: Function Remove( AItem : Pointer) : Pointer
2274: Function Remove( AItem : TObject) : TObject
2275: Function Remove( AObject : TObject) : Integer
2276: Function RemoveBackslash( const PathName : string) : string
2277: Function RemoveDF( aString : String) : String  //removes thousand separator
2278: Function RemoveDir( Dir : string) : Boolean
2279: function RemoveDir(const Dir: string): Boolean)
2280: Function RemoveDirectory(PathName: PChar): WordBool; stdcall;
2281: Function RemoveFileExt( const FileName : string) : string
2282: Function RemoveHeaderEntry( AHeader, AEntry : string) : string
2283: Function RenameFile( OldName, NewName : string) : Boolean
2284: function RenameFile(const OldName: string; const NewName: string): Boolean)
2285: Function ReplaceStr( const AText, AFromText, AToText : string) : string
2286: Function ReplaceText( const AText, AFromText, AToText : string) : string
2287: Function Replicate(c : char;I : longInt) : String;
2288: Function Request : TWebRequest
2289: Function ResemblesText( const AText, AOther : string) : Boolean
2290: Function Reset : Boolean
2291: function Reset2(mypath: string):string;
2292: Function ResInstLoad(Instance:THandle;ResType:TResType; const Name:string;MaskColor: TColor): Boolean
2293: Function ResourceLoad( ResType : TResType; const Name : string; MaskColor : TColor) : Boolean
2294: Function Response : TWebResponse
2295: Function ResumeSupported : Boolean
2296: Function RETHINKHOTKEYS : BOOLEAN
2297: Function RETHINKLINES : BOOLEAN
2298: Function Retrieve( const MsgNum : Integer; AMsg : TIdMessage) : Boolean
2299: Function RetrieveCurrentDir : string
2300: Function RetrieveDeltas( const cdsArray : array of TClientDataset) : Variant
2301: Function RetrieveHeader( const MsgNum : Integer; AMsg : TIdMessage) : Boolean
2302: Function RetrieveMailBoxSize : integer
2303: Function RetrieveMsgSize( const MsgNum : Integer) : Integer
2304: Function RetrieveProviders( const cdsArray : array of TClientDataset) : Variant
2305: Function RetrieveRaw( const MsgNum : Integer; const Dest : TStrings) : boolean
2306: Function ReturnMIMEType( var MediaType, EncType : String) : Boolean
2307: Function ReverseBits( Value : Byte) : Byte;
2308: Function ReverseBits1( Value : Shortint) : Shortint;
2309: Function ReverseBits2( Value : Smallint) : Smallint;
2310: Function ReverseBits3( Value : Word) : Word;
2311: Function ReverseBits4( Value : Cardinal) : Cardinal;
2312: Function ReverseBits4( Value : Integer) : Integer;
2313: Function ReverseBits5( Value : Int64) : Int64;
2314: Function ReverseBytes( Value : Word) : Word;
2315: Function ReverseBytes1( Value : Smallint) : Smallint;
2316: Function ReverseBytes2( Value : Integer) : Integer;
2317: Function ReverseBytes3( Value : Cardinal) : Cardinal;
2318: Function ReverseBytes4( Value : Int64) : Int64;
2319: Function ReverseString( const AText : string) : string
2320: Function ReverseDNSLookup(const IPAddrs:String;DNSServer:String;Timeout,Retries:Int;var
      HostName:String):Bool;
2321: Function Revert : HResult
2322: Function RGB(R,G,B: Byte): TColor;
2323: Function RGB2BGR( const Color : TColor) : TColor
2324: Function RGB2TColor( R, G, B : Byte) : TColor
2325: Function RGBToWebColorName( RGB : Integer) : string
2326: Function RGBToWebColorStr( RGB : Integer) : string
2327: Function RgbToHtml( Value : TColor) : string
2328: Function HtmlToRgb(const Value: string): TColor;
2329: Function RightStr( const AStr : String; Len : Integer) : String
2330: Function RightStr( const AText : AnsiString; const ACount : Integer) : AnsiString;
2331: Function RightStr( const AText : WideString; const ACount : Integer) : WideString;
2332: Function ROL( AVal : LongWord; AShift : Byte) : LongWord
2333: Function ROR( AVal : LongWord; AShift : Byte) : LongWord
2334: Function RotatePoint( Point : TFloatPoint; const Center : TFloatPoint; const Angle : Float) : TFloatPoint
2335: function RotatePoint(Point: TFloatPoint; const Center: TFloatPoint; const Angle: Double): TFloatPoint;
2336: Function Round(e : Extended) : Longint;
2337: Function Round64(e: extended): Int64;
2338: Function RoundAt( const Value : string; Position : SmallInt) : string
2339: type TRoundToRange = -37..37; TRoundToEXRangeExtended = -20..20;
2340: Function RoundTo(const AValue: Extended; const ADigit: TRoundToEXRangeExtended): Extended;');
2341: Function SimpleRoundTo(const AValue: Extended; const ADigit: TRoundToRange): Extended;');
2342: Function RoundFrequency( const Frequency : Integer) : Integer
2343: Function RoundInt( Value : Integer; StepSize : Integer) : Integer
2344: Function RoundPoint( const X, Y : Double) : TPoint
2345: Function RoundRect( const ALeft, ATop, ARight, ABottom : Double) : TRect
2346: Function RowCount : Integer
2347: Function RowRequest( const Row : OleVariant; RequestType : Integer; var OwnerData : OleVariant): OleVariant
2348: Function RowRequest( Row : OleVariant; Options : TFetchOptions) : OleVariant
2349: Function RPos( const ASub, AIn : String; AStart : Integer) : Integer
2350: Function RRot( const Value : Byte; const Count : TBitRange) : Byte;
2351: Function RRot1( const Value : Word; const Count : TBitRange) : Word;
2352: Function RRot2( const Value : Integer; const Count : TBitRange) : Integer;
2353: Function RunDLL32(const ModuleNa,FuncName,CmdLine:string;WaitForCompletion:Bool;CmdShow:Integer):Boolean
2354: Function RunningProcessesList( const List : TStrings; FullPath : Boolean) : Boolean
2355: Function RunByteCode(Bytecode: AnsiString; out RuntimeErrors: AnsiString): Boolean;');
2356: Function RunCompiledScript2(Bytecode: AnsiString; out RuntimeErrors: AnsiString): Boolean;');
```

```
2357: Function S_AddBackSlash( const ADirName : string) : string
2358: Function S_AllTrim( const cStr : string) : string
2359: Function S_AtRepl( const cAT, cStr, cRepl : string) : string
2360: Function S_Cut( const cStr : string; const iLen : integer) : string
2361: Function S_DecryptCRC32( const crc : string; StartKey, MultKey, AddKey : integer) : integer
2362: Function S_DirExists( const ADir : string) : Boolean
2363: Function S_Empty( const cStr : string) : boolean
2364: Function S_EncryptCRC32( const crc : LongWORD; StartKey, MultKey, AddKey : integer) : string
2365: Function S_LargeFontsActive : Boolean
2366: Function S_LimitDigits( AValue : Extended; ANumDigits : Integer) : Extended
2367: Function S_LTrim( const cStr : string) : string
2368: Function S_ReadNextTextLineFromStream( stream : TStream) : string
2369: Function S_RepeatChar( const iLen : integer; const AChar : Char) : String
2370: Function S_ReplFirst( const cAT, cStr, cRepl : string) : string
2371: Function S_RoundDecimal( AValue : Extended; APlaces : Integer) : Extended
2372: Function S_RTrim( const cStr : string) : string
2373: Function S_RTrimCopy( const cStr : string; iPos, iLen : integer) : string
2374: //Type TS_ShellExecuteCmd = (seCmdOpen,seCmdPrint,seCmdExplore);
2375: Function S_ShellExecute( aFilename : string; aParameters : string; aCommand : TS_ShellExecuteCmd) : string
2376: Function S_Space( const iLen : integer) : String
2377: Function S_StrBlanks( const cStr : string; const iLen : integer) : string
2378: Function S_StrBlanksCuttooLong( const cStr : string; const iLen : integer) : string
2379: Function S_StrCRC32( const Text : string) : LongWORD
2380: Function S_StrDecrypt96( const InString : string; StartKey, MultKey, AddKey : Integer) : string
2381: Function S_StrEncrypt96( const InString : string; StartKey, MultKey, AddKey : Integer) : string
2382: Function S_StringtoUTF_8( const AString : string) : string
2383: Function S_StrLBlanks( const cStr : string; const iLen : integer) : string
2384: Function S_StrToReal(const cStr: string; var R: Double): Boolean
2385: Function S_TokenEnd( cBuffer : PChar; lEmptyToken : boolean) : boolean
2386: Function S_TokenNext( cBuffer : PChar; lEmptyToken : boolean) : string
2387: Function S_UTF_8ToString( const AString : string) : string
2388: Function S_WBox( const AText : string) : integer
2389: Function SameDate( const A, B : TDateTime) : Boolean
2390: function SameDate(const A, B: TDateTime): Boolean;
2391: Function SameDateTime( const A, B : TDateTime) : Boolean
2392: function SameDateTime(const A, B: TDateTime): Boolean;
2393: Function SameFileName( S1, S2 : string) : Boolean
2394: Function SameText( S1, S2 : string) : Boolean
2395: function SameText(const S1: string; const S2: string): Boolean)
2396: Function SameTime( const A, B : TDateTime) : Boolean
2397: function SameTime(const A, B: TDateTime): Boolean;
2398: function SameValue(const A, B: Extended; Epsilon: Extended): Boolean //overload;
2399: function SameValue1(const A, B: Double; Epsilon: Double): Boolean //overload;
2400: function SameValue2(const A, B: Single; Epsilon: Single): Boolean //overload;
2401: Function SampleVariance( const X : TDynFloatArray) : Float
2402: Function Sar( const Value : Shortint; const Count : TBitRange) : Shortint;
2403: Function Sar1( const Value : Smallint; const Count : TBitRange) : Smallint;
2404: Function Sar2( const Value : Integer; const Count : TBitRange) : Integer;
2405: Function SaveToFile( const AFileName : TFileName) : Boolean
2406: Function SaveAsExcelFile(AGrid: TStringGrid; ASheetName, AFileName: string; open: boolean): Boolean;
2407: Function SaveAsExcel(aGrid: TStringGrid; aSheetName, aFileName: string; openexcel: boolean): Boolean;
2408: Function ScanF(const aformat: String; const args: array of const): string;
2409: Function SCREENTOCLIENT(POINT:TPOINT):TPOINT
2410: Function SearchBuf(Buf:PChar; BufLen:Integer;SelStart,SelLength:Integer;SearchString:String;Options:
      TStringSearchOptions):PChar
2411: Function SearchBuf2(Buf: String;SelStart,SelLength:Integer; SearchString:
      String;Options:TStringSearchOptions):Integer;
2412: function SearchRecattr: integer;
2413: function SearchRecExcludeAttr: integer;
2414: Function SearchRecFileSize64( const SearchRec : TSearchRec) : Int64
2415: function SearchRecname: string;
2416: function SearchRecsize: integer;
2417: function SearchRecTime: integer;
2418: Function Sec( const X : Extended) : Extended
2419: Function Secant( const X : Extended) : Extended
2420: Function SecH( const X : Extended) : Extended
2421: Function SecondOf( const AValue : TDateTime) : Word
2422: Function SecondOfTheDay( const AValue : TDateTime) : LongWord
2423: Function SecondOfTheHour( const AValue : TDateTime) : Word
2424: Function SecondOfTheMinute( const AValue : TDateTime) : Word
2425: Function SecondOfTheMonth( const AValue : TDateTime) : LongWord
2426: Function SecondOfTheWeek( const AValue : TDateTime) : LongWord
2427: Function SecondOfTheYear( const AValue : TDateTime) : LongWord
2428: Function SecondsBetween( const ANow, AThen : TDateTime) : Int64
2429: Function SecondSpan( const ANow, AThen : TDateTime) : Double
2430: Function SectionExists( const Section : string) : Boolean
2431: Function Seek( const KeyValues : Variant; SeekOption : TSeekOption) : Boolean
2432: Function Seek( dlibMove : Longint; dwOrigin : Longint; out libNewPosition : Largeint) : HResult
2433: function Seek(Offset:LongInt;Origin:Word):LongInt
2434: Function SelectDirectory( var Directory : string; Options : TSelectDirOpts; HelpCtx:Longint): Boolean;
2435: Function SelectDirectory1( const Caption : string; const Root : WideString; var Directory : string;
      Options : TSelectDirExtOpts; Parent : TWinControl) : Boolean;
2436: Function SelectImage( var AFileName : string; const Extensions, Filter : string) : Boolean
2437: function SendAppMessage(Msg: Cardinal; WParam, LParam: Longint): Longint
2438: Function SendBuf( var Buf, Count : Integer) : Integer
2439: Function SendCmd( const AOut : string; const AResponse : SmallInt) : SmallInt;
2440: Function SendCmd1( const AOut : string; const AResponse : array of SmallInt) : SmallInt;
2441: Function SendKey( AppName : string; Key : Char) : Boolean
2442: function SendMessage(hWnd: HWND; Msg: longword; wParam: longint; lParam: longint): Boolean;
```

```
2443: Function SendStream( AStream : TStream) : Boolean
2444: Function SendStreamThenDrop( AStream : TStream) : Boolean
2445: Function SendText( const S : string) : Integer
2446: Function SendSerialData(Data: TByteArray; DataSize: cardinal): cardinal
2447: Function SendSerialText(Data: String): cardinal
2448: Function Sent : Boolean
2449: Function ServicesFilePath: string
2450: Function SetAlpha( const Color32 : TColor32; NewAlpha : Integer) : TColor32
2451: Function SetBit( const Value : Byte; const Bit : TBitRange) : Byte;
2452: Function SetBit1( const Value : Shortint; const Bit : TBitRange) : Shortint;
2453: Function SetBit2( const Value : Smallint; const Bit : TBitRange) : Smallint;
2454: Function SetBit3( const Value : Word; const Bit : TBitRange) : Word;
2455: Function SetBit4( const Value : Cardinal; const Bit : TBitRange) : Cardinal;
2456: Function SetBit4( const Value : Integer; const Bit : TBitRange) : Integer;
2457: Function SetBit5( const Value : Int64; const Bit : TBitRange) : Int64;
2458: Function SetClipboard( NewClipboard : TClipboard) : TClipboard
2459: Function SetColorBlue( const Color : TColor; const Blue : Byte) : TColor
2460: Function SetColorFlag( const Color : TColor; const Flag : Byte) : TColor
2461: Function SetColorGreen( const Color : TColor; const Green : Byte) : TColor
2462: Function SetColorRed( const Color : TColor; const Red : Byte) : TColor
2463: Function SetCurrentDir( Dir : string) : Boolean
2464: function SetCurrentDir(const Dir: string): Boolean)
2465: Function SetCurrentDirectory(PathName: PChar): WordBool; stdcall;
2466: Function SetDirCreation( const DirName : string; const DateTime : TDateTime) : Boolean
2467: Function SetDirLastAccess( const DirName : string; const DateTime : TDateTime) : Boolean
2468: Function SetDirLastWrite( const DirName : string; const DateTime : TDateTime) : Boolean
2469: Function SetDisplayResolution( const XRes, YRes : DWORD) : Longint
2470: Function SetEndOfFile(Handle: Integer): LongBool; stdcall;
2471: Function SetEnvironmentVar( const Name, Value : string) : Boolean
2472: Function SetErrorProc( ErrorProc : TSocketErrorProc) : TSocketErrorProc
2473: Function SetFileCreation( const FileName : string; const DateTime : TDateTime) : Boolean
2474: Function SetFileLastAccess( const FileName : string; const DateTime : TDateTime) : Boolean
2475: Function SetFileLastWrite( const FileName : string; const DateTime : TDateTime) : Boolean
2476: Function SetFileTimeStamp( const FileName : string; TimeStamp : Integer) : Boolean
2477: function SETFOCUSEDCONTROL(CONTROL:TWINCONTROL):BOOLEAN
2478: Function SetLocalTime( Value : TDateTime) : boolean
2479: Function SetPrecisionTolerance( NewTolerance : Float) : Float
2480: Function SetPrinter( NewPrinter : TPrinter) : TPrinter
2481: Function SetPrivilege(privilegeName: string; enable: boolean): boolean;
2482: Function SetRGBValue( const Red, Green, Blue : Byte) : TColor
2483: Function SetSequence( S, Localizar, Substituir : shortstring) : shortstring
2484: Function SetSize( libNewSize : Longint) : HResult
2485: Function SetUserObjectFullAccess( hUserObject : THandle) : Boolean
2486: Function Sgn( const X : Extended) : Integer
2487: function SHA1(const fileName: string): string;
2488: function SHA256(astr: string; amode: char): string)
2489: function SHA512(astr: string; amode: char): string)
2490: Function ShareMemoryManager : Boolean
2491: function ShellExecute(hWnd:HWND;Operation,FileN,Parameters,Dir:string;ShowCmd:Integer):integer;stdcall;
2492: function Shellexecute2(hwnd: HWND; const FileName: string):integer; stdcall;
2493: Function ShellExecute3(aFilename: string; aParameters: string; aCommand:TS_ShellExecuteCmd): string;
2494: Function SHORTCUT( KEY : WORD; SHIFT : TSHIFTSTATE) : TSHORTCUT
2495: Function SHORTCUTTOTEXT( SHORTCUT : TSHORTCUT) : String
2496: function ShortDateFormat: string;
2497: Function ShortenString(const DC:HDC;const S:WideString;const Width:Int;const
      RTL:Bool;EllipsisWidth:Int):WideString
2498: function ShortTimeFormat: string;
2499: function SHOWMODAL:INTEGER
2500: Function ShowModalControl(aControl:TControl;BS:TFormBorderStyle;BI:TBorderIcons;WS:TWindowState;aColor:
      TColor; BW: Integer;Title:String;BeforeShowModal:TNotifyEvent): TModalResult');
2501: Function
      ShowModalPanel(aPnl:TCustomPanel;Titl:String;ShowCloseIcn:Bool;BefShowModal:TNotifyEvent):TModalResult;
2502: function ShowWindow(C1: HWND; C2: integer): boolean;
2503: procedure ShowMemory     //in Dialog
2504: function ShowMemory2: string;
2505: Function ShutDownOS : Boolean
2506: Function Signe( const X, Y : Extended) : Extended
2507: Function Sign( const X : Extended) : Integer
2508: Function Sin(e : Extended) : Extended;
2509: Function sinc( const x : Double) : Double
2510: Function SinJ( X : Float) : Float
2511: Function Size( const AFileName : String) : Integer
2512: function SizeOf: Longint;
2513: Function SizeofResource( ModuleHandle : HMODULE; ResHandle : TResourceHandle) : Integer
2514: function SlashSep(const Path, S: String): String
2515: Function SLNDepreciation( const Cost, Salvage : Extended; Life : Integer) : Extended
2516: Function SleepEx( dwMilliseconds : DWORD; bAlertable : BOOL) : DWORD
2517: Function SmallPoint(X, Y: Integer): TSmallPoint)
2518: Function Soundex( const AText : string; ALength : TSoundexLength) : string
2519: Function SoundexCompare( const AText, AOther : string; ALength : TSoundexLength) : Integer
2520: Function SoundexInt( const AText : string; ALength : TSoundexIntLength) : Integer
2521: Function SoundexProc( const AText, AOther : string) : Boolean
2522: Function SoundexSimilar( const AText, AOther : string; ALength : TSoundexLength) : Boolean
2523: Function SoundexWord( const AText : string) : Word
2524: Function SourcePos : Longint
2525: function SourcePos:LongInt
2526: Function Split0( Str : string; const substr : string) : TStringList
2527: Procedure SplitNameValue( const Line : string; var Name, Value : string)
2528: Function SQLRequiresParams( const SQL : WideString) : Boolean
```

```
2529: Function Sqr(e : Extended) : Extended;
2530: Function Sqrt(e : Extended) : Extended;
2531: Function StartIP : String
2532: Function StartPan( WndHandle : THandle; AControl : TControl) : Boolean
2533: Function StartOfADay( const AYear, AMonth, ADay : Word) : TDateTime;
2534: Function StartOfADay1( const AYear, ADayOfYear : Word) : TDateTime;
2535: Function StartOfAMonth( const AYear, AMonth : Word) : TDateTime
2536: Function StartOfAWeek( const AYear, AWeekOfYear : Word; const ADayOfWeek : Word) : TDateTime
2537: Function StartOfAYear( const AYear : Word) : TDateTime
2538: Function StartOfTheDay( const AValue : TDateTime) : TDateTime
2539: Function StartOfTheMonth( const AValue : TDateTime) : TDateTime
2540: Function StartOfTheWeek( const AValue : TDateTime) : TDateTime
2541: Function StartOfTheYear( const AValue : TDateTime) : TDateTime
2542: Function StartsStr( const ASubText, AText : string) : Boolean
2543: Function StartsText( const ASubText, AText : string) : Boolean
2544: Function StartsWith( const ANSIStr, APattern : String) : Boolean
2545: Function StartsWith( const str : string; const sub : string) : Boolean
2546: Function StartsWithACE( const ABytes : TIdBytes) : Boolean
2547: Function StatusString( StatusCode : Integer) : string
2548: Function StdDev( const Data : array of Double) : Extended
2549: Function Stop : Float
2550: Function StopCount( var Counter : TJclCounter) : Float
2551: Function StoreColumns : Boolean
2552: Function StrAfter( const sString : string; const sDelimiters : string) : string;
2553: Function StrAfter1( const sString : string; const sDelimiters : string; out cDelimiter : char) : string;
2554: Function StrAlloc( Size : Cardinal) : PChar
2555: function StrAlloc(Size: Cardinal): PChar)
2556: Function StrBefore( const sString : string; const sDelimiters : string) : string;
2557: Function StrBefore1( const sString : string; const sDelimiters:string; out cDelimiter:char): string;
2558: Function StrBufSize( Str : PChar) : Cardinal
2559: function StrBufSize(const Str: PChar): Cardinal)
2560: Function StrByteType( Str : PChar; Index : Cardinal) : TMbcsByteType
2561: function StrByteType(Str: PChar; Index: Cardinal): TMbcsByteType)
2562: Function StrCat( Dest : PChar; Source : PChar) : PChar
2563: function StrCat(Dest: PChar; const Source: PChar): PChar)
2564: Function StrCharLength( Str : PChar) : Integer
2565: Function StrComp( Str1, Str2 : PChar) : Integer
2566: function StrComp(const Str1: PChar; const Str2: PChar): Integer)
2567: Function StrCopy( Dest : PChar; Source : PChar) : PChar
2568: function StrCopy(Dest: PChar; const Source: PChar): PChar)
2569: Function Stream_to_AnsiString( Source : TStream) : ansistring
2570: Function Stream_to_Base64( Source : TStream) : ansistring
2571: Function Stream_to_decimalbytes( Source : TStream) : string
2572: Function Stream2WideString( oStream : TStream) : WideString
2573: Function StreamtoAnsiString( Source : TStream) : ansistring
2574: Function StreamToByte( Source : TStream) : string
2575: Function StreamToDecimalbytes( Source : TStream) : string
2576: Function StreamtoOrd( Source : TStream) : string
2577: Function StreamToString( Source : TStream) : string
2578: Function StreamToString2( Source : TStream) : string
2579: Function StreamToString3( Source : TStream) : string
2580: Function StreamToString4( Source : TStream) : string
2581: Function StrECopy( Dest : PChar; Source : PChar) : PChar
2582: Function StrEmpty( const sString : string) : boolean
2583: Function StrEnd( Str : PChar) : PChar
2584: function StrEnd(const Str: PChar): PChar)
2585: Function StrFilter( const sString : string; xValidChars : TCharSet) : string
2586: Function StrFmt(Buffer, Format: PChar; const Args: array of const): PChar)
2587: Function StrGet(var S : String; I : Integer) : Char;
2588: Function StrGet2(S : String; I : Integer) : Char;
2589: Function StrHasPrefix( const sString : string; const sPrefix : string) : boolean
2590: Function StrHasSuffix( const sString : string; const sSuffix : string) : boolean
2591: Function StrHtmlDecode( const AStr : String) : String
2592: Function StrHtmlEncode( const AStr : String) : String
2593: Function StrToBytes(const Value: String): TBytes;
2594: Function StrIComp( Str1, Str2 : PChar) : Integer
2595: Function StringOfChar(c : char;I : longInt) : String;
2596: Function StringOfChar2( ch : WideChar; Count : Integer) : WideString;
2597: Function StringPad(InputStr,FillChar: String; StrLen:Integer; StrJustify:Boolean): String;
2598: Function StringRefCount(const s: String): integer;
2599: Function StringReplace( S, OldPattern, NewPattern : string; Flags : TReplaceFlags) : string
2600: Function JStringReplace( const S, OldPattern, NewPattern : string; Flags : TReplaceFlags) : string
2601: Function StringReplace(const SourceString, OldPattern,NewPattern:string; Flags:TReplaceFlags): string;
2602: Function StringRemove( const S, Pattern : string; Flags : TReplaceFlags) : string
2603: Function StringToBoolean( const Ps : string) : Boolean
2604: function StringToColor(const S: string): TColor)
2605: function StringToCursor(const S: string): TCursor;
2606: function StringToGUID(const S: string): TGUID)
2607: Function StringTokenizer( const str : string; const delim : string) : IStringTokenizer
2608: Function StringToStringArray( const str : string; const delim : string) : TStringDynArray
2609: Function StringWidth( S : string) : Integer
2610: Function StrInternetToDateTime( Value : string) : TDateTime
2611: Function StrIsDateTime( const Ps : string) : Boolean
2612: Function StrIsFloatMoney( const Ps : string) : Boolean
2613: Function StrIsInteger( const S : string) : Boolean
2614: Function StrLCat( Dest : PChar; Source : PChar; MaxLen : Cardinal) : PChar
2615: Function StrLComp( Str1, Str2 : PChar; MaxLen : Cardinal) : Integer
2616: Function StrLCopy( Dest : PChar; Source : PChar; MaxLen : Cardinal) : PChar
2617: Function StrLen( Str : PChar) : Cardinal
```

```
2618: function StrLen(const Str: PChar): Cardinal)
2619: Function StrLessPrefix( const sString : string; const sPrefix : string) : string
2620: Function StrLessSuffix( const sString : string; const sSuffix : string) : string
2621: Function StrLIComp( Str1, Str2 : PChar; MaxLen : Cardinal) : Integer
2622: Function StrLower( Str : PChar) : PChar
2623: Function StrMove( Dest : PChar; Source : PChar; Count : Cardinal) : PChar
2624: function StrMove(Dest: PChar; const Source: PChar; Count: Cardinal): PChar)
2625: Function StrNew( Str : PChar) : PChar
2626: function StrNew(const Str: PChar): PChar)
2627: Function StrNextChar( Str : PChar) : PChar
2628: Function StrPad( const sString : string; const sPad : string; const iLength : integer) : string
2629: Function StrParse( var sString : string; const sDelimiters : string) : string;
2630: Function StrParse1( var sString : string; const sDelimiters : string; out cDelimiter : char) : string;
2631: Function StrPas( Str : PChar) : string
2632: function StrPas(const Str: PChar): string)
2633: Function StrPCopy( Dest : PChar; Source : string) : PChar
2634: function StrPCopy(Dest: PChar; const Source: string): PChar)
2635: Function StrPLCopy( Dest : PChar; Source : string; MaxLen : Cardinal) : PChar
2636: Function StrPos( Str1, Str2 : PChar) : PChar
2637: Function StrScan(const Str: PChar; Chr: Char): PChar)
2638: Function StrRScan(const Str: PChar; Chr: Char): PChar)
2639: Function StrToBcd( const AValue : string) : TBcd
2640: Function StrToBool( S : string) : Boolean
2641: Function StrToBoolDef( S : string; Default : Boolean) : Boolean
2642: Function StrToCard( const AStr : String) : Cardinal
2643: Function StrToConv( AText : string; out AType : TConvType) : Double
2644: Function StrToCurr( S : string) : Currency;
2645: Function StrToCurr(const S: string): Currency)
2646: Function StrToCurrDef( S : string; Default : Currency) : Currency;
2647: Function StrToDate( S : string) : TDateTime;
2648: function StrToDate(const s: string): TDateTime;
2649: Function StrToDateDef( S : string; Default : TDateTime) : TDateTime;
2650: Function StrToDateTime( S : string) : TDateTime;
2651: function StrToDateTime(const S: string): TDateTime)
2652: Function StrToDateTimeDef( S : string; Default : TDateTime) : TDateTime;
2653: Function StrToDay( const ADay : string) : Byte
2654: Function StrToFloat( S : string) : Extended;
2655: function StrToFloat(s: String): Extended;
2656: Function StrToFloatDef( S : string; Default : Extended) : Extended;
2657: function StrToFloatDef(const S: string; const Default: Extended): Extended)
2658: Function StrToFloat( S : string) : Extended;
2659: Function StrToFloat2( S : string; FormatSettings : TFormatSettings) : Extended;
2660: Function StrToFloatDef( S : string; Default : Extended) : Extended;
2661: Function StrToFloatDef2(S: string; Default: Extended;FormatSettings:TFormatSettings): Extended;
2662: Function StrToCurr( S : string) : Currency;
2663: Function StrToCurr2( S : string; FormatSettings : TFormatSettings) : Currency;
2664: Function StrToCurrDef( S : string; Default : Currency) : Currency;
2665: Function StrToCurrDef2( S : string; Default : Currency; FormatSettings : TFormatSettings) : Currency;
2666: Function StrToTime2( S : string; FormatSettings : TFormatSettings) : TDateTime;
2667: Function StrToTimeDef( S : string; Default : TDateTime) : TDateTime;
2668: Function StrToTimeDef2( S : string; Default : TDateTime; FormatSettings:TFormatSettings):TDateTime;
2669: Function TryStrToTime( S : string; Value : TDateTime) : Boolean;
2670: Function StrToDateTime( S : string) : TDateTime;
2671: Function StrToDateTime2( S : string; FormatSettings : TFormatSettings) : TDateTime;
2672: Function StrToDateTimeDef( S : string; Default : TDateTime) : TDateTime;
2673: Function StrToFloatRegionalIndependent(aValue: String;aDecimalSymbol:Char;aDigitGroupSymbol:Char): Extended
2674: Function StrToInt( S : string) : Integer
2675: function StrToInt(s: String): Longint;
2676: Function StrToInt64( S : string) : Int64
2677: function StrToInt64(s: String): int64;
2678: Function StrToInt64Def( S : string; Default : Int64) : Int64
2679: function StrToInt64Def(const S: string; const Default: Int64):Int64)
2680: Function StrToIntDef( S : string; Default : Integer) : Integer
2681: function StrToIntDef(const S: string; Default: Integer): Integer)
2682: function StrToIntDef(s: String; def: Longint): Longint;
2683: Function StrToMonth( const AMonth : string) : Byte
2684: Function StrToTime( S : string) : TDateTime;
2685: function StrToTime(const S: string): TDateTime)
2686: Function StrToTimeDef( S : string; Default : TDateTime) : TDateTime;
2687: Function StrToWord( const Value : String) : Word
2688: Function StrToXmlDate( const DateStr : string; const Format : string) : string
2689: Function StrToXmlDateTime( const DateStr : string; const Format : string) : string
2690: Function StrToXmlTime( const TimeStr : string; const Format : string) : string
2691: Function StrUpper( Str : PChar) : PChar
2692: Function StuffString( const AText : string; AStart, ALength : Cardinal; const ASubText : string) : string
2693: Function Sum( const Data : array of Double) : Extended
2694: Function SumFloatArray( const B : TDynFloatArray) : Float
2695: Function SumInt( const Data : array of Integer) : Integer
2696: Function SumOfSquares( const Data : array of Double) : Extended
2697: Function SumPairProductFloatArray( const X, Y : TDynFloatArray) : Float
2698: Function SumSquareDiffFloatArray( const B : TDynFloatArray; Diff : Float) : Float
2699: Function SumSquareFloatArray( const B : TDynFloatArray) : Float
2700: Function Supports( CursorOptions : TCursorOptions) : Boolean
2701: Function SupportsClipboardFormat( AFormat : Word) : Boolean
2702: Function SwapWord(w : word): word)
2703: Function SwapInt(i : integer): integer)
2704: Function SwapLong(L : longint): longint)
2705: Function Swap(i : integer): integer)
2706: Function SYDDepreciation( const Cost, Salvage : Extended; Life, Period : Integer) : Extended
```

```
2707: Function SyncTime : Boolean
2708: Function SysErrorMessage( ErrorCode : Integer) : string
2709: function SysErrorMessage(ErrorCode: Integer): string)
2710: Function SystemTimeToDateTime( SystemTime : TSystemTime) : TDateTime
2711: function SystemTimeToDateTime(const SystemTime: TSystemTime): TDateTime;
2712: Function SysStringLen(const S: WideString): Integer; stdcall;
2713: Function TabRect( Index : Integer) : TRect
2714: Function Tan( const X : Extended) : Extended
2715: Function TaskMessageDlg(const Title,
      Msg:string;DlgType:TMsgDlgType;Buttons:TMsgDlgButtons;HelpCtx:Longint): Integer;
2716: Function TaskMessageDlg1( const Title, Msg : string; DlgType : TMsgDlgType; Buttons : TMsgDlgButtons;
      HelpCtx : Longint; DefaultButton : TMsgDlgBtn) : Integer;
2717: Function TaskMessageDlgPos( const Title, Msg : string; DlgType : TMsgDlgType; Buttons : TMsgDlgButtons;
      HelpCtx : Longint; X, Y : Integer) : Integer;
2718: Function TaskMessageDlgPos1( const Title, Msg : string; DlgType : TMsgDlgType; Buttons : TMsgDlgButtons;
      HelpCtx : Longint; X, Y : Integer; DefaultButton : TMsgDlgBtn) : Integer;
2719: Function TaskMessageDlgPosHelp( const Title, Msg : string; DlgType : TMsgDlgType; Buttons :
      TMsgDlgButtons; HelpCtx : Longint; X, Y : Integer; const HelpFileName : string) : Integer;
2720: Function TaskMessageDlgPosHelp1(const Title, Msg:string;DlgType: TMsgDlgType; Buttons : TMsgDlgButtons;
      HelpCtx:Longint; X,Y: Integer;const HelpFileName:string;DefaultButton:TMsgDlgBtn): Integer;
2721: Function TenToY( const Y : Float) : Float
2722: Function TerminateApp( ProcessID : DWORD; Timeout : Integer) : TJclTerminateAppResult
2723: Function TerminateTask( Wnd : HWND; Timeout : Integer) : TJclTerminateAppResult
2724: Function TestBit( const Value : Byte; const Bit : TBitRange) : Boolean;
2725: Function TestBit2( const Value : Shortint; const Bit : TBitRange) : Boolean;
2726: Function TestBit3( const Value : Smallint; const Bit : TBitRange) : Boolean;
2727: Function TestBit4( const Value : Word; const Bit : TBitRange) : Boolean;
2728: Function TestBit5( const Value : Cardinal; const Bit : TBitRange) : Boolean;
2729: Function TestBit6( const Value : Integer; const Bit : TBitRange) : Boolean;
2730: Function TestBit7( const Value : Int64; const Bit : TBitRange) : Boolean;
2731: Function TestBits( const Value, Mask : Byte) : Boolean;
2732: Function TestBits1( const Value, Mask : Shortint) : Boolean;
2733: Function TestBits2( const Value, Mask : Smallint) : Boolean;
2734: Function TestBits3( const Value, Mask : Word) : Boolean;
2735: Function TestBits4( const Value, Mask : Cardinal) : Boolean;
2736: Function TestBits5( const Value, Mask : Integer) : Boolean;
2737: Function TestBits6( const Value, Mask : Int64) : Boolean;
2738: Function TestFDIVInstruction : Boolean
2739: function TestStreamFormat(Stream: TStream): TStreamOriginalFormat
2740: Function TextExtent( const Text : string) : TSize
2741: function TextHeight(Text: string): Integer;
2742: Function TextIsSame( const A1 : string; const A2 : string) : Boolean
2743: Function TextStartsWith( const S, SubS : string) : Boolean
2744: function TextToFloat(Buffer: PChar; var Value: Extended; ValueType: TFloatValue): Boolean)
2745: Function ConvInteger(i : integer):string;
2746: Function IntegerToText(i : integer):string;
2747: Function TEXTTOSHORTCUT( TEXT : String) : TSHORTCUT
2748: function TextWidth(Text: string): Integer;
2749: Function ThreadCount : integer
2750: function ThousandSeparator: char;
2751: Function Ticks : Cardinal
2752: Function Time : TDateTime
2753: function Time: TDateTime;
2754: function TimeGetTime: int64;
2755: Function TimeOf( const AValue : TDateTime) : TDateTime
2756: function TimeSeparator: char;
2757: function TimeStampToDateTime(const TimeStamp: TTimeStamp): TDateTime
2758: Function TimeStampToMSecs( TimeStamp : TTimeStamp) : Comp
2759: function TimeStampToMSecs(const TimeStamp: TTimeStamp): Comp)
2760: Function TimeToStr( DateTime : TDateTime) : string;
2761: function TimeToStr(const DateTime: TDateTime): string;
2762: Function TimeZoneBias : TDateTime
2763: Function ToCommon( const AValue : Double) : Double
2764: function ToCommon(const AValue: Double): Double;
2765: Function Today : TDateTime
2766: Function ToggleBit( const Value : Byte; const Bit : TBitRange) : Byte;
2767: Function ToggleBit1( const Value : Shortint; const Bit : TBitRange) : Shortint;
2768: Function ToggleBit2( const Value : Smallint; const Bit : TBitRange) : Smallint;
2769: Function ToggleBit3( const Value : Word; const Bit : TBitRange) : Word;
2770: Function ToggleBit4( const Value : Cardinal; const Bit : TBitRange) : Cardinal;
2771: Function ToggleBit5( const Value : Integer; const Bit : TBitRange) : Integer;
2772: Function ToggleBit6( const Value : Int64; const Bit : TBitRange) : Int64;
2773: function TokenComponentIdent:String
2774: Function TokenFloat : Extended
2775: function TokenFloat:Extended
2776: Function TokenInt : Longint
2777: function TokenInt:LongInt
2778: Function TokenString : string
2779: function TokenString:String
2780: Function TokenSymbolIs( const S : string) : Boolean
2781: function TokenSymbolIs(S:String):Boolean
2782: Function Tomorrow : TDateTime
2783: Function ToRightOf( const pc : TControl; piSpace : Integer) : Integer
2784: Function ToString : string
2785: Function TotalVariance( const Data : array of Double) : Extended
2786: Function Trace2( AURL : string) : string;
2787: Function TrackMenu( Button : TToolButton) : Boolean
2788: Function TRANSLATE( SRC, DEST : PCHAR; TOOEM : BOOLEAN) : INTEGER
2789: Function TranslateURI( const URI : string) : string
```

```
2790: Function TranslationMatchesLanguages( Exact : Boolean) : Boolean
2791: Function TransparentStretchBlt( DstDC :HDC;DstX,DstY,DstW,DstH:Integer;SrcDC:HDC;SrcX,SrcY,SrcW,
      SrcH:Integer;MaskDC : HDC; MaskX, MaskY : Integer) : Boolean
2792: Function Trim( S : string) : string;
2793: Function Trim( S : WideString) : WideString;
2794: Function Trim(s : AnyString) : AnyString;
2795: Function TrimAllOf( ATrim, AText : String) : String
2796: Function TrimLeft( S : string) : string;
2797: Function TrimLeft( S : WideString) : WideString;
2798: function TrimLeft(const S: string): string)
2799: Function TrimRight( S : string) : string;
2800: Function TrimRight( S : WideString) : WideString;
2801: function TrimRight(const S: string): string)
2802: function TrueBoolStrs: array of string
2803: Function Trunc(e : Extended) : Longint;
2804: Function Trunc64(e: extended): Int64;
2805: Function TruncPower( const Base, Exponent : Float) : Float
2806: Function TryConvTypeToFamily( const AFrom, ATo : TConvType; out AFamily : TConvFamily) : Boolean;
2807: Function TryConvTypeToFamily1( const AType : TConvType; out AFamily : TConvFamily) : Boolean;
2808: function TryEncodeDate(Year, Month, Day: Word; var Date: TDateTime): Boolean;
2809: Function TryEncodeDateDay( const AYear, ADayOfYear : Word; out AValue : TDateTime) : Boolean
2810: Function TryEncodeDateMonthWeek(const AY,AMonth,AWeekOfMonth,ADayOfWeek:Word;var AValue:TDateTime): Boolean
2811: Function TryEncodeDateTime(const AYear,AMonth,ADay,AHour,AMin,ASec,AMilliSecond:Word; out
      AValue:TDateTime):Boolean
2812: Function TryEncodeDateWeek(const AY,AWeekOfYear:Word;out AValue:TDateTime;const ADayOfWeek:Word): Boolean
2813: Function TryEncodeDayOfWeekInMonth(const AYear,AMonth,ANthDayOfWeek,ADayOfWeek:Word;out
      AVal:TDateTime):Bool
2814: function TryEncodeTime(Hour, Min, Sec, MSec: Word; var Time: TDateTime): Boolean;
2815: Function TryFloatToDateTime( Value : Extended; AResult : TDateTime) : Boolean
2816: Function TryJulianDateToDateTime( const AValue : Double; out ADateTime : TDateTime) : Boolean
2817: Function TryLock : Boolean
2818: Function TryModifiedJulianDateToDateTime( const AValue : Double; out ADateTime : TDateTime) : Boolean
2819: Function TryRecodeDateTime( const AValue : TDateTime; const AYear, AMonth, ADay, AHour, AMinute, ASecond,
      AMilliSecond : Word; out AResult : TDateTime) : Boolean
2820: Function TryStrToBcd( const AValue : string; var Bcd : TBcd) : Boolean
2821: Function TryStrToConv( AText : string; out AValue : Double; out AType : TConvType) : Boolean
2822: Function TryStrToDate( S : string; Value : TDateTime) : Boolean;
2823: Function TryStrToDateTime( S : string; Value : TDateTime) : Boolean;
2824: Function TryStrToTime( S : string; Value : TDateTime) : Boolean;
2825: Function TryStrToInt(const S: AnsiString; var I: Integer): Boolean;
2826: Function TryStrToInt64(const S: AnsiString; var I: Int64): Boolean;
2827: function TryStrToBool(const S: string; out Value: Boolean): Boolean;
2828: Function TwoByteToWord( AByte1, AByte2 : Byte) : Word
2829: Function TwoCharToWord( AChar1, AChar2 : Char) : Word
2830: Function TwoToY( const Y : Float) : Float
2831: Function UCS4StringToWideString( const S : UCS4String) : WideString
2832: Function UIDL( const ADest : TStrings; const AMsgNum : Integer) : Boolean
2833: function Unassigned: Variant;
2834: Function UndoLastChange( FollowChange : Boolean) : Boolean
2835: function UniCodeToStr(Value: string): string;
2836: Function UnionRect( out Rect : TRect; const R1, R2 : TRect) : Boolean
2837: function UnionRect(out Rect: TRect; const R1, R2: TRect): Boolean)
2838: Function UnixDateTimeToDelphiDateTime( UnixDateTime : Cardinal) : TDateTime
2839: Function UnixPathToDosPath( const Path : string) : string
2840: Function UnixToDateTime( const AValue : Int64) : TDateTime
2841: function UnixToDateTime(U: Int64): TDateTime;
2842: Function UnlockRegion( libOffset : Longint; cb : Largeint; dwLockType : Longint) : HResult
2843: Function UnlockResource( ResData : HGLOBAL) : LongBool
2844: Function UnlockVolume( var Handle : THandle) : Boolean
2845: Function UnMaskString( Mask, Value : String) : String
2846: function UpCase(ch : Char ) : Char;
2847: Function UpCaseFirst( const AStr : string) : string
2848: Function UpCaseFirstWord( const AStr : string) : string
2849: Function UpdateAction( Action : TBasicAction) : Boolean
2850: Function UpdateKind : TUpdateKind
2851: Function UPDATESTATUS : TUPDATESTATUS
2852: Function UpperCase( S : string) : string
2853: Function Uppercase(s : AnyString) : AnyString;
2854: Function URLDecode( ASrc : string) : string
2855: Function URLEncode( const ASrc : string) : string
2856: Function UseRightToLeftAlignment : Boolean
2857: Function UseRightToLeftAlignmentForField( const AField : TField; Alignment : TAlignment) : Boolean
2858: Function UseRightToLeftReading : Boolean
2859: Function UTF8CharLength( Lead : Char) : Integer
2860: Function UTF8CharSize( Lead : Char) : Integer
2861: Function UTF8Decode( const S : UTF8String) : WideString
2862: Function UTF8Encode( const WS : WideString) : UTF8String
2863: Function UTF8LowerCase( const S : UTF8string) : UTF8string
2864: Function Utf8ToAnsi( const S : UTF8String) : string
2865: Function Utf8ToAnsiEx( const S : UTF8String; const cp : integer) : string
2866: Function UTF8UpperCase( const S : UTF8string) : UTF8string
2867: Function ValidFieldIndex( FieldIndex : Integer) : Boolean
2868: Function ValidParentForm(control: TControl): TForm
2869: Function Value : Variant
2870: Function ValueExists( const Section, Ident : string) : Boolean
2871: Function ValueOf( const Key : string) : Integer
2872: Function ValueInSet(AValue: Variant; ASet: Variant): Boolean;
2873: Function VALUEOFKEY( const AKEY : VARIANT) : VARIANT
2874: Function VarArrayFromStrings( Strings : TStrings) : Variant
```

```
2875: Function VarArrayFromWideStrings( Strings : TWideStrings) : Variant
2876: Function VarArrayGet(var S : Variant; I : Integer) : Variant;
2877: Function VarFMTBcd : TVarType
2878: Function VarFMTBcdCreate1 : Variant;
2879: Function VarFMTBcdCreate2( const AValue : string; Precision, Scale : Word) : Variant;
2880: Function VarFMTBcdCreate3( const AValue : Double; Precision : Word; Scale : Word) : Variant;
2881: Function VarFMTBcdCreate4( const ABcd : TBcd) : Variant;
2882: Function Variance( const Data : array of Double) : Extended
2883: Function VariantAdd2( const V1 : Variant; const V2 : Variant) : Variant
2884: Function VariantAnd2( const V1 : Variant; const V2 : Variant) : Variant
2885: Function VariantDiv2( const V1 : Variant; const V2 : Variant) : Variant
2886: Function VariantGetElement( const V : Variant; i1 : integer) : Variant;
2887: Function VariantGetElement1( const V : Variant; i1, i2 : integer) : Variant;
2888: Function VariantGetElement2( const V : Variant; i1, i2, i3 : integer) : Variant;
2889: Function VariantGetElement3( const V : Variant; i1, i2, i3, i4 : integer) : Variant;
2890: Function VariantGetElement4( const V : Variant; i1, i2, i3, i4, i5 : integer) : Variant;
2891: Function VariantMod2( const V1 : Variant; const V2 : Variant) : Variant
2892: Function VariantMul2( const V1 : Variant; const V2 : Variant) : Variant
2893: Function VariantNeg( const V1 : Variant) : Variant
2894: Function VariantNot( const V1 : Variant) : Variant
2895: Function VariantOr2( const V1 : Variant; const V2 : Variant) : Variant
2896: Function VariantShl2( const V1 : Variant; const V2 : Variant) : Variant
2897: Function VariantShr2( const V1 : Variant; const V2 : Variant) : Variant
2898: Function VariantSub2( const V1 : Variant; const V2 : Variant) : Variant
2899: Function VariantXor2( const V1 : Variant; const V2 : Variant) : Variant
2900: function VarIsEmpty(const V: Variant): Boolean;
2901: Function VarIsFMTBcd( const AValue : Variant) : Boolean;
2902: function VarIsNull(const V: Variant): Boolean;
2903: Function VarToBcd( const AValue : Variant) : TBcd
2904: function VarType(const V: Variant): TVarType;
2905: Function VarType( const V : Variant) : TVarType
2906: Function VarAsType( const V : Variant; AVarType : TVarType) : Variant
2907: Function VarIsType( const V : Variant; AVarType : TVarType) : Boolean;
2908: Function VarIsType1( const V : Variant; const AVarTypes : array of TVarType) : Boolean;
2909: Function VarIsByRef( const V : Variant) : Boolean
2910: Function VarIsEmpty( const V : Variant) : Boolean
2911: Procedure VarCheckEmpty( const V : Variant)
2912: Function VarIsNull( const V : Variant) : Boolean
2913: Function VarIsClear( const V : Variant) : Boolean
2914: Function VarIsCustom( const V : Variant) : Boolean
2915: Function VarIsOrdinal( const V : Variant) : Boolean
2916: Function VarIsFloat( const V : Variant) : Boolean
2917: Function VarIsNumeric( const V : Variant) : Boolean
2918: Function VarIsStr( const V : Variant) : Boolean
2919: Function VarToStr( const V : Variant) : string
2920: Function VarToStrDef( const V : Variant; const ADefault : string) : string
2921: Function VarToWideStr( const V : Variant) : WideString
2922: Function VarToWideStrDef( const V : Variant; const ADefault : WideString) : WideString
2923: Function VarToDateTime( const V : Variant) : TDateTime
2924: Function VarFromDateTime( const DateTime : TDateTime) : Variant
2925: Function VarInRange( const AValue, AMin, AMax : Variant) : Boolean
2926: Function VarEnsureRange( const AValue, AMin, AMax : Variant) : Variant
2927: TVariantRelationship', '( vrEqual, vrLessThan, vrGreaterThan, vrNotEqual )
2928: Function VarSameValue( const A, B : Variant) : Boolean
2929: Function VarCompareValue( const A, B : Variant) : TVariantRelationship
2930: Function VarIsEmptyParam( const V : Variant) : Boolean
2931: Function VarIsError( const V : Variant; out AResult : HRESULT) : Boolean;
2932: Function VarIsError1( const V : Variant) : Boolean;
2933: Function VarAsError( AResult : HRESULT) : Variant
2934: Procedure VarCopyNoInd( var Dest : Variant; const Source : Variant)
2935: Function VarIsArray( const A : Variant) : Boolean;
2936: Function VarIsArray1( const A : Variant; AResolveByRef : Boolean) : Boolean;
2937: Function VarArrayCreate( const Bounds : array of Integer; AVarType : TVarType) : Variant
2938: Function VarArrayOf( const Values : array of Variant) : Variant
2939: Function VarArrayRef( const A : Variant) : Variant
2940: Function VarTypeIsValidArrayType( const AVarType : TVarType) : Boolean
2941: Function VarTypeIsValidElementType( const AVarType : TVarType) : Boolean
2942: Function VarArrayDimCount( const A : Variant) : Integer
2943: Function VarArrayLowBound( const A : Variant; Dim : Integer) : Integer
2944: Function VarArrayHighBound( const A : Variant; Dim : Integer) : Integer
2945: Function VarArrayLock( const A : Variant) : ___Pointer
2946: Procedure VarArrayUnlock( const A : Variant)
2947: Function VarArrayGet( const A : Variant; const Indices : array of Integer) : Variant
2948: Procedure VarArrayPut( var A : Variant; const Value : Variant; const Indices : array of Integer)
2949: Procedure DynArrayToVariant( var V : Variant; const DynArray : ___Pointer; TypeInfo : ___Pointer)
2950: Procedure DynArrayFromVariant( var DynArray : ___Pointer; const V : Variant; TypeInfo : ___Pointer)
2951: Function Unassigned : Variant
2952: Function Null : Variant
2953: Function VectorAdd( const V1, V2 : TFloatPoint) : TFloatPoint
2954: function VectorAdd(const V1,V2: TFloatPoint): TFloatPoint;
2955: Function VectorDot( const V1, V2 : TFloatPoint) : Double
2956: function VectorDot(const V1,V2: TFloatPoint): Double;
2957: Function VectorLengthSqr( const V : TFloatPoint) : Double
2958: function VectorLengthSqr(const V: TFloatPoint): Double;
2959: Function VectorMult( const V : TFloatPoint; const s : Double) : TFloatPoint
2960: function VectorMult(const V: TFloatPoint; const s: Double): TFloatPoint;
2961: Function VectorSubtract( const V1, V2 : TFloatPoint) : TFloatPoint
2962: function VectorSubtract(const V1,V2: TFloatPoint): TFloatPoint;
2963: Function Verify( AUserName : String) : String
```

```
2964: Function Versine( X : Float) : Float
2965: function VersionCheck: boolean;
2966: function VersionCheckAct: string;
2967: Function VersionLanguageId( const LangIdRec : TLangIdRec) : string
2968: Function VersionLanguageName( const LangId : Word) : string
2969: Function VersionResourceAvailable( const FileName : string) : Boolean
2970: Function Visible : Boolean
2971: function VolumeID(DriveChar: Char): string
2972: Function WaitFor( const AString : string) : string
2973: Function WaitFor( const TimeOut : Cardinal) : TJclWaitResult
2974: Function WaitFor1 : TWaitResult;
2975: Function WaitForData( Timeout : Longint) : Boolean
2976: Function WebColorNameToColor( WebColorName : string) : TColor
2977: Function WebColorStrToColor( WebColor : string) : TColor
2978: Function WebColorToRGB( WebColor : Integer) : Integer
2979: Function wGet(aURL, afile: string): boolean;'
2980: Function wGet2(aURL, afile: string): boolean;'  //without file open
2981: Function wGetX(aURL, afile: string): boolean;
2982: Function wGetX2(aURL, afile: string): boolean;'  //without file open
2983: Function WebGet(aURL, afile: string): boolean;'
2984: Function WebExists: boolean;   //alias to isinternet
2985: Function WeekOf( const AValue : TDateTime) : Word
2986: Function WeekOfTheMonth( const AValue : TDateTime) : Word;
2987: Function WeekOfTheMonth1( const AValue : TDateTime; var AYear, AMonth : Word) : Word;
2988: Function WeekOfTheYear( const AValue : TDateTime) : Word;
2989: Function WeekOfTheYear1( const AValue : TDateTime; var AYear : Word) : Word;
2990: Function WeeksBetween( const ANow, AThen : TDateTime) : Integer
2991: Function WeeksInAYear( const AYear : Word) : Word
2992: Function WeeksInYear( const AValue : TDateTime) : Word
2993: Function WeekSpan( const ANow, AThen : TDateTime) : Double
2994: Function WideAdjustLineBreaks( const S : WideString; Style : TTextLineBreakStyle) : WideString
2995: Function WideCat( const x, y : WideString) : WideString
2996: Function WideCompareStr( S1, S2 : WideString) : Integer
2997: function WideCompareStr(const S1: WideString; const S2: WideString): Integer)
2998: Function WideCompareText( S1, S2 : WideString) : Integer
2999: function WideCompareText(const S1: WideString; const S2: WideString): Integer)
3000: Function WideCopy( const src : WideString; index, count : Integer) : WideString
3001: Function WideDequotedStr( const S : WideString; AQuote : WideChar) : WideString
3002: Function WideEqual( const x, y : WideString) : Boolean
3003: function WideFormat(const Format: WideString; const Args: array of const): WideString)
3004: Function WideGreater( const x, y : WideString) : Boolean
3005: Function WideLength( const src : WideString) : Integer
3006: Function WideLess( const x, y : WideString) : Boolean
3007: Function WideLowerCase( S : WideString) : WideString
3008: function WideLowerCase(const S: WideString): WideString)
3009: Function WidePos( const src, sub : WideString) : Integer
3010: Function WideQuotedStr( const S : WideString; Quote : WideChar) : WideString
3011: Function WideReplaceStr( const AText, AFromText, AToText : WideString) : WideString
3012: Function WideReplaceText( const AText, AFromText, AToText : WideString) : WideString
3013: Function WideSameStr( S1, S2 : WideString) : Boolean
3014: function WideSameStr(const S1: WideString; const S2: WideString): Boolean)
3015: Function WideSameText( S1, S2 : WideString) : Boolean
3016: function WideSameText(const S1: WideString; const S2: WideString): Boolean)
3017: Function WideStringReplace(const S,OldPattern, NewPattern: Widestring; Flags: TReplaceFlags): Widestring
3018: Function WideStringToUCS4String( const S : WideString) : UCS4String
3019: Function WideUpperCase( S : WideString) : WideString
3020: Function Win32BackupFile( const FileName : string; Move : Boolean) : Boolean
3021: function Win32Check(RetVal: boolean): boolean)
3022: Function Win32DeleteFile( const FileName : string; MoveToRecycleBin : Boolean) : Boolean
3023: Function Win32RestoreFile( const FileName : string) : Boolean
3024: Function Win32Type : TIdWin32Type
3025: Function WinColor( const Color32 : TColor32) : TColor
3026: function winexec(FileName: pchar; showCmd: integer): integer;
3027: Function WinExec32( const Cmd : string; const CmdShow : Integer) : Boolean
3028: Function WinExec32AndWait( const Cmd : string; const CmdShow : Integer) : Cardinal
3029: Function WithinPastDays( const ANow, AThen : TDateTime; const ADays : Integer) : Boolean
3030: Function WithinPastHours( const ANow, AThen : TDateTime; const AHours : Int64) : Boolean
3031: Function WithinPastMilliSeconds( const ANow, AThen : TDateTime; const AMilliSeconds : Int64) : Boolean
3032: Function WithinPastMinutes( const ANow, AThen : TDateTime; const AMinutes : Int64) : Boolean
3033: Function WithinPastMonths( const ANow, AThen : TDateTime; const AMonths : Integer) : Boolean
3034: Function WithinPastSeconds( const ANow, AThen : TDateTime; const ASeconds : Int64) : Boolean
3035: Function WithinPastWeeks( const ANow, AThen : TDateTime; const AWeeks : Integer) : Boolean
3036: Function WithinPastYears( const ANow, AThen : TDateTime; const AYears : Integer) : Boolean
3037: Function WNetAddConnection( lpRemoteName, lpPassword, lpLocalName : PChar) : DWORD
3038: Function WordToStr( const Value : Word) : String
3039: Function WordGridFormatIdentToInt( const Ident : string; var Value : Longint) : Boolean
3040: Function IntToWordGridFormatIdent( Value : Longint; var Ident : string) : Boolean
3041: Procedure GetWordGridFormatValues( Proc : TGetStrProc)
3042: Function WorkArea : Integer
3043: Function WrapText( Line : string; MaxCol : Integer) : string;
3044: Function WrapText2( Line, BreakStr : string; BreakChars : TSysCharSet; MaxCol : Integer) : string;
3045: Function Write( pv : Pointer; cb : Longint; pcbWritten : PLongint) : HResult
3046: function Write(Buffer:String;Count:LongInt):LongInt
3047: Function WriteClient( var Buffer, Count : Integer) : Integer
3048: Function WriteFile( const AFile : string; const AEnableTransferFile : Boolean) : Cardinal
3049: Function WriteHeaders( StatusCode : Integer; const ReasonString, Headers : string) : Boolean
3050: Function WriteString( const AString : string) : Boolean
3051: Function WStrGet(var S : AnyString; I : Integer) : WideChar;
3052: Function wvsprintf( Output : PChar; Format : PChar; arglist : va_list) : Integer
```

```
3053: Function wsprintf( Output : PChar; Format : PChar) : Integer
3054: Function XmlDateTimeToStr( const XmlDateTime : string; const Format : string) : string
3055: Function XmlTimeToStr( const XmlTime : string; const Format : string) : string
3056: Function XorDecode( const Key, Source : string) : string
3057: Function XorEncode( const Key, Source : string) : string
3058: Function XorString( const Key, Src : ShortString) : ShortString
3059: Function Yield : Bool
3060: Function YearOf( const AValue : TDateTime) : Word
3061: Function YearsBetween( const ANow, AThen : TDateTime) : Integer
3062: Function YearSpan( const ANow, AThen : TDateTime) : Double
3063: Function Yesterday : TDateTime
3064: Function YesNoDialog(const ACaption, AMsg: string): boolean;
3065: Function( const Name : string; Proc : TUserFunction)
3066: Function using Special_Scholz from 3.8.5.0
3067: Function TimeToFloat(value:Extended):Extended; // Normalstunden --> Industriestunden
3068: Function FloatToTime(value:Extended):Extended; // Industriestunden --> Normalstunden
3069: Function FloatToTime2Dec(value:Extended):Extended;
3070: Function MinToStd(value:Extended):Extended;
3071: Function MinToStdAsString(value:Extended):String;
3072: Function RoundFloatToStr(zahl:Extended; decimals:integer):String;
3073: Function RoundFloat(zahl:Extended; decimals:integer):Extended;
3074: Function Round2Dec (zahl:Extended):Extended;
3075: Function GetAngle(x,y:Extended):Double;
3076: Function AddAngle(a1,a2:Double):Double;
3077:
3078: ************************************************************************
3079: unit uPSI_StText;
3080: ************************************************************************
3081: Function TextSeek( var F : TextFile; Target : LongInt) : Boolean
3082: Function TextFileSize( var F : TextFile) : LongInt
3083: Function TextPos( var F : TextFile) : LongInt
3084: Function TextFlush( var F : TextFile) : Boolean
3085:
3086: ************************************************************************
3087: from  JvVCLUtils;
3088: ************************************************************************
3089: { Windows resources (bitmaps and icons) VCL-oriented routines }
3090: procedure DrawBitmapTransparent(Dest:TCanvas;DstX,DstY:Integer;Bitmap:TBitmap;TransparentColor:TColor);
3091: procedure DrawBitmapRectTransparent(Dest: TCanvas;DstX,
     DstY:Int;SrcRect:TRect;Bitmap:TBitmap;TransparColor:TColor);
3092: procedure StretchBitmapRectTransparent(Dest: TCanvas; DstX, DstY, DstW,DstH: Integer; SrcRect: TRect;
     Bitmap: TBitmap; TransparentColor: TColor);
3093: function MakeBitmap(ResID: PChar): TBitmap;
3094: function MakeBitmapID(ResID: Word): TBitmap;
3095: function MakeModuleBitmap(Module: THandle; ResID: PChar): TBitmap;
3096: function CreateTwoColorsBrushPattern(Color1, Color2: TColor): TBitmap;
3097: function CreateDisabledBitmap_NewStyle(FOriginal: TBitmap; BackColor: TColor): TBitmap;
3098: function CreateDisabledBitmapEx(FOriginal: TBitmap; OutlineColor, BackColor,
3099:   HighlightColor, ShadowColor: TColor; DrawHighlight: Boolean): TBitmap;
3100: function CreateDisabledBitmap(FOriginal: TBitmap; OutlineColor: TColor): TBitmap;
3101: function ChangeBitmapColor(Bitmap: TBitmap; Color, NewColor: TColor): TBitmap;
3102: procedure AssignBitmapCell(Source: TGraphic; Dest: TBitmap; Cols, Rows,Index: Integer);
3103: {$IFDEF WIN32}
3104: procedure ImageListDrawDisabled(Images: TImageList; Canvas: TCanvas;
3105:   X, Y, Index: Integer; HighlightColor, GrayColor: TColor; DrawHighlight: Boolean);
3106: {$ENDIF}
3107: function MakeIcon(ResID: PChar): TIcon;
3108: function MakeIconID(ResID: Word): TIcon;
3109: function MakeModuleIcon(Module: THandle; ResID: PChar): TIcon;
3110: function CreateBitmapFromIcon(Icon: TIcon; BackColor: TColor): TBitmap;
3111: {$IFDEF WIN32}
3112: function CreateIconFromBitmap(Bitmap: TBitmap; TransparentColor: TColor): TIcon;
3113: {$ENDIF}
3114: { Service routines }
3115: procedure NotImplemented;
3116: procedure ResourceNotFound(ResID: PChar);
3117: function PointInRect(const P: TPoint; const R: TRect): Boolean;
3118: function PointInPolyRgn(const P: TPoint; const Points: array of TPoint): Boolean;
3119: function PaletteColor(Color: TColor): Longint;
3120: function WidthOf(R: TRect): Integer;
3121: function HeightOf(R: TRect): Integer;
3122: procedure PaintInverseRect(const RectOrg, RectEnd: TPoint);
3123: procedure DrawInvertFrame(ScreenRect: TRect; Width: Integer);
3124: procedure CopyParentImage(Control: TControl; Dest: TCanvas);
3125: procedure Delay(MSecs: Longint);
3126: procedure DeleteLine(StrList: TStringList; SearchPattern: String);
3127: procedure CenterControl(Control: TControl);
3128: Function PaletteEntries( Palette : HPALETTE) : Integer
3129: Function WindowClassName( Wnd : HWND) : string
3130: Function ScreenWorkArea : TRect
3131: Procedure MoveWindowOrg( DC : HDC; DX, DY : Integer)
3132: Procedure SwitchToWindow( Wnd : HWND; Restore : Boolean)
3133: Procedure ActivateWindow( Wnd : HWND)
3134: Procedure ShowWinNoAnimate( Handle : HWND; CmdShow : Integer)
3135: Procedure CenterWindow( Wnd : HWND)
3136: Procedure ShadeRect( DC : HDC; const Rect : TRect)
3137: Procedure KillMessage( Wnd : HWND; Msg : Cardinal)
3138: Function DialogsToPixelsX( Dlgs : Word) : Word
3139: Function DialogsToPixelsY( Dlgs : Word) : Word
```

```
3140: Function PixelsToDialogsX( Pixs : Word) : Word
3141: Function PixelsToDialogsY( Pixs : Word) : Word
3142: {$IFDEF WIN32}
3143: procedure ShowMDIClientEdge(ClientHandle: THandle; ShowEdge: Boolean);
3144: function MakeVariant(const Values: array of Variant): Variant;
3145: {$ENDIF}
3146: function CreateRotatedFont(Font: TFont; Angle: Integer): HFONT;
3147: function MsgBox(const Caption, Text: string; Flags: Integer): Integer;
3148: function MsgDlg(const Msg:string; AType:TMsgDlgType; AButtons: TMsgDlgButtons; HelpCtx: Longint): Word;
3149: {$IFDEF CBUILDER}
3150: function FindPrevInstance(const MainFormClass: ShortString; const ATitle: string): HWND;
3151: function ActivatePrevInstance(const MainFormClass: ShortString; const ATitle: string): Boolean;
3152: {$ELSE}
3153: function FindPrevInstance(const MainFormClass, ATitle: string): HWND;
3154: function ActivatePrevInstance(const MainFormClass, ATitle: string): Boolean;
3155: {$ENDIF CBUILDER}
3156: function IsForegroundTask: Boolean;
3157: procedure MergeForm(AControl: TWinControl; AForm: TForm; Align: TAlign; Show: Boolean);
3158: function GetAveCharSize(Canvas: TCanvas): TPoint;
3159: function MinimizeText(const Text: string; Canvas: TCanvas; MaxWidth: Integer): string;
3160: procedure FreeUnusedOle;
3161: procedure Beep;
3162: function GetWindowsVersionJ: string;
3163: function LoadDLL(const LibName: string): THandle;
3164: function RegisterServer(const ModuleName: string): Boolean;
3165: {$IFNDEF WIN32}
3166: function IsLibrary: Boolean;
3167: {$ENDIF}
3168: { Gradient filling routine }
3169: type TFillDirection = (fdTopToBottom, fdBottomToTop, fdLeftToRight, fdRightToLeft);
3170: procedure GradientFillRect(Canvas: TCanvas; ARect: TRect; StartColor, EndColor: TColor; Direction:
      TFillDirection; Colors: Byte);
3171: { String routines }
3172: function GetEnvVar(const VarName: string): string;
3173: function AnsiUpperFirstChar(const S: string): string;
3174: function StringToPChar(var S: string): PChar;
3175: function StrPAlloc(const S: string): PChar;
3176: procedure SplitCommandLine(const CmdLine: string; var ExeName,Params: string);
3177: function DropT(const S: string): string;
3178: { Memory routines }
3179: function AllocMemo(Size: Longint): Pointer;
3180: function ReallocMemo(fpBlock: Pointer; Size: Longint): Pointer;
3181: procedure FreeMemo(var fpBlock: Pointer);
3182: function GetMemoSize(fpBlock: Pointer): Longint;
3183: function CompareMem(fpBlock1, fpBlock2: Pointer; Size: Cardinal): Boolean;
3184: {$IFNDEF COMPILER5_UP}
3185: procedure FreeAndNil(var Obj);
3186: {$ENDIF}
3187: // from PNGLoader
3188: Function OptimizeForPNG(Image:TLinearBitmap;QuantizationSteps:Integer;TransparentColor:TColor):Integer
3189: Procedure TransformRGB2LOCO( Image : TLinearBitmap)
3190: Procedure TransformLOCO2RGB( Image : TLinearBitmap)
3191: Procedure SortPalette( const Pal : TPalette; var ColorMap : TColorMap)
3192: Function DrawButtonFace( Canvas : TCanvas; const Client : TRect; BevelWidth : Integer; Style :
      TButtonStyle; IsRounded, IsDown, IsFocused : Boolean) : TRect  //TButtons
3193:   Function IsAnAllResult( const AModalResult : TModalResult) : Boolean
3194:   Function InitWndProc( HWindow : HWnd; Message, WParam : Longint; LParam : Longint) : Longint
3195:  AddConstantN('CTL3D_ALL','LongWord').SetUInt( $FFFF);
3196:  //Procedure ChangeBiDiModeAlignment( var Alignment : TAlignment)
3197:  //Function SendAppMessage( Msg : Cardinal; WParam, LParam : Longint) : Longint
3198:  //Procedure MoveWindowOrg( DC : HDC; DX, DY : Integer)
3199:  Procedure SetImeMode( hWnd : HWND; Mode : TImeMode)
3200:  Procedure SetImeName( Name : TImeName)
3201:  Function Win32NLSEnableIME( hWnd : HWND; Enable : Boolean) : Boolean
3202:  Function Imm32GetContext( hWnd : HWND) : HIMC
3203:  Function Imm32ReleaseContext( hWnd : HWND; hImc : HIMC) : Boolean
3204:  Function Imm32GetConversionStatus( hImc : HIMC; var Conversion, Sentence : longword) : Boolean
3205:  Function Imm32SetConversionStatus( hImc : HIMC; Conversion, Sentence : longword) : Boolean
3206:  Function Imm32SetOpenStatus( hImc : HIMC; fOpen : Boolean) : Boolean
3207: // Function Imm32SetCompositionWindow( hImc : HIMC; lpCompForm : PCOMPOSITIONFORM) : Boolean
3208:  //Function Imm32SetCompositionFont( hImc : HIMC; lpLogfont : PLOGFONTA) : Boolean
3209:  Function Imm32GetCompositionString(hImc:HIMC;dWord1:longword;lpBuf:string;dwBufLen:longint):Longint
3210:  Function Imm32IsIME( hKl : longword) : Boolean
3211:  Function Imm32NotifyIME( hImc : HIMC; dwAction, dwIndex, dwValue:longword):Boolean
3212:  Procedure DragDone( Drop : Boolean)
3213:
3214:
3215: //**************************************added  from jvjvclutils
3216: function CanvasMaxTextHeight(Canvas: TCanvas): Integer;
3217: function ReplaceComponentReference(This,NewReference:TComponent;var VarReference:TComponent):Boolean;
3218: procedure DrawLine(Canvas: TCanvas; X, Y, X2, Y2: Integer);
3219: function IsPositiveResult(Value: TModalResult): Boolean;
3220: function IsNegativeResult(Value: TModalResult): Boolean;
3221: function IsAbortResult(const Value: TModalResult): Boolean;
3222: function StripAllFromResult(const Value: TModalResult): TModalResult;
3223: // returns either BrightColor or DarkColor depending on the luminance of AColor
3224: // This function gives the same result (AFAIK) as the function used in Windows to
3225: // calculate the desktop icon text color based on the desktop background color
3226: function SelectColorByLuminance(AColor, DarkColor, BrightColor: TColor): TColor;
```

```
3227: type TJvHTMLCalcType = (htmlShow, htmlCalcWidth, htmlCalcHeight, htmlHyperLink);
3228:
3229: procedure HTMLDrawTextEx(Canvas: TCanvas; Rect: TRect;
3230:   const State: TOwnerDrawState; const Text: string; var Width: Integer;
3231:   CalcType: TJvHTMLCalcType;  MouseX, MouseY: Integer; var MouseOnLink: Boolean;
3232:   var LinkName: string; Scale: Integer = 100); overload;
3233: procedure HTMLDrawTextEx(Canvas: TCanvas; Rect: TRect;
3234:   const State: TOwnerDrawState; const Text: string; var Width, Height: Integer;
3235:   CalcType: TJvHTMLCalcType;  MouseX, MouseY: Integer; var MouseOnLink: Boolean;
3236:   var LinkName: string; Scale: Integer = 100); overload;
3237: function HTMLDrawText(Canvas: TCanvas; Rect: TRect;
3238:   const State: TOwnerDrawState; const Text: string; Scale: Integer = 100): string;
3239: function HTMLDrawTextHL(Canvas: TCanvas; Rect: TRect;
3240:   const State: TOwnerDrawState; const Text: string; MouseX, MouseY: Integer;
3241:   Scale: Integer = 100): string;
3242: function HTMLPlainText(const Text: string): string;
3243: function HTMLTextExtent(Canvas: TCanvas; Rect: TRect;
3244:   const State: TOwnerDrawState; const Text: string; Scale: Integer = 100): TSize;
3245: function HTMLTextWidth(Canvas: TCanvas; Rect: TRect;
3246:   const State: TOwnerDrawState; const Text: string; Scale: Integer = 100): Integer;
3247: function HTMLTextHeight(Canvas: TCanvas; const Text: string; Scale: Integer = 100): Integer;
3248: function HTMLPrepareText(const Text: string): string;
3249:
3250: ****************************************** uPSI_JvAppUtils;
3251: Function GetDefaultSection( Component : TComponent) : string
3252: Procedure GetDefaultIniData(Control:TControl; var IniFileName, Section : string; UseRegistry : Boolean)
3253: Procedure GetDefaultIniData( Control : TControl; var IniFileName, Section : string)
3254: Function GetDefaultIniName : string
3255:  //'OnGetDefaultIniName','TOnGetDefaultIniName);
3256: Function GetDefaultIniRegKey : string
3257: Function FindForm( FormClass : TFormClass) : TForm
3258: Function FindShowForm( FormClass : TFormClass; const Caption : string) : TForm
3259: Function ShowDialog( FormClass : TFormClass) : Boolean
3260:  //Function InstantiateForm( FormClass : TFormClass; var Reference) : TForm
3261: Procedure SaveFormPlacement( Form : TForm; const IniFileName : string; UseRegistry : Boolean)
3262: Procedure RestoreFormPlacement( Form : TForm; const IniFileName : string; UseRegistry : Boolean)
3263: Procedure SaveMDIChildrenReg( MainForm : TForm; IniFile : TRegIniFile)
3264: Procedure SaveFormPlacement( Form : TForm; const IniFileName : string)
3265: Procedure RestoreFormPlacement( Form : TForm; const IniFileName : string)
3266: Function GetUniqueFileNameInDir( const Path, FileNameMask : string) : string
3267: Function StrToIniStr( const Str : string) : string
3268: Function IniStrToStr( const Str : string) : string
3269: Function IniReadString( IniFile : TObject; const Section, Ident, Default : string) : string
3270: Procedure IniWriteString( IniFile : TObject; const Section, Ident, Value : string)
3271: Function IniReadInteger( IniFile : TObject; const Section, Ident : string; Default : Longint) : Longint
3272: Procedure IniWriteInteger( IniFile : TObject; const Section, Ident : string; Value : Longint)
3273: Function IniReadBool( IniFile : TObject; const Section, Ident : string; Default : Boolean) : Boolean
3274: Procedure IniWriteBool( IniFile : TObject; const Section, Ident : string; Value : Boolean)
3275: Procedure IniReadSections( IniFile : TObject; Strings : TStrings)
3276: Procedure IniEraseSection( IniFile : TObject; const Section : string)
3277: Procedure IniDeleteKey( IniFile : TObject; const Section, Ident : string)
3278: Procedure AppBroadcast( Msg, wParam : Longint; lParam : Longint)
3279: Procedure AppBroadcast( Msg, wParam : Word; lParam : Longint)
3280: Procedure AppTaskbarIcons( AppOnly : Boolean)
3281: Procedure InternalSaveGridLayout( Grid : TCustomGrid; IniFile : TObject; const Section : string)
3282: Procedure InternalRestoreGridLayout( Grid : TCustomGrid; IniFile : TObject; const Section : string)
3283: Procedure InternalSaveMDIChildren( MainForm : TForm; IniFile : TObject)
3284: Procedure InternalRestoreMDIChildren( MainForm : TForm; IniFile : TObject)
3285: ****************************************** uPSI_JvDBUtils;
3286: Function CreateLocate( DataSet : TDataSet) : TJvLocateObject
3287: Function IsDataSetEmpty( DataSet : TDataSet) : Boolean
3288: Procedure RefreshQuery( Query : TDataSet)
3289: Function DataSetSortedSearch(DataSet:TDataSet;const Value,FieldName:string;CaseInsensitive:Bool):Boolean
3290: Function DataSetSectionName( DataSet : TDataSet) : string
3291: Procedure InternalSaveFields( DataSet : TDataSet; IniFile : TObject; const Section : string)
3292: Procedure InternalRestoreFields(DataSet:TDataSet;IniFile:TObject;const Section:string;RestoreVisible:Bool)
3293: Function DataSetLocateThrough(DataSet:TDataSet; const KeyFields: string; const KeyValues: Variant;
      Options: TLocateOptions) : Boolean
3294: Procedure SaveFields( DataSet : TDataSet; IniFile : TIniFile)
3295: Procedure RestoreFields( DataSet : TDataSet; IniFile : TIniFile; RestoreVisible : Boolean)
3296: Procedure AssignRecord( Source, Dest : TDataSet; ByName : Boolean)
3297: Function ConfirmDelete : Boolean
3298: Procedure ConfirmDataSetCancel( DataSet : TDataSet)
3299: Procedure CheckRequiredField( Field : TField)
3300: Procedure CheckRequiredFields( const Fields : array of TField)
3301: Function DateToSQL( Value : TDateTime) : string
3302: Function FormatSQLDateRange( Date1, Date2 : TDateTime; const FieldName : string) : string
3303: Function FormatSQLDateRangeEx( Date1, Date2 : TDateTime; const FieldName : string) : string
3304: Function FormatSQLNumericRange(const FieldName:string;LowVal,HighVal,LowEmpty,
      HighEmpty:Double;Inclusive:Bool):string
3305: Function StrMaskSQL( const Value : string) : string
3306: Function FormatSQLCondition(const FieldName,Operator,Val:string;FieldType:TFieldType;Exact:Bool):string
3307: Function FormatAnsiSQLCondition(const FieldName,Operator,Val:string;FieldType:TFieldType;Exact:Bool):string
3308: Procedure _DBError( const Msg : string)
3309:  Const('TrueExpr','String '0=0
3310:  Const('sdfStandard16','String '''"''mm''/''dd''/''yyyy''"''
3311:  Const('sdfStandard32','String ''''''dd/mm/yyyy''''''
3312:  Const('sdfOracle','String '"TO_DATE(''"dd/mm/yyyy"'', ''DD/MM/YYYY'')"
3313:  Const('sdfInterbase','String '"CAST(''"mm"/"dd"/"yyyy"'' AS DATE)"
```

```
3314:  Const('sdfMSSQL','String '"CONVERT(datetime, ''"mm"/"dd"/"yyyy"'', 103)"
3315:  AddTypeS('Largeint', 'Longint
3316:  addTypeS('TIFException', '(ErNoError, erCannotImport, erInvalidType, ErInternalError, '+
3317:    'erInvalidHeader, erInvalidOpcode, erInvalidOpcodeParameter, erNoMainProc, erOutOfGlobalVarsRange, '+
3318:    'erOutOfProcRange, ErOutOfRange, erOutOfStackRange, ErTypeMismatch, erUnexpectedEof, '+
3319:    'erVersionError, ErDivideByZero, ErMathError,erCouldNotCallProc, erOutofRecordRange, '+
3320:    'erOutOfMemory,erException,erNullPointerException,erNullVariantErrorerInterfaceNotSupportederError);
3321: (*----------------------------------------------------------------------------*)
3322: procedure SIRegister_JclIniFiles(CL: TPSPascalCompiler);
3323: begin
3324:  Function JIniReadBool( const FileName, Section, Line : string) : Boolean
3325:  Function JIniReadInteger( const FileName, Section, Line : string) : Integer
3326:  Function JIniReadString( const FileName, Section, Line : string) : string
3327:  Procedure JIniWriteBool( const FileName, Section, Line : string; Value : Boolean)
3328:  Procedure JIniWriteInteger( const FileName, Section, Line : string; Value : Integer)
3329:  Procedure JIniWriteString( const FileName, Section, Line, Value : string)
3330:  Procedure JIniReadStrings( IniFile : TCustomIniFile; const Section : string; Strings : TStrings)
3331:  Procedure JIniWriteStrings( IniFile : TCustomIniFile; const Section : string; Strings : TStrings)
3332: end;
3333:
3334: (* === compile-time registration functions === *)
3335: (*----------------------------------------------------------------------------*)
3336: procedure SIRegister_JclDateTime(CL: TPSPascalCompiler);
3337: begin
3338:  'UnixTimeStart','LongInt'( 25569);
3339:  Function JEncodeDate( const Year : Integer; Month, Day : Word) : TDateTime
3340:  Procedure JDecodeDate( Date : TDateTime; var Year, Month, Day : Word);
3341:  Procedure DecodeDate1( Date : TDateTime; var Year : Integer; var Month, Day : Word);
3342:  Procedure DecodeDate2( Date : TDateTime; var Year, Month, Day : Integer);
3343:  Function CenturyOfDate( const DateTime : TDateTime) : Integer
3344:  Function CenturyBaseYear( const DateTime : TDateTime) : Integer
3345:  Function DayOfDate( const DateTime : TDateTime) : Integer
3346:  Function MonthOfDate( const DateTime : TDateTime) : Integer
3347:  Function YearOfDate( const DateTime : TDateTime) : Integer
3348:  Function JDayOfTheYear( const DateTime : TDateTime; var Year : Integer) : Integer;
3349:  Function DayOfTheYear1( const DateTime : TDateTime) : Integer;
3350:  Function DayOfTheYearToDateTime( const Year, Day : Integer) : TDateTime
3351:  Function HourOfTime( const DateTime : TDateTime) : Integer
3352:  Function MinuteOfTime( const DateTime : TDateTime) : Integer
3353:  Function SecondOfTime( const DateTime : TDateTime) : Integer
3354:  Function GetISOYearNumberOfDays( const Year : Word) : Word
3355:  Function IsISOLongYear( const Year : Word) : Boolean;
3356:  Function IsISOLongYear1( const DateTime : TDateTime) : Boolean;
3357:  Function ISODayOfWeek( const DateTime : TDateTime) : Word
3358:  Function JISOWeekNumber( DateTime : TDateTime; var YearOfWeekNumber, WeekDay : Integer) : Integer;
3359:  Function ISOWeekNumber1( DateTime : TDateTime; var YearOfWeekNumber : Integer) : Integer;
3360:  Function ISOWeekNumber2( DateTime : TDateTime) : Integer;
3361:  Function ISOWeekToDateTime( const Year, Week, Day : Integer) : TDateTime
3362:  Function JIsLeapYear( const Year : Integer) : Boolean;
3363:  Function IsLeapYear1( const DateTime : TDateTime) : Boolean;
3364:  Function JDaysInMonth( const DateTime : TDateTime) : Integer
3365:  Function Make4DigitYear( Year, Pivot : Integer) : Integer
3366:  Function JMakeYear4Digit( Year, WindowsillYear : Integer) : Integer
3367:  Function JEasterSunday( const Year : Integer) : TDateTime // TDosDateTime', 'Integer
3368:  Function JFormatDateTime( Form : string; DateTime : TDateTime) : string
3369:  Function FATDatesEqual( const FileTime1, FileTime2 : Int64) : Boolean;
3370:  Function FATDatesEqual1( const FileTime1, FileTime2 : TFileTime) : Boolean;
3371:  Function HoursToMSecs( Hours : Integer) : Integer
3372:  Function MinutesToMSecs( Minutes : Integer) : Integer
3373:  Function SecondsToMSecs( Seconds : Integer) : Integer
3374:  Function TimeOfDateTimeToSeconds( DateTime : TDateTime) : Integer
3375:  Function TimeOfDateTimeToMSecs( DateTime : TDateTime) : Integer
3376:  Function DateTimeToLocalDateTime( DateTime : TDateTime) : TDateTime
3377:  Function LocalDateTimeToDateTime( DateTime : TDateTime) : TDateTime
3378:  Function DateTimeToDosDateTime( const DateTime : TDateTime) : TDosDateTime
3379:  Function JDateTimeToFileTime( DateTime : TDateTime) : TFileTime
3380:  Function JDateTimeToSystemTime( DateTime : TDateTime) : TSystemTime;
3381:  Procedure DateTimeToSystemTime1( DateTime : TDateTime; var SysTime : TSystemTime);
3382:  Function LocalDateTimeToFileTime( DateTime : TDateTime) : FileTime
3383:  Function DosDateTimeToDateTime( const DosTime : TDosDateTime) : TDateTime
3384:  Function JDosDateTimeToFileTime( DosTime : TDosDateTime) : TFileTime;
3385:  Procedure DosDateTimeToFileTime1( DTH, DTL : Word; FT : TFileTime);
3386:  Function DosDateTimeToSystemTime( const DosTime : TDosDateTime) : TSystemTime
3387:  Function DosDateTimeToStr( DateTime : Integer) : string
3388:  Function JFileTimeToDateTime( const FileTime : TFileTime) : TDateTime
3389:  Function FileTimeToLocalDateTime( const FileTime : TFileTime) : TDateTime
3390:  Function JFileTimeToDosDateTime( const FileTime : TFileTime) : TDosDateTime;
3391:  Procedure FileTimeToDosDateTime1( const FileTime : TFileTime; var Date, Time : Word);
3392:  Function JFileTimeToSystemTime( const FileTime : TFileTime) : TSystemTime;
3393:  Procedure FileTimeToSystemTime1( const FileTime : TFileTime; var ST : TSystemTime);
3394:  Function FileTimeToStr( const FileTime : TFileTime) : string
3395:  Function SystemTimeToDosDateTime( const SystemTime : TSystemTime) : TDosDateTime
3396:  Function JSystemTimeToFileTime( const SystemTime : TSystemTime) : TFileTime;
3397:  Procedure SystemTimeToFileTime1( const SystemTime : TSystemTime; FTime : TFileTime);
3398:  Function SystemTimeToStr( const SystemTime : TSystemTime) : string
3399:  Function CreationDateTimeOfFile( const Sr : TSearchRec) : TDateTime
3400:  Function LastAccessDateTimeOfFile( const Sr : TSearchRec) : TDateTime
3401:  Function LastWriteDateTimeOfFile( const Sr : TSearchRec) : TDateTime
3402:   TJclUnixTime32', 'Longword
```

```
3403:  Function JDateTimeToUnixTime( DateTime : TDateTime) : TJclUnixTime32
3404:  Function JUnixTimeToDateTime( const UnixTime : TJclUnixTime32) : TDateTime
3405:  Function FileTimeToUnixTime( const AValue : TFileTime) : TJclUnixTime32
3406:  Function UnixTimeToFileTime( const AValue : TJclUnixTime32) : TFileTime
3407:  Function JNullStamp : TTimeStamp
3408:  Function JCompareTimeStamps( const Stamp1, Stamp2 : TTimeStamp) : Int64
3409:  Function JEqualTimeStamps( const Stamp1, Stamp2 : TTimeStamp) : Boolean
3410:  Function JIsNullTimeStamp( const Stamp : TTimeStamp) : Boolean
3411:  Function TimeStampDOW( const Stamp : TTimeStamp) : Integer
3412:  Function FirstWeekDay( const Year, Month : Integer; var DOW : Integer) : Integer;
3413:  Function FirstWeekDay1( const Year, Month : Integer) : Integer;
3414:  Function LastWeekDay( const Year, Month : Integer; var DOW : Integer) : Integer;
3415:  Function LastWeekDay1( const Year, Month : Integer) : Integer;
3416:  Function IndexedWeekDay( const Year, Month : Integer; Index : Integer) : Integer
3417:  Function FirstWeekendDay( const Year, Month : Integer; var DOW : Integer) : Integer;
3418:  Function FirstWeekendDay1( const Year, Month : Integer) : Integer;
3419:  Function LastWeekendDay( const Year, Month : Integer; var DOW : Integer) : Integer;
3420:  Function LastWeekendDay1( const Year, Month : Integer) : Integer;
3421:  Function IndexedWeekendDay( const Year, Month : Integer; Index : Integer) : Integer
3422:  Function FirstDayOfWeek( const Year, Month, DayOfWeek : Integer) : Integer
3423:  Function LastDayOfWeek( const Year, Month, DayOfWeek : Integer) : Integer
3424:  Function IndexedDayOfWeek( const Year, Month, DayOfWeek, Index : Integer) : Integer
3425:   FindClass('TOBJECT'),'EJclDateTimeError
3426: end;
3427:
3428: procedure SIRegister_JclMiscel2(CL: TPSPascalCompiler);
3429: begin
3430:  Function SetDisplayResolution( const XRes, YRes : DWORD) : Longint
3431:  Function CreateDOSProcessRedirected( const CommandLine, InputFile, OutputFile : string) : Boolean
3432:  Function WinExec32( const Cmd : string; const CmdShow : Integer) : Boolean
3433:  Function WinExec32AndWait( const Cmd : string; const CmdShow : Integer) : Cardinal
3434:  Function WinExec32AndRedirectOutput(const Cmd: string; var Output: string; RawOutput:Boolean):Cardinal
3435:   TJclKillLevel', '( klNormal, klNoSignal, klTimeOut )
3436:  Function ExitWindows( ExitCode : Cardinal) : Boolean
3437:  Function LogOffOS( KillLevel : TJclKillLevel) : Boolean
3438:  Function PowerOffOS( KillLevel : TJclKillLevel) : Boolean
3439:  Function ShutDownOS( KillLevel : TJclKillLevel) : Boolean
3440:  Function RebootOS( KillLevel : TJclKillLevel) : Boolean
3441:  Function HibernateOS( Force, DisableWakeEvents : Boolean) : Boolean
3442:  Function SuspendOS( Force, DisableWakeEvents : Boolean) : Boolean
3443:  Function ShutDownDialog( const DialogMessage:string;TimeOut:DWORD;Force,Reboot:Boolean):Boolean;;
3444:  Function ShutDownDialog1(const MachineName,DialogMessage:string;TimeOut:DWORD;Force,Reboot:Bool):Bool;
3445:  Function AbortShutDown : Boolean;
3446:  Function AbortShutDown1( const MachineName : string) : Boolean;
3447:   TJclAllowedPowerOperation', '( apoHibernate, apoShutdown, apoSuspend )
3448:   TJclAllowedPowerOperations', 'set of TJclAllowedPowerOperation
3449:  Function GetAllowedPowerOperations : TJclAllowedPowerOperations
3450:   FindClass('TOBJECT'),'EJclCreateProcessError
3451:  Procedure CreateProcAsUser( const UserDomain, UserName, PassWord, CommandLine : string)
3452:  Procedure CreateProcAsUserEx(const UserDomain,UserName,Password,CommandLine:string;const
      Environment:PChar);
3453:   // with Add(EJclCreateProcessError) do
3454:  end;
3455:
3456:
3457: procedure SIRegister_JclAnsiStrings(CL: TPSPascalCompiler);
3458: begin
3459:   //'AnsiSigns','Set').SetSet(['-', '+']);
3460:  'C1_UPPER','LongWord( $0001);
3461:  'C1_LOWER','LongWord( $0002);
3462:  'C1_DIGIT','LongWord').SetUInt( $0004);
3463:  'C1_SPACE','LongWord').SetUInt( $0008);
3464:  'C1_PUNCT','LongWord').SetUInt( $0010);
3465:  'C1_CNTRL','LongWord').SetUInt( $0020);
3466:  'C1_BLANK','LongWord').SetUInt( $0040);
3467:  'C1_XDIGIT','LongWord').SetUInt( $0080);
3468:  'C1_ALPHA','LongWord').SetUInt( $0100);
3469:   AnsiChar', 'Char
3470:  Function StrIsAlpha( const S : AnsiString) : Boolean
3471:  Function StrIsAlphaNum( const S : AnsiString) : Boolean
3472:  Function StrIsAlphaNumUnderscore( const S : AnsiString) : Boolean
3473:  Function StrContainsChars(const S:AnsiString;Chars:TSysCharSet; CheckAll : Boolean) : Boolean
3474:  Function StrConsistsOfNumberChars( const S : AnsiString) : Boolean
3475:  Function StrIsDigit( const S : AnsiString) : Boolean
3476:  Function StrIsSubset( const S : AnsiString; const ValidChars : TSysCharSet) : Boolean
3477:  Function StrSame( const S1, S2 : AnsiString) : Boolean
3478:  //Function StrCenter( const S : AnsiString; L : Integer; C : AnsiChar) : AnsiString
3479:  Function StrCharPosLower( const S : AnsiString; CharPos : Integer) : AnsiString
3480:  Function StrCharPosUpper( const S : AnsiString; CharPos : Integer) : AnsiString
3481:  Function StrDoubleQuote( const S : AnsiString) : AnsiString
3482:  Function StrEnsureNoPrefix( const Prefix, Text : AnsiString) : AnsiString
3483:  Function StrEnsureNoSuffix( const Suffix, Text : AnsiString) : AnsiString
3484:  Function StrEnsurePrefix( const Prefix, Text : AnsiString) : AnsiString
3485:  Function StrEnsureSuffix( const Suffix, Text : AnsiString) : AnsiString
3486:  Function StrEscapedToString( const S : AnsiString) : AnsiString
3487:  Function JStrLower( const S : AnsiString) : AnsiString
3488:  Procedure StrLowerInPlace( var S : AnsiString)
3489:  ///Procedure StrLowerBuff( S : PAnsiChar)
3490:  Procedure JStrMove( var Dest:AnsiString; const Source:AnsiString;const ToIndex,FromIndex,Count:Integer;
```

```
3491:  Function StrPadLeft( const S : AnsiString; Len : Integer; C : AnsiChar) : AnsiString
3492:  Function StrPadRight( const S : AnsiString; Len : Integer; C : AnsiChar) : AnsiString
3493:  Function StrProper( const S : AnsiString) : AnsiString
3494:  //Procedure StrProperBuff( S : PAnsiChar)
3495:  Function StrQuote( const S : AnsiString; C : AnsiChar) : AnsiString
3496:  Function StrRemoveChars( const S : AnsiString; const Chars : TSysCharSet) : AnsiString
3497:  Function StrKeepChars( const S : AnsiString; const Chars : TSysCharSet) : AnsiString
3498:  Procedure JStrReplace(var S:AnsiString; const Search, Replace : AnsiString; Flags : TReplaceFlags)
3499:  Function StrReplaceChar( const S : AnsiString; const Source, Replace : AnsiChar) : AnsiString
3500:  Function StrReplaceChars(const S:AnsiString;const Chars:TSysCharSet;Replace:AnsiChar):AnsiString
3501:  Function StrReplaceButChars(const S:AnsiString;const Chars:TSysCharSet;Replace:AnsiChar):AnsiString;
3502:  Function StrRepeat( const S : AnsiString; Count : Integer) : AnsiString
3503:  Function StrRepeatLength( const S : AnsiString; const L : Integer) : AnsiString
3504:  Function StrReverse( const S : AnsiString) : AnsiString
3505:  Procedure StrReverseInPlace( var S : AnsiString)
3506:  Function StrSingleQuote( const S : AnsiString) : AnsiString
3507:  Function StrSmartCase( const S : AnsiString; Delimiters : TSysCharSet) : AnsiString
3508:  Function StrStringToEscaped( const S : AnsiString) : AnsiString
3509:  Function StrStripNonNumberChars( const S : AnsiString) : AnsiString
3510:  Function StrToHex( const Source : AnsiString) : AnsiString
3511:  Function StrTrimCharLeft( const S : AnsiString; C : AnsiChar) : AnsiString
3512:  Function StrTrimCharsLeft( const S : AnsiString; const Chars : TSysCharSet) : AnsiString
3513:  Function StrTrimCharRight( const S : AnsiString; C : AnsiChar) : AnsiString
3514:  Function StrTrimCharsRight( const S : AnsiString; const Chars : TSysCharSet) : AnsiString
3515:  Function StrTrimQuotes( const S : AnsiString) : AnsiString
3516:  Function JStrUpper( const S : AnsiString) : AnsiString
3517:  Procedure StrUpperInPlace( var S : AnsiString)
3518:  //Procedure StrUpperBuff( S : PAnsiChar)
3519:  Function StrOemToAnsi( const S : AnsiString) : AnsiString
3520:  Function StrAnsiToOem( const S : AnsiString) : AnsiString
3521:  Procedure StrAddRef( var S : AnsiString)
3522:  Function StrAllocSize( const S : AnsiString) : Longint
3523:  Procedure StrDecRef( var S : AnsiString)
3524:  //Function StrLen( S : PAnsiChar) : Integer
3525:  Function StrLength( const S : AnsiString) : Longint
3526:  Function StrRefCount( const S : AnsiString) : Longint
3527:  Procedure StrResetLength( var S : AnsiString)
3528:  Function StrCharCount( const S : AnsiString; C : AnsiChar) : Integer
3529:  Function StrCharsCount( const S : AnsiString; Chars : TSysCharSet) : Integer
3530:  Function StrStrCount( const S, SubS : AnsiString) : Integer
3531:  Function StrCompare( const S1, S2 : AnsiString) : Integer
3532:  Function StrCompareRange( const S1, S2 : AnsiString; const Index, Count : Integer) : Integer
3533:  //Function StrFillChar( const C : AnsiChar; Count : Integer) : AnsiString;
3534:  Function StrFillChar1( const C : Char; Count : Integer) : AnsiString;
3535:  Function StrFillChar(const C: Char; Count: Integer): string)');
3536:  Function IntFillChar(const I: Integer; Count: Integer): string)');
3537:  Function ByteFillChar(const B: Byte; Count: Integer): string)');
3538:  Function ArrFillChar(const AC: Char; Count: Integer): TCharArray;');
3539:  Function ArrByteFillChar(const AB: Char; Count: Integer): TByteArray;
3540:  Function StrFind( const Substr, S : AnsiString; const Index : Integer) : Integer
3541:  //Function StrHasPrefix( const S : AnsiString; const Prefixes : array of AnsiString) : Boolean
3542:  Function StrIndex( const S : AnsiString; const List : array of AnsiString) : Integer
3543:  Function StrILastPos( const SubStr, S : AnsiString) : Integer
3544:  Function StrIPos( const SubStr, S : AnsiString) : Integer
3545:  Function StrIsOneOf( const S : AnsiString; const List : array of AnsiString) : Boolean
3546:  Function StrLastPos( const SubStr, S : AnsiString) : Integer
3547:  Function StrMatch( const Substr, S : AnsiString; const Index : Integer) : Integer
3548:  Function StrMatches( const Substr, S : AnsiString; const Index : Integer) : Boolean
3549:  Function StrNIPos( const S, SubStr : AnsiString; N : Integer) : Integer
3550:  Function StrNPos( const S, SubStr : AnsiString; N : Integer) : Integer
3551:  Function StrPrefixIndex( const S : AnsiString; const Prefixes : array of AnsiString) : Integer
3552:  Function StrSearch( const Substr, S : AnsiString; const Index : Integer) : Integer
3553:  //Function StrAfter( const SubStr, S : AnsiString) : AnsiString
3554:  //Function StrBefore( const SubStr, S : AnsiString) : AnsiString
3555:  Function StrBetween( const S : AnsiString; const Start, Stop : AnsiChar) : AnsiString
3556:  Function StrChopRight( const S : AnsiString; N : Integer) : AnsiString
3557:  Function StrLeft( const S : AnsiString; Count : Integer) : AnsiString
3558:  Function StrMid( const S : AnsiString; Start, Count : Integer) : AnsiString
3559:  Function StrRestOf( const S : AnsiString; N : Integer) : AnsiString
3560:  Function StrRight( const S : AnsiString; Count : Integer) : AnsiString
3561:  Function CharEqualNoCase( const C1, C2 : AnsiChar) : Boolean
3562:  Function CharIsAlpha( const C : AnsiChar) : Boolean
3563:  Function CharIsAlphaNum( const C : AnsiChar) : Boolean
3564:  Function CharIsBlank( const C : AnsiChar) : Boolean
3565:  Function CharIsControl( const C : AnsiChar) : Boolean
3566:  Function CharIsDelete( const C : AnsiChar) : Boolean
3567:  Function CharIsDigit( const C : AnsiChar) : Boolean
3568:  Function CharIsLower( const C : AnsiChar) : Boolean
3569:  Function CharIsNumberChar( const C : AnsiChar) : Boolean
3570:  Function CharIsPrintable( const C : AnsiChar) : Boolean
3571:  Function CharIsPunctuation( const C : AnsiChar) : Boolean
3572:  Function CharIsReturn( const C : AnsiChar) : Boolean
3573:  Function CharIsSpace( const C : AnsiChar) : Boolean
3574:  Function CharIsUpper( const C : AnsiChar) : Boolean
3575:  Function CharIsWhiteSpace( const C : AnsiChar) : Boolean
3576:  Function CharType( const C : AnsiChar) : Word
3577:  Function CharHex( const C : AnsiChar) : Byte
3578:  Function CharLower( const C : AnsiChar) : AnsiChar
3579:  Function CharUpper( const C : AnsiChar) : AnsiChar
```

```
3580:  Function CharToggleCase( const C : AnsiChar) : AnsiChar
3581:  Function CharPos( const S : AnsiString; const C : AnsiChar; const Index : Integer) : Integer
3582:  Function CharLastPos( const S : AnsiString; const C : AnsiChar; const Index : Integer) : Integer
3583:  Function CharIPos( const S : AnsiString; C : AnsiChar; const Index : Integer) : Integer
3584:  Function CharReplace( var S : AnsiString; const Search, Replace : AnsiChar) : Integer
3585:  Procedure StrIToStrings( S, Sep : AnsiString; const List : TStrings; const AllowEmptyString : Boolean)
3586:  Procedure StrToStrings( S, Sep : AnsiString; const List : TStrings; const AllowEmptyString : Boolean)
3587:  Function StringsToStr(const List:TStrings;const Sep:AnsiString;const AllowEmptyString:Bool):AnsiString;
3588:  Procedure TrimStrings( const List : TStrings; DeleteIfEmpty : Boolean)
3589:  Procedure TrimStringsRight( const List : TStrings; DeleteIfEmpty : Boolean)
3590:  Procedure TrimStringsLeft( const List : TStrings; DeleteIfEmpty : Boolean)
3591:  Function AddStringToStrings(const S:AnsiString;Strings:TStrings; const Unique:Boolean):Boolean
3592:  Function BooleanToStr( B : Boolean) : AnsiString
3593:  Function FileToString( const FileName : AnsiString) : AnsiString
3594:  Procedure StringToFile( const FileName, Contents : AnsiString; Append : Boolean)
3595:  Function StrToken( var S : AnsiString; Separator : AnsiChar) : AnsiString
3596:  Procedure StrTokens( const S : AnsiString; const List : TStrings)
3597:  Procedure StrTokenToStrings( S : AnsiString; Separator : AnsiChar; const List : TStrings)
3598:  //Function StrWord( var S : PAnsiChar; out Word : AnsiString) : Boolean
3599:  Function StrToFloatSafe( const S : AnsiString) : Float
3600:  Function StrToIntSafe( const S : AnsiString) : Integer
3601:  Procedure StrNormIndex( const StrLen : Integer; var Index : Integer; var Count : Integer);
3602:  Function ArrayOf( List : TStrings) : TDynStringArray;
3603:   EJclStringError', 'EJclError
3604:  function IsClass(Address: TObject): Boolean;
3605:  function IsObject(Address: TObject): Boolean;
3606:  // Console Utilities
3607:  //function ReadKey: Char;
3608:  function IntToStrZeroPad(Value, Count: Integer): AnsiString;
3609:  function JclGUIDToString(const GUID: TGUID): string;
3610:  function JclStringToGUID(const S: string): TGUID;
3611: end;
3612:
3613:
3614: ****************************************** uPSI_JvDBUtil;
3615: Procedure ExecuteSQLScript(Base:TDataBase; const Script: string; const
     Commit:TCommit;OnProgress:TOnProgress; const UserData : Integer)
3616: Function GetQueryResult( const DatabaseName, SQL : string) : Variant
3617: Function GetStoredProcResult( const ADatabaseName, AStoredProcName : string; AParams : array of Variant;
     const AResultName : string) : Variant
3618: //Function StrFieldDesc( Field : FLDDesc) : string
3619: Function Var2Type( V : Variant; const VarType : Integer) : Variant
3620: Procedure CopyRecord( DataSet : TDataSet)
3621: //Procedure AddReference( Tbl : TTable; RefName : string; RefField : Word; MasterTable : string;
     MasterField : Word; ModOp, DelOp : RINTQual)
3622: Procedure AddMasterPassword( Table : TTable; pswd : string)
3623: Procedure PackTable( Table : TTable)
3624: Procedure PackEncryptedTable( Table : TTable; pswd : string)
3625: Function EncodeQuotes( const S : string) : string
3626: Function Cmp( const S1, S2 : string) : Boolean
3627: Function SubStr( const S : string; const Index : Integer; const Separator : string) : string
3628: Function SubStrEnd( const S : string; const Index : Integer; const Separator : string) : string
3629: Function ReplaceString( S : string; const OldPattern, NewPattern : string) : string
3630: Procedure GetXYByPos( const S : string; const Pos : Integer; var X, Y : Integer)
3631: ******************************************uPSI_JvJvBDEUtils;***************
3632: //JvBDEUtils
3633: Function CreateDbLocate : TJvLocateObject
3634:  //Function CheckOpen( Status : DBIResult) : Boolean
3635: Procedure FetchAllRecords( DataSet : TBDEDataSet)
3636: Function TransActive( Database : TDatabase) : Boolean
3637: Function AsyncQrySupported( Database : TDatabase) : Boolean
3638: Function GetQuoteChar( Database : TDatabase) : string
3639: Procedure ExecuteQuery( const DbName, QueryText : string)
3640: Procedure ExecuteQueryEx( const SessName, DbName, QueryText : string)
3641: Function FieldLogicMap( FldType : TFieldType) : Integer
3642: Function FieldSubtypeMap( FldType : TFieldType) : Integer Value : string; Buffer : Pointer)
3643: Function GetAliasPath( const AliasName : string) : string
3644: Function IsDirectory( const DatabaseName : string) : Boolean
3645: Function GetBdeDirectory : string
3646: Function LoginToDatabase( Database : TDatabase; OnLogin : TDatabaseLoginEvent) : Boolean
3647: Function DataSetFindValue( ADataSet : TBDEDataSet; const Value, FieldName : string) : Boolean
3648: Function DataSetFindLike( ADataSet : TBDEDataSet; const Value, FieldName : string) : Boolean
3649: Function DataSetRecNo( DataSet : TDataSet) : Longint
3650: Function DataSetRecordCount( DataSet : TDataSet) : Longint
3651: Function DataSetPositionStr( DataSet : TDataSet) : string
3652: Procedure DataSetShowDeleted( DataSet : TBDEDataSet; Show : Boolean)
3653: Function CurrentRecordDeleted( DataSet : TBDEDataSet) : Boolean
3654: Function IsFilterApplicable( DataSet : TDataSet) : Boolean
3655: Function IsBookmarkStable( DataSet : TBDEDataSet) : Boolean
3656: Procedure SetIndex( Table : TTable; const IndexFieldNames : string)
3657: Procedure RestoreIndex( Table : TTable)
3658: Procedure DeleteRange( Table : TTable; IndexFields : array of const; FieldValues : array of const)
3659: Procedure PackTable( Table : TTable)
3660: Procedure ReindexTable( Table : TTable)
3661: Procedure BdeFlushBuffers
3662: Function GetNativeHandle( Database : TDatabase; Buffer : Pointer; BufSize : Integer) : Pointer
3663: Procedure ToggleDebugLayer( Active : Boolean; const DebugFile : string)
3664: Procedure DbNotSupported
3665: Procedure ExportDataSet( Source : TBDEDataSet; DestTable : TTable; TableType : TTableType; const
     AsciiCharSet : string; AsciiDelimited : Boolean; MaxRecordCount : Longint)
```

```
3666: Procedure ExportDataSetEx( Source : TBDEDataSet; DestTable : TTable; TableType : TTableType; const
      AsciiCharSet:string;AsciiDelimited:Boolean;AsciiDelimiter,AsciiSeparator:Char;MaxRecordCount:Longint);
3667: Procedure
      ImportDataSet(Source:TBDEDataSet;DestTable:TTable;MaxRecordCount:Longint;Mappings:TStrings;Mode:TBatchMode);
3668: Procedure InitRSRUN(Database: TDatabase;const ConName:string; ConType:Integer;const ConServer:string);
3669: ******************************************uPSI_JvDateUtil;
3670: function CurrentYear: Word;
3671: function IsLeapYear(AYear: Integer): Boolean;
3672: function DaysPerMonth(AYear, AMonth: Integer): Integer;
3673: function FirstDayOfPrevMonth: TDateTime;
3674: function LastDayOfPrevMonth: TDateTime;
3675: function FirstDayOfNextMonth: TDateTime;
3676: function ExtractDay(ADate: TDateTime): Word;
3677: function ExtractMonth(ADate: TDateTime): Word;
3678: function ExtractYear(ADate: TDateTime): Word;
3679: function IncDate(ADate: TDateTime; Days, Months, Years: Integer): TDateTime;
3680: function IncDay(ADate: TDateTime; Delta: Integer): TDateTime;
3681: function IncMonth(ADate: TDateTime; Delta: Integer): TDateTime;
3682: function IncYear(ADate: TDateTime; Delta: Integer): TDateTime;
3683: function ValidDate(ADate: TDateTime): Boolean;
3684: procedure DateDiff(Date1, Date2: TDateTime; var Days, Months, Years: Word);
3685: function MonthsBetween(Date1, Date2: TDateTime): Double;
3686: function DaysInPeriod(Date1, Date2: TDateTime): Longint;
3687: { Count days between Date1 and Date2 + 1, so if Date1 = Date2 result = 1 }
3688: function DaysBetween(Date1, Date2: TDateTime): Longint;
3689: { The same as previous but if Date2 < Date1 result = 0 }
3690: function IncTime(ATime: TDateTime; Hours, Minutes, Seconds, MSecs: Integer): TDateTime;
3691: function IncHour(ATime: TDateTime; Delta: Integer): TDateTime;
3692: function IncMinute(ATime: TDateTime; Delta: Integer): TDateTime;
3693: function IncSecond(ATime: TDateTime; Delta: Integer): TDateTime;
3694: function IncMSec(ATime: TDateTime; Delta: Integer): TDateTime;
3695: function CutTime(ADate: TDateTime): TDateTime; { Set time to 00:00:00:00 }
3696: { String to date conversions }
3697: function GetDateOrder(const DateFormat: string): TDateOrder;
3698: function MonthFromName(const S: string; MaxLen: Byte): Byte;
3699: function StrToDateDef(const S: string; Default: TDateTime): TDateTime;
3700: function StrToDateFmt(const DateFormat, S: string): TDateTime;
3701: function StrToDateFmtDef(const DateFormat, S: string; Default: TDateTime): TDateTime;
3702: function DefDateFormat(FourDigitYear: Boolean): string;
3703: function DefDateMask(BlanksChar: Char; FourDigitYear: Boolean): string;
3704: ----------------------------------------------------------------------------
3705: ******************************** JvUtils;*****************************
3706: { GetWordOnPos returns Word from string, S, on the cursor position, P}
3707: function GetWordOnPos(const S: string; const P: Integer): string;
3708: { GetWordOnPosEx work like GetWordOnPos function, also returns Word position in iBeg, iEnd variables }
3709: function GetWordOnPosEx(const S: string; const P: Integer; var iBeg, iEnd: Integer): string;
3710: { SubStr returns substring from string, S, separated with Separator string}
3711: function SubStr(const S: string; const Index: Integer; const Separator: string): string;
3712: { SubStrEnd same to previous function but Index numerated from the end of string }
3713: function SubStrEnd(const S: string; const Index: Integer; const Separator: string): string;
3714: { SubWord returns next Word from string, P, and offsets Pointer to the end of Word, P2 }
3715: function SubWord(P: PChar; var P2: PChar): string;
3716: { NumberByWord returns the text representation of
3717:   the number, N, in normal russian language. Was typed from Monitor magazine }
3718: function NumberByWord(const N: Longint): string;
3719: //  function CurrencyByWord(Value : Currency) : string; GetLineByPos returns Line number, there
3720:   //the symbol Pos is pointed. Lines separated with #13 symbol }
3721: function GetLineByPos(const S: string; const Pos: Integer): Integer;
3722: { GetXYByPos is same to previous function, but returns X position in line too}
3723: procedure GetXYByPos(const S: string; const Pos: Integer; var X, Y: Integer);
3724: { ReplaceString searches for all substrings, OldPattern,in a string, S, replaces them with NewPattern }
3725: function ReplaceString(S: string; const OldPattern, NewPattern: string): string;
3726: { ConcatSep concatenate S and S2 strings with Separator. if S = '', separator don't included }
3727: function ConcatSep(const S, S2, Separator: string): string;
3728: { ConcatLeftSep is same to previous function, but strings concatenate right to left }
3729: function ConcatLeftSep(const S, S2, Separator: string): string;
3730: { MinimizeString truncs long string, S, and appends '...' symbols, if Length of S is more than MaxLen }
3731: function MinimizeString(const S: string; const MaxLen: Integer): string;
3732: { Next 4 function for russian chars transliterating.
3733:   This functions are needed because Oem2Ansi and Ansi2Oem functions sometimes works sucks }
3734: procedure Dos2Win(var S: string);
3735: procedure Win2Dos(var S: string);
3736: function Dos2WinRes(const S: string): string;
3737: function Win2DosRes(const S: string): string;
3738: function Win2Koi(const S: string): string;
3739: { Spaces returns string consists on N space chars }
3740: function Spaces(const N: Integer): string;
3741: { AddSpaces add spaces to string, S, if it Length is smaller than N }
3742: function AddSpaces(const S: string; const N: Integer): string;
3743: { function LastDate for russian users only } { returns date relative to current date: '' }
3744: function LastDate(const Dat: TDateTime): string;
3745: { CurrencyToStr format currency, Cur, using ffCurrency float format}
3746: function CurrencyToStr(const Cur: currency): string;
3747: { Cmp compares two strings and returns True if they are equal. Case-insensitive.}
3748: function Cmp(const S1, S2: string): Boolean;
3749: { StringCat add S2 string to S1 and returns this string }
3750: function StringCat(var S1: string; S2: string): string;
3751: { HasChar returns True, if Char, Ch, contains in string, S }
3752: function HasChar(const Ch: Char; const S: string): Boolean;
```

```
3753: function HasAnyChar(const Chars: string; const S: string): Boolean;
3754: function CharInSet(const Ch: Char; const SetOfChar: TSetOfChar): Boolean;
3755: function CountOfChar(const Ch: Char; const S: string): Integer;
3756: function DefStr(const S: string; Default: string): string;
3757: {**** files routines}
3758: { GetWinDir returns Windows folder name }
3759: function GetWinDir: TFileName;
3760: function GetSysDir: String;
3761: { GetTempDir returns Windows temporary folder name }
3762: function GetTempDir: string;
3763: { GenTempFileName returns temporary file name on drive, there FileName is placed }
3764: function GenTempFileName(FileName: string): string;
3765: { GenTempFileNameExt same to previous function, but returning filename has given extension, FileExt }
3766: function GenTempFileNameExt(FileName: string; const FileExt: string): string;
3767: { ClearDir clears folder Dir }
3768: function ClearDir(const Dir: string): Boolean;
3769: { DeleteDir clears and than delete folder Dir }
3770: function DeleteDir(const Dir: string): Boolean;
3771: { FileEquMask returns True if file, FileName, is compatible with given dos file mask, Mask }
3772: function FileEquMask(FileName, Mask: TFileName): Boolean;
3773: { FileEquMasks returns True if file, FileName, is compatible with given Masks.
3774:   Masks must be separated with comma (';') }
3775: function FileEquMasks(FileName, Masks: TFileName): Boolean;
3776: procedure DeleteFiles(const Folder: TFileName; const Masks: string);
3777: { LZFileExpand expand file, FileSource into FileDest.File must be compressed,using MS Compress program }
3778: function LZFileExpand(const FileSource, FileDest: string): Boolean;
3779: { FileGetInfo fills SearchRec record for specified file attributes}
3780: function FileGetInfo(FileName: TFileName; var SearchRec: TSearchRec): Boolean;
3781: { HasSubFolder returns True, if folder APath contains other folders }
3782: function HasSubFolder(APath: TFileName): Boolean;
3783: { IsEmptyFolder returns True, if there are no files or folders in given folder, APath}
3784: function IsEmptyFolder(APath: TFileName): Boolean;
3785: { AddSlash add slash Char to Dir parameter, if needed }
3786: procedure AddSlash(var Dir: TFileName);
3787: { AddSlash returns string with added slash Char to Dir parameter, if needed }
3788: function AddSlash2(const Dir: TFileName): string;
3789: { AddPath returns FileName with Path, if FileName not contain any path }
3790: function AddPath(const FileName, Path: TFileName): TFileName;
3791: function AddPaths(const PathList, Path: string): string;
3792: function ParentPath(const Path: TFileName): TFileName;
3793: function FindInPath(const FileName, PathList: string): TFileName;
3794: function FindInPaths(const fileName,paths: String): String;
3795: {$IFNDEF BCB1}
3796: { BrowseForFolder displays Browse For Folder dialog }
3797: function BrowseForFolder(const Handle: HWND; const Title: string; var Folder: string): Boolean;
3798: {$ENDIF BCB1}
3799: Function BrowseForFolder(const ATitle: string; AllowCreate : Boolean; var ADirectory : string;
     AHelpContext : THelpContext) : Boolean
3800: Function BrowseForComputer(const ATitle : string; AllowCreate : Boolean; var ADirectory : string;
     AHelpContext : THelpContext) : Boolean
3801: Function BrowseDirectory(var AFolderName:string;const DlgText:string;AHelpContext:THelpContext):Boolean
3802: Function BrowseComputer(var AComputerName:string;const DlgText:string;AHelpContext:THelpContext):Boolean
3803:
3804: { DeleteReadOnlyFile clears R/O file attribute and delete file }
3805: function DeleteReadOnlyFile(const FileName: TFileName): Boolean;
3806: { HasParam returns True, if program running with specified parameter, Param }
3807: function HasParam(const Param: string): Boolean;
3808: function HasSwitch(const Param: string): Boolean;
3809: function Switch(const Param: string): string;
3810: { ExePath returns ExtractFilePath(ParamStr(0)) }
3811: function ExePath: TFileName;
3812: function CopyDir(const SourceDir, DestDir: TFileName): Boolean;
3813: function FileTimeToDateTime(const FT: TFileTime): TDateTime;
3814: function MakeValidFileName(const FileName: TFileName; const ReplaceBadChar: Char): TFileName;
3815: {**** Graphic routines }
3816: { TTFontSelected returns True, if True Type font is selected in specified device context }
3817: function TTFontSelected(const DC: HDC): Boolean;
3818: { TrueInflateRect inflates rect in other method, than InflateRect API function }
3819: function TrueInflateRect(const R: TRect; const I: Integer): TRect;
3820: {**** Windows routines }
3821: { SetWindowTop put window to top without recreating window }
3822: procedure SetWindowTop(const Handle: HWND; const Top: Boolean);
3823: {**** other routines }
3824: { KeyPressed returns True, if Key VK is now pressed }
3825: function KeyPressed(VK: Integer): Boolean;
3826: procedure SwapInt(var Int1, Int2: Integer);
3827: function IntPower(Base, Exponent: Integer): Integer;
3828: function ChangeTopException(E: TObject): TObject;
3829: function StrToBool(const S: string): Boolean;
3830: {$IFNDEF COMPILER3_UP}
3831: { AnsiStrLIComp compares S1 to S2, without case-sensitivity, up to a maximum
3832:   Length of MaxLen bytes. The compare operation is controlled by the
3833:   current Windows locale. The return value is the same as for CompareStr. }
3834: function AnsiStrLIComp(S1, S2: PChar; MaxLen: Cardinal): Integer;
3835: function AnsiStrIComp(S1, S2: PChar): Integer;
3836: {$ENDIF}
3837: function Var2Type(V: Variant; const VarType: Integer): Variant;
3838: function VarToInt(V: Variant): Integer;
3839: function VarToFloat(V: Variant): Double;
```

```
3840: { following functions are not documented because they are don't work properly , so don't use them }
3841: function ReplaceSokr1(S: string; const Word, Frase: string): string;
3842: { ReplaceSokr1 is full equal to ReplaceString function - only for compatibility - don't use }
3843: { GetSubStr is full equal to SubStr function - only for compatibility - don't use }
3844: function GetSubStr(const S: string; const Index: Integer; const Separator: Char): string;
3845: function GetParameter: string;
3846: function GetLongFileName(FileName: string): string;
3847: {* from  FileCtrl}
3848: function DirectoryExists(const Name: string): Boolean;
3849: procedure ForceDirectories(Dir: string);
3850: {# from  FileCtrl}
3851: function FileNewExt(const FileName, NewExt: TFileName): TFileName;
3852: function GetComputerID: string;
3853: function GetComputerName: string;
3854: {**** string routines }
3855: { ReplaceAllSokr searches for all substrings, Words,in a string, S, and replaces them with Frases with the
      same Index.Also see RAUtilsW.ReplaceSokr1 function }
3856: function ReplaceAllSokr(S: string; Words, Frases: TStrings): string;
3857: { ReplaceSokr searches the Word in a string, S, on PosBeg position,
3858:   in the list, Words, and if founds, replaces this Word with string from another list, Frases, with the
      same Index, and then update NewSelStart variable }
3859: function ReplaceSokr(S:string;PosBeg,Len:Integer;Words,Frases:TStrings;var NewSelStart:Integer): string;
3860: { CountOfLines calculates the lines count in a string,each line separated from another with CrLf sequence }
3861: function CountOfLines(const S: string): Integer;
3862: { DeleteEmptyLines deletes all empty lines from strings, Ss. Lines contained only spaces also deletes. }
3863: procedure DeleteEmptyLines(Ss: TStrings);
3864: { SQLAddWhere addes or modifies existing where-statement, where, to the strings, SQL.
3865:   Note: If strings SQL allready contains where-statement, it must be started on begining of any line }
3866: procedure SQLAddWhere(SQL: TStrings; const Where: string);
3867: {**** files routines - }
3868: { ResSaveToFile save resource named as Name with Typ type into file FileName.
3869:   Resource can be compressed using MS Compress program}
3870: function ResSaveToFile(const Typ,Name: string; const Compressed:Boolean; const FileName: string): Boolean;
3871: function ResSaveToFileEx(Inst:HINST;Typ,Name:PChar;const Compressed:Bool;const FileName:string): Bool
3872: function ResSaveToString(Instance: HINST; const Typ, Name: string; var S: string): Boolean;
3873: { Execute executes other program and waiting for it terminating, then return its Exit Code }
3874: function ExecuteJ(const CommandLine, WorkingDirectory: string): Integer;
3875: { IniReadSection read section, Section, from ini-file,
3876:   IniFileName, into strings, Ss.This function reads ALL strings from specified section.
3877:   Note: TIninFile.ReadSection function reads only strings with '=' symbol.}
3878: function IniReadSection(const IniFileName: TFileName; const Section: string; Ss: TStrings): Boolean;
3879: { LoadTextFile load text file, FileName, into string }
3880: function LoadTextFile(const FileName: TFileName): string;
3881: procedure SaveTextFile(const FileName: TFileName; const Source: string);
3882: { ReadFolder reads files list from disk folder, Folder, that are equal  Mask, into strings, FileList}
3883: function ReadFolder(const Folder, Mask: TFileName; FileList: TStrings): Integer;
3884: function ReadFolders(const Folder: TFileName; FolderList: TStrings): Integer;
3885: {$IFDEF COMPILER3_UP}
3886: { TargetFileName - if FileName is ShortCut returns filename ShortCut linked to }
3887: function TargetFileName(const FileName: TFileName): TFileName;
3888: { return filename ShortCut linked to }
3889: function ResolveLink(const hWnd: HWND; const LinkFile: TFileName; var FileName: TFileName): HRESULT;
3890: {$ENDIF COMPILER3_UP}
3891: {**** Graphic routines - }
3892: { LoadIcoToImage loads two icons from resource named NameRes,into two image lists ALarge and ASmall}
3893: procedure LoadIcoToImage(ALarge, ASmall: TImageList; const NameRes: string);
3894: { RATextOut same with TCanvas.TextOut procedure, but can clipping drawing with rectangle, RClip. }
3895: procedure RATextOut(Canvas: TCanvas; const R, RClip: TRect; const S: string);
3896: { RATextOutEx same with RATextOut function, but can calculate needed height for correct output }
3897: function RATextOutEx(Canvas:TCanvas; const R,RClip:TRect;const S: string;const CalcHeight:Boolean):Integer;
3898: { RATextCalcHeight calculate needed height to correct output, using RATextOut or RATextOutEx functions }
3899: function RATextCalcHeight(Canvas: TCanvas; const R: TRect; const S: string): Integer;
3900: { Cinema draws some visual effect }
3901: procedure Cinema(Canvas: TCanvas; rS {Source}, rD {Dest}: TRect);
3902: { Roughed fills rect with special 3D pattern }
3903: procedure Roughed(ACanvas: TCanvas; const ARect: TRect; const AVert: Boolean);
3904: { BitmapFromBitmap creates new small bitmap from part of source bitmap, SrcBitmap, with specified width
      and height, AWidth, AHeight and placed on a specified Index, Index in the source bitmap }
3905: function BitmapFromBitmap(SrcBitmap: TBitmap; const AWidth, AHeight, Index: Integer): TBitmap;
3906: { TextWidth calculate text with for writing using standard desktop font }
3907: function TextWidth(AStr: string): Integer;
3908: { DefineCursor load cursor from resource, and return available cursor number, assigned to it }
3909: function DefineCursor(Identifer: PChar): TCursor;
3910: {**** other routines - }
3911: { FindFormByClass returns first form specified class, FormClass,owned by Application global variable }
3912: function FindFormByClass(FormClass: TFormClass): TForm;
3913: function FindFormByClassName(FormClassName: string): TForm;
3914: { FindByTag returns the control with specified class, ComponentClass, from WinContol.Controls property,
3915:   having Tag property value, equaled to Tag parameter }
3916: function FindByTag(WinControl:TWinControl;ComponentClass:TComponentClass;const Tag:Integer):TComponent;
3917: { ControlAtPos2 equal to TWinControl.ControlAtPos function, but works better }
3918: function ControlAtPos2(Parent: TWinControl; X, Y: Integer): TControl;
3919: { RBTag searches WinControl.Controls for checked RadioButton and returns its Tag property value }
3920: function RBTag(Parent: TWinControl): Integer;
3921: { AppMinimized returns True, if Application is minimized }
3922: function AppMinimized: Boolean;
3923: { MessageBox is Application.MessageBox with string (not PChar) parameters.
3924:   if Caption parameter = '', it replaced with Application.Title }
3925: function MessageBoxJ(const Msg: string; Caption: string;const Flags: Integer): Integer;
```

```
3926: function MsgDlg2(const Msg, ACaption: string; DlgType: TMsgDlgType;
3927:   Buttons: TMsgDlgButtons; HelpContext: Integer; Control: TWinControl): Integer;
3928: function MsgDlgDef(const Msg, ACaption: string; DlgType: TMsgDlgType;
3929:   Buttons: TMsgDlgButtons; DefButton:TMsgDlgBtn; HelpContext: Integer;Control: TWinControl): Integer;
3930: { Delay stop program execution to MSec msec }
3931: procedure Delay(MSec: Longword);
3932: procedure CenterHor(Parent: TControl; MinLeft: Integer; Controls: array of TControl);
3933: procedure EnableControls(Control: TWinControl; const Enable: Boolean);
3934: procedure EnableMenuItems(MenuItem: TMenuItem; const Tag: Integer; const Enable: Boolean);
3935: procedure ExpandWidth(Parent: TControl; MinWidth: Integer; Controls: array of TControl);
3936: function PanelBorder(Panel: TCustomPanel): Integer;
3937: function Pixels(Control: TControl; APixels: Integer): Integer;
3938: procedure SetChildPropOrd(Owner: TComponent; PropName: string; Value: Longint);
3939: procedure Error(const Msg: string);
3940: procedure ItemHtDrawEx(Canvas: TCanvas; Rect: TRect;const State: TOwnerDrawState; const Text: string;
3941:   const HideSelColor: Boolean; var PlainItem: string; var Width: Integer; CalcWidth: Boolean);
3942:   {ex. Text parameter:'Item 1 <b>bold</b><i>italic ITALIC <c:Red>red<c:Green>green <c:blue>blue</i>'}
3943: function ItemHtDraw(Canvas: TCanvas; Rect: TRect; const State: TOwnerDrawState; const Text: string;
3944:   const HideSelColor: Boolean): string;
3945: function ItemHtWidth(Canvas: TCanvas; Rect: TRect;const State: TOwnerDrawState; const Text: string;
3946:   const HideSelColor: Boolean): Integer;
3947: function ItemHtPlain(const Text: string): string;
3948: { ClearList - clears list of TObject }
3949: procedure ClearList(List: TList);
3950: procedure MemStreamToClipBoard(MemStream: TMemoryStream; const Format: Word);
3951: procedure ClipBoardToMemStream(MemStream: TMemoryStream; const Format: Word);
3952: { RTTI support }
3953: function GetPropType(Obj: TObject; const PropName: string): TTypeKind;
3954: function GetPropStr(Obj: TObject; const PropName: string): string;
3955: function GetPropOrd(Obj: TObject; const PropName: string): Integer;
3956: function GetPropMethod(Obj: TObject; const PropName: string): TMethod;
3957: procedure PrepareIniSection(SS: TStrings);
3958: { following functions are not documented because they are don't work properly, so don't use them }
3959: {$IFDEF COMPILER2}
3960: function CompareMem(P1, P2: Pointer; Length: Integer): Boolean; assembler;
3961: {$ENDIF}
3962:
3963: procedure SIRegister_JvBoxProcs(CL: TPSPascalCompiler);
3964: begin
3965:  Procedure BoxMoveSelectedItems( SrcList, DstList : TWinControl)
3966:  Procedure BoxMoveAllItems( SrcList, DstList : TWinControl)
3967:  Procedure BoxDragOver(List:TWinControl;Source:TObject;X,Y:Int;State:TDragState;var
      Accept:Bool;Sorted:Bool;
3968:  Procedure BoxMoveFocusedItem( List : TWinControl; DstIndex : Integer)
3969:  Procedure BoxMoveSelected( List : TWinControl; Items : TStrings)
3970:  Procedure BoxSetItem( List : TWinControl; Index : Integer)
3971:  Function BoxGetFirstSelection( List : TWinControl) : Integer
3972:  Function BoxCanDropItem( List : TWinControl; X, Y : Integer; var DragIndex : Integer) : Boolean
3973: end;
3974:
3975: procedure SIRegister_JvCsvParse(CL: TPSPascalCompiler);
3976: begin
3977:  Const('MaxInitStrNum','LongInt'( 9);
3978: Function JvAnsiStrSplit( const InString : AnsiString; const SplitChar, QuoteChar:AnsiChar; var OutStrings
      : array of AnsiString; MaxSplit : Integer) : Integer
3979: Function JvStrSplit( const InString : string; const SplitChar, QuoteChar : Char; var OutStrings : array of
      string; MaxSplit : Integer) : Integer
3980: Function JvAnsiStrSplitStrings(const InStr:AnsiString;const SplitChar,
      QuoteChar:AnsiChar;OutStrs:TStrings):Integer;
3981: Function JvAnsiStrStrip( S : AnsiString) : AnsiString
3982: Function JvStrStrip( S : string) : string
3983: Function GetString( var Source : AnsiString; const Separator : AnsiString) : AnsiString
3984: Function PadString( const S : AnsiString; Len : Integer; PadChar : AnsiChar) : AnsiString
3985: Function BuildPathName( const PathName, FileName : AnsiString) : AnsiString
3986: Function StrEatWhiteSpace( const S : string) : string
3987: Function HexToAscii( const S : AnsiString) : AnsiString
3988: Function AsciiToHex( const S : AnsiString) : AnsiString
3989: Function StripQuotes( const S1 : AnsiString) : AnsiString
3990: Function ValidNumericLiteral( S1 : PAnsiChar) : Boolean
3991: Function ValidIntLiteral( S1 : PAnsiChar) : Boolean
3992: Function ValidHexLiteral( S1 : PAnsiChar) : Boolean
3993: Function HexPCharToInt( S1 : PAnsiChar) : Integer
3994: Function ValidStringLiteral( S1 : PAnsiChar) : Boolean
3995: Function StripPCharQuotes( S1 : PAnsiChar) : AnsiString
3996: Function JvValidIdentifierAnsi( S1 : PAnsiChar) : Boolean
3997: Function JvValidIdentifier( S1 : String) : Boolean
3998: Function JvEndChar( X : AnsiChar) : Boolean
3999: Procedure JvGetToken( S1, S2 : PAnsiChar)
4000: Function IsExpressionKeyword( S1 : PAnsiChar) : Boolean
4001: Function IsKeyword( S1 : PAnsiChar) : Boolean
4002: Function JvValidVarReference( S1 : PAnsiChar) : Boolean
4003: Function GetParenthesis( S1, S2 : PAnsiChar) : Boolean
4004: Procedure JvGetVarReference( S1, S2, SIdx : PAnsiChar)
4005: Procedure JvEatWhitespaceChars( S1 : PAnsiChar);
4006: Procedure JvEatWhitespaceChars1( S1 : PWideChar);
4007: Function GetTokenCount : Integer
4008: Procedure ResetTokenCount
4009: end;
4010:
```

```
4011: procedure SIRegister_JvDBQueryParamsForm(CL: TPSPascalCompiler);
4012: begin
4013:   SIRegister_TJvQueryParamsDialog(CL);
4014:  Function EditQueryParams( DataSet : TDataSet; List : TParams; AHelpContext : THelpContext) : Boolean
4015: end;
4016:
4017: ******************************** JvStrUtil /  JvStrUtils;****************************
4018: function FindNotBlankCharPos(const S: string): Integer;
4019: function AnsiChangeCase(const S: string): string;
4020: function GetWordOnPos(const S: string; const P: Integer): string;
4021: function GetWordOnPosEx(const S: string; const P: Integer; var iBeg, iEnd: Integer): string;
4022: function Cmp(const S1, S2: string): Boolean;
4023: { Spaces returns string consists on N space chars }
4024: function Spaces(const N: Integer): string;
4025: { HasChar returns True, if char, Ch, contains in string, S }
4026: function HasChar(const Ch: Char; const S: string): Boolean;
4027: function HasAnyChar(const Chars: string; const S: string): Boolean;
4028: { SubStr returns substring from string, S, separated with Separator string}
4029: function SubStr(const S: string; const Index: Integer; const Separator: string): string;
4030: { SubStrEnd same to previous function but Index numerated from the end of string }
4031: function SubStrEnd(const S: string; const Index: Integer; const Separator: string): string;
4032: { ReplaceString searches for all substrings, OldPattern, in a string, S, replaces them with NewPattern }
4033: function ReplaceString(S: string; const OldPattern, NewPattern: string): string;
4034: function CharInSet(const Ch: Char; const SetOfChar: TSetOfChar): Boolean;
4035: { GetXYByPos is same to previous function, but returns X position in line too}
4036: procedure GetXYByPos(const S: string; const Pos: Integer; var X, Y: Integer);
4037: { AddSlash returns string with added slash char to Dir parameter, if needed }
4038: function AddSlash2(const Dir: TFileName): string;
4039: { AddPath returns FileName with Path, if FileName not contain any path }
4040: function AddPath(const FileName, Path: TFileName): TFileName;
4041: { ExePath returns ExtractFilePath(ParamStr(0)) }
4042: function ExePath: TFileName;
4043: function LoadTextFile(const FileName: TFileName): string;
4044: procedure SaveTextFile(const FileName: TFileName; const Source: string);
4045: { ConcatSep concatenate S and S2 strings with Separator. if S = '', separator don't included }
4046: function ConcatSep(const S, S2, Separator: string): string;
4047: { FileEquMask returns True if file, FileName, is compatible with given dos file mask, Mask }
4048: function FileEquMask(FileName, Mask: TFileName): Boolean;
4049: { FileEquMasks returns True if file, FileName, is compatible with given Masks.
4050:   Masks must be separated with comma (';') }
4051: function FileEquMasks(FileName, Masks: TFileName): Boolean;
4052: function StringEndsWith(const Str, SubStr: string): Boolean;
4053: function ExtractFilePath2(const FileName: string): string;
4054: function StrToOem(const AnsiStr: string): string;
4055: { StrToOem translates a string from the Windows character set into the OEM character set. }
4056: function OemToAnsiStr(const OemStr: string): string;
4057: { OemToAnsiStr translates a string from the OEM character set into the Windows character set. }
4058: function IsEmptyStr(const S: string; const EmptyChars: TCharSet): Boolean;
4059: { EmptyStr returns true if the given string contains only character from the EmptyChars. }
4060: function ReplaceStr(const S, Srch, Replace: string): string;
4061: { Returns string with every occurrence of Srch string replaced with Replace string. }
4062: function DelSpace(const S: string): string;
4063: { DelSpace return a string with all white spaces removed. }
4064: function DelChars(const S: string; Chr: Char): string;
4065: { DelChars return a string with all Chr characters removed. }
4066: function DelBSpace(const S: string): string;
4067: { DelBSpace trims leading spaces from the given string. }
4068: function DelESpace(const S: string): string;
4069: { DelESpace trims trailing spaces from the given string. }
4070: function DelRSpace(const S: string): string;
4071: { DelRSpace trims leading and trailing spaces from the given string. }
4072: function DelSpace1(const S: string): string;
4073: { DelSpace1 return a string with all non-single white spaces removed. }
4074: function Tab2Space(const S: string; Numb: Byte): string;
4075: { Tab2Space converts any tabulation character in the given string to the Numb spaces characters. }
4076: function NPos(const C: string; S: string; N: Integer): Integer;
4077: { NPos searches for a N-th position of substring C in a given string. }
4078: function MakeStr(C: Char; N: Integer): string;
4079: function MS(C: Char; N: Integer): string;
4080: { MakeStr return a string of length N filled with character C. }
4081: function AddChar(C: Char; const S: string; N: Integer): string;
4082: { AddChar return a string left-padded to length N with characters C. }
4083: function AddCharR(C: Char; const S: string; N: Integer): string;
4084: { AddCharR return a string right-padded to length N with characters C. }
4085: function LeftStr(const S: string; N: Integer): string;
4086: { LeftStr return a string right-padded to length N with blanks. }
4087: function RightStr(const S: string; N: Integer): string;
4088: { RightStr return a string left-padded to length N with blanks. }
4089: function CenterStr(const S: string; Len: Integer): string;
4090: { CenterStr centers the characters in the string based upon the Len specified. }
4091: function CompStr(const S1, S2: string): Integer;
4092: {CompStr compares S1 to S2, case-sensitivity. return val is -1 if S1 < S2,0 if S1 = S2,or 1 if S1>S2. }
4093: function CompText(const S1, S2: string): Integer;
4094: { CompText compares S1 to S2, without case-sensitivity. The return value is the same as for CompStr. }
4095: function Copy2Symb(const S: string; Symb: Char): string;
4096: { Copy2Symb returns a substring of a string S from begining to first character Symb. }
4097: function Copy2SymbDel(var S: string; Symb: Char): string;
4098: { Copy2SymbDel returns a substr of string S from to first character Symb and removes substring from S. }
4099: function Copy2Space(const S: string): string;
```

```
4100: { Copy2Symb returns a substring of a string S from begining to first white space. }
4101: function Copy2SpaceDel(var S: string): string;
4102: { Copy2SpaceDel returns a substring of a string S from begining to first
4103:   white space and removes this substring from S. }
4104: function AnsiProperCase(const S: string; const WordDelims: TCharSet): string;
4105: { Returns string, with the first letter of each word in uppercase,
4106:   all other letters in lowercase. Words are delimited by WordDelims. }
4107: function WordCount(const S: string; const WordDelims: TCharSet): Integer;
4108: { WordCount given a set of word delimiters, returns number of words in S. }
4109: function WordPosition(const N: Integer; const S: string; const WordDelims: TCharSet): Integer;
4110: { Given a set of word delimiters, returns start position of N'th word in S. }
4111: function ExtractWord(N: Integer; const S: string; const WordDelims: TCharSet): string;
4112: function ExtractWordPos(N:Integer; const S:string; const WordDelims:TCharSet;var Pos: Integer): string;
4113: function ExtractDelimited(N: Integer; const S: string; const Delims: TCharSet): string;
4114: { ExtractWord, ExtractWordPos and ExtractDelimited given a set of word
4115:   delimiters, return the N'th word in S. }
4116: function ExtractSubstr(const S: string; var Pos: Integer; const Delims: TCharSet): string;
4117: { ExtractSubstr given set of word delimiters,returns the substring from S,that started from position Pos.}
4118: function IsWordPresent(const W, S: string; const WordDelims: TCharSet): Boolean;
4119: { IsWordPresent given a set of word delimiters, returns True if word W is present in string S. }
4120: function QuotedString(const S: string; Quote: Char): string;
4121: { QuotedString returns the given string as a quoted string, using the provided Quote character. }
4122: function ExtractQuotedString(const S: string; Quote: Char): string;
4123: { ExtractQuotedString removes the Quote characters from the beginning and end of a quoted string,
4124:    and reduces pairs of Quote characters within the quoted string to a single character. }
4125: function FindPart(const HelpWilds, InputStr: string): Integer;
4126: { FindPart compares a string with '?' and another, returns the position of HelpWilds in InputStr. }
4127: function IsWild(InputStr, Wilds: string; IgnoreCase: Boolean): Boolean;
4128: { IsWild compares InputString with WildCard string and returns True if corresponds. }
4129: function XorString(const Key, Src: ShortString): ShortString;
4130: function XorEncode(const Key, Source: string): string;
4131: function XorDecode(const Key, Source: string): string;
4132: { ** Command line routines ** }
4133: {$IFNDEF COMPILER4_UP}
4134: function FindCmdLineSwitch(const Switch: string; SwitchChars: TCharSet;IgnoreCase: Boolean): Boolean;
4135: {$ENDIF}
4136: function GetCmdLineArg(const Switch: string; SwitchChars: TCharSet): string;
4137: { ** Numeric string handling routines ** }
4138: function Numb2USA(const S: string): string;
4139: { Numb2USA converts numeric string S to USA-format. }
4140: function Dec2Hex(N: Longint; A: Byte): string;
4141: function D2H(N: Longint; A: Byte): string;
4142: { Dec2Hex converts the given value to a hexadecimal string representation
4143:   with the minimum number of digits (A) specified. }
4144: function Hex2Dec(const S: string): Longint;
4145: function H2D(const S: string): Longint;
4146: { Hex2Dec converts the given hexadecimal string to the corresponding integer value. }
4147: function Dec2Numb(N: Longint; A, B: Byte): string;
4148: { Dec2Numb converts the given value to a string representation with the
4149:   base equal to B and with the minimum number of digits (A) specified. }
4150: function Numb2Dec(S: string; B: Byte): Longint;
4151: { Numb2Dec converts the given B-based numeric string to the corresponding integer value. }
4152: function IntToBin(Value: Longint; Digits, Spaces: Integer): string;
4153: { IntToBin converts given value to a bin string representation with min number of digits specified. }
4154: function IntToRoman(Value: Longint): string;
4155: { IntToRoman converts the given value to a roman numeric string representation. }
4156: function RomanToInt(const S: string): Longint;
4157: { RomanToInt converts the given string to an integer value. If the string
4158:   doesn't contain a valid roman numeric value, the 0 value is returned. }
4159: procedure I64ToCardinals(I: Int64; var LowPart, HighPart: Cardinal);
4160: procedure CardinalsToI64(var I: Int64; const LowPart, HighPart: Cardinal);
4161: ********************************** JvFileUtil;********************************
4162: procedure CopyFileJ(const FileName, DestName: string; ProgressControl: TControl);
4163: procedure CopyFileEx(const FileName,DestName:string;OverwriteReadOnly,ShellDialog:Boolean;ProgressControl:
     TControl);
4164: procedure MoveFile(const FileName, DestName: TFileName);
4165: procedure MoveFileEx(const FileName, DestName: TFileName; ShellDialog: Boolean);
4166: {$IFDEF COMPILER4_UP}
4167: function GetFileSize(const FileName: string): Int64;
4168: {$ELSE}
4169: function GetFileSize(const FileName: string): Longint;
4170: {$ENDIF}
4171: function FileDateTime(const FileName: string): TDateTime;
4172: function HasAttr(const FileName: string; Attr: Integer): Boolean;
4173: function DeleteFiles(const FileMask: string): Boolean;
4174: function DeleteFilesEx(const FileMasks: array of string): Boolean;
4175: function ClearDir(const Path: string; Delete: Boolean): Boolean;
4176: function NormalDir(const DirName: string): string;
4177: function RemoveBackSlash(const DirName: string): string;
4178: function ValidFileName(const FileName: string): Boolean;
4179: function DirExists(Name: string): Boolean;
4180: procedure ForceDirectories(Dir: string);
4181: function FileLock(Handle: Integer; Offset, LockSize: Longint): Integer;
4182:   {$IFDEF COMPILER4_UP} overload; {$ENDIF}
4183: {$IFDEF COMPILER4_UP}
4184: function FileLock(Handle: Integer; Offset, LockSize: Int64): Integer; overload;
4185: {$ENDIF}
4186: function FileUnlock(Handle: Integer; Offset, LockSize: Longint): Integer;
4187: {$IFDEF COMPILER4_UP} overload; {$ENDIF}
```

```
4188: {$IFDEF COMPILER4_UP}
4189: function FileUnlock(Handle: Integer; Offset, LockSize: Int64): Integer; overload;
4190: {$ENDIF}
4191: function GetTempDir: string;
4192: function GetWindowsDir: string;
4193: function GetSystemDir: string;
4194: function BrowseDirectory(var AFolderName:string; const DlgText:string; AHelpContext:THelpContext): Boolean;
4195: {$IFDEF WIN32}
4196: function BrowseComputer(var ComputerName:string; const DlgText:string; AHelpContext:THelpContext): Boolean;
4197: function ShortToLongFileName(const ShortName: string): string;
4198: function ShortToLongPath(const ShortName: string): string;
4199: function LongToShortFileName(const LongName: string): string;
4200: function LongToShortPath(const LongName: string): string;
4201: procedure CreateFileLink(const FileName, DisplayName: string; Folder: Integer);
4202: procedure DeleteFileLink(const DisplayName: string; Folder: Integer);
4203: {$ENDIF WIN32}
4204: {$IFNDEF COMPILER3_UP}
4205: function IsPathDelimiter(const S: string; Index: Integer): Boolean;
4206: {$ENDIF}
4207: Function CreateCalculatorForm( AOwner : TComponent; AHelpContext : THelpContext) : TJvCalculatorForm
4208: Function CreatePopupCalculator( AOwner : TComponent; ABiDiMode : TBiDiMode) : TWinControl
4209: Function CreatePopupCalculator( AOwner : TComponent) : TWinControl
4210: Procedure SetupPopupCalculator( PopupCalc : TWinControl; APrecision : Byte; ABeepOnError : Boolean)
4211:
4212: //**************************procedure SIRegister_VarHlpr(CL: TPSPascalCompiler);
4213:  Procedure VariantClear( var V : Variant)
4214:  Procedure VariantArrayRedim( var V : Variant; High : Integer)
4215:  Procedure VariantCast( const src : Variant; var dst : Variant; vt : Integer)
4216:  Procedure VariantCpy( const src : Variant; var dst : Variant)
4217:  Procedure VariantAdd( const src : Variant; var dst : Variant)
4218:  Procedure VariantSub( const src : Variant; var dst : Variant)
4219:  Procedure VariantMul( const src : Variant; var dst : Variant)
4220:  Procedure VariantDiv( const src : Variant; var dst : Variant)
4221:  Procedure VariantMod( const src : Variant; var dst : Variant)
4222:  Procedure VariantAnd( const src : Variant; var dst : Variant)
4223:  Procedure VariantOr( const src : Variant; var dst : Variant)
4224:  Procedure VariantXor( const src : Variant; var dst : Variant)
4225:  Procedure VariantShl( const src : Variant; var dst : Variant)
4226:  Procedure VariantShr( const src : Variant; var dst : Variant)
4227:  Function VariantAdd2( const V1 : Variant; const V2 : Variant) : Variant
4228:  Function VariantSub2( const V1 : Variant; const V2 : Variant) : Variant
4229:  Function VariantMul2( const V1 : Variant; const V2 : Variant) : Variant
4230:  Function VariantDiv2( const V1 : Variant; const V2 : Variant) : Variant
4231:  Function VariantMod2( const V1 : Variant; const V2 : Variant) : Variant
4232:  Function VariantAnd2( const V1 : Variant; const V2 : Variant) : Variant
4233:  Function VariantOr2( const V1 : Variant; const V2 : Variant) : Variant
4234:  Function VariantXor2( const V1 : Variant; const V2 : Variant) : Variant
4235:  Function VariantShl2( const V1 : Variant; const V2 : Variant) : Variant
4236:  Function VariantShr2( const V1 : Variant; const V2 : Variant) : Variant
4237:  Function VariantNot( const V1 : Variant) : Variant
4238:  Function VariantNeg( const V1 : Variant) : Variant
4239:  Function VariantGetElement( const V : Variant; i1 : integer) : Variant;
4240:  Function VariantGetElement1( const V : Variant; i1, i2 : integer) : Variant;
4241:  Function VariantGetElement2( const V : Variant; i1, i2, i3 : integer) : Variant;
4242:  Function VariantGetElement3( const V : Variant; i1, i2, i3, i4 : integer) : Variant;
4243:  Function VariantGetElement4( const V : Variant; i1, i2, i3, i4, i5 : integer) : Variant;
4244:  Procedure VariantPutElement( var V : Variant; const data : Variant; i1 : integer);
4245:  Procedure VariantPutElement1( var V : Variant; const data : Variant; i1, i2 : integer);
4246:  Procedure VariantPutElement2( var V : Variant; const data : Variant; i1, i2, i3 : integer);
4247:  Procedure VariantPutElement3( var V : Variant; const data : Variant; i1, i2, i3, i4 : integer);
4248:  Procedure VariantPutElement4( var V : Variant; const data : Variant; i1, i2, i3, i4, i5 : integer);
4249: end;
4250:
4251: ************************************unit uPSI_JvgUtils;************************************
4252: function IsEven(I: Integer): Boolean;
4253: function InchesToPixels(DC: HDC; Value: Single; IsHorizontal: Boolean): Integer;
4254: function CentimetersToPixels(DC: HDC; Value: Single; IsHorizontal: Boolean): Integer;
4255: procedure SwapInt(var I1, I2: Integer);
4256: function Spaces(Count: Integer): string;
4257: function DupStr(const Str: string; Count: Integer): string;
4258: function DupChar(C: Char; Count: Integer): string;
4259: procedure Msg(const AMsg: string);
4260: function RectW(R: TRect): Integer;
4261: function RectH(R: TRect): Integer;
4262: function IncColor(AColor: Longint; AOffset: Byte): Longint;
4263: function DecColor(AColor: Longint; AOffset: Byte): Longint;
4264: function IsItAFilledBitmap(Bmp: TBitmap): Boolean;
4265: procedure DrawTextInRectWithAlign(DC: HDC; R: TRect; const Text: string;
4266:   HAlign: TglHorAlign; VAlign: TglVertAlign; Style: TglTextStyle; Fnt: TFont; Flags: UINT);
4267: procedure DrawTextInRect(DC: HDC; R:TRect; const Text:string;Style:TglTextStyle;Fnt:TFont;Flags: UINT);
4268: procedure ExtTextOutExt(DC: HDC; X, Y: Integer; R: TRect; const Text: string;
4269:   Style: TglTextStyle; ADelineated, ASupress3D: Boolean; FontColor, DelinColor,HighlightColor,ShadowColor:
     TColor; Illumination: TJvgIllumination; Gradient: TJvgGradient; Font: TFont);
4270: procedure DrawBox(DC:HDC; var R:TRect; Style:TglBoxStyle;BackgrColor: Longint; ATransparent: Boolean);
4271: function DrawBoxEx(DC: HDC; ARect: TRect; Borders: TglSides;
4272:   BevelInner, BevelOuter: TPanelBevel; Bold:Boolean; BackgrColor: Longint;ATransparent: Boolean): TRect;
4273: procedure GradientBox(DC: HDC; R: TRect; Gradient: TJvgGradient;PenStyle, PenWidth: Integer);
4274: procedure ChangeBitmapColor(Bitmap: TBitmap; FromColor, ToColor: TColor);
4275: procedure DrawBitmapExt(DC: HDC; { DC - background & result}
```

```
4276:   SourceBitmap: TBitmap; R: TRect; X, Y: Integer; //...X,Y _in_ rect!
4277:   BitmapOption: TglWallpaperOption; DrawState: TglDrawState;
4278:   ATransparent: Boolean; TransparentColor: TColor; DisabledMaskColor: TColor);
4279: procedure CreateBitmapExt(DC: HDC; { DC - background & result}
4280:   SourceBitmap: TBitmap; R: TRect; X, Y: Integer; //...X,Y _in_ rect!
4281:   BitmapOption: TglWallpaperOption; DrawState: TglDrawState;
4282:   ATransparent: Boolean; TransparentColor: TColor; DisabledMaskColor: TColor);
4283: procedure BringParentWindowToTop(Wnd: TWinControl);
4284: function GetParentForm(Control: TControl): TForm;
4285: procedure GetWindowImageFrom(Control:TWinControl;X,Y:Integer;ADrawSelf,ADrawChildWindows:Boolean;DC:HDC)
4286: procedure GetWindowImage(Control: TWinControl; ADrawSelf, ADrawChildWindows: Boolean; DC: HDC);
4287: procedure GetParentImageRect(Control: TControl; Rect: TRect; DC: HDC);
4288: function CreateRotatedFont(F: TFont; Escapement: Integer): HFONT;
4289: function FindMainWindow(const AWndClass, AWndTitle: string): THandle;
4290: procedure CalcShadowAndHighlightColors(BaseColor: TColor; Colors: TJvgLabelColors);
4291: function CalcMathString(AExpression: string): Single;
4292: function IIF(AExpression: Boolean; IfTrue, IfFalse: Variant): Variant; overload;
4293: function IIF(AExpression: Boolean; const IfTrue, IfFalse: string): string; overload;
4294: function GetTransparentColor(Bitmap: TBitmap; AutoTrColor: TglAutoTransparentColor): TColor;
4295: procedure TypeStringOnKeyboard(const S: string);
4296: function NextStringGridCell( Grid: TStringGrid ): Boolean;
4297: procedure DrawTextExtAligned(Canvas:TCanvas;const
     Text:string;R:TRect;Alignment:TglAlignment;WordWrap:Boolean);
4298: procedure LoadComponentFromTextFile(Component: TComponent; const FileName: string);
4299: procedure SaveComponentToTextFile(Component: TComponent; const FileName: string);
4300: function ComponentToString(Component: TComponent): string;
4301: procedure StringToComponent(Component: TComponent; const Value: string);
4302: function PlayWaveResource(const ResName: string): Boolean;
4303: function UserName: string;
4304: function ComputerName: string;
4305: function CreateIniFileName: string;
4306: function ExpandString(const Str: string; Len: Integer): string;
4307: function Transliterate(const Str: string; RusToLat: Boolean): string;
4308: function IsSmallFonts: Boolean;
4309: function SystemColorDepth: Integer;
4310: function GetFileTypeJ(const FileName: string): TglFileType;
4311: Function GetFileType( hFile : THandle) : DWORD');
4312: function FindControlAtPt(Control: TWinControl; Pt: TPoint; MinClass: TClass): TControl;
4313: function StrPosExt(const Str1, Str2: PChar; Str2Len: DWORD): PChar;
4314:
4315: { ************************************Utility routines of unit classes}
4316: function LineStart(Buffer, BufPos: PChar): PChar
4317: function ExtractStrings(Separators, WhiteSpace: TSysCharSet; Content: PChar;'+
4318:   'Strings: TStrings): Integer
4319:  Function TestStreamFormat( Stream : TStream) : TStreamOriginalFormat
4320:  Procedure RegisterClass( AClass : TPersistentClass)
4321:  Procedure RegisterClasses( AClasses : array of TPersistentClass)
4322:  Procedure RegisterClassAlias( AClass : TPersistentClass; const Alias : string)
4323:  Procedure UnRegisterClass( AClass : TPersistentClass)
4324:  Procedure UnRegisterClasses( AClasses : array of TPersistentClass)
4325:  Procedure UnRegisterModuleClasses( Module : HMODULE)
4326:  Function FindGlobalComponent( const Name : string) : TComponent
4327:  Function IsUniqueGlobalComponentName( const Name : string) : Boolean
4328:  Function InitInheritedComponent( Instance : TComponent; RootAncestor : TClass) : Boolean
4329:  Function InitComponentRes( const ResName : string; Instance : TComponent) : Boolean
4330:  Function ReadComponentRes( const ResName : string; Instance : TComponent) : TComponent
4331:  Function ReadComponentResEx( HInstance : THandle; const ResName : string) : TComponent
4332:  Function ReadComponentResFile( const FileName : string; Instance : TComponent) : TComponent
4333:  Procedure WriteComponentResFile( const FileName : string; Instance : TComponent)
4334:  Procedure GlobalFixupReferences
4335:  Procedure GetFixupReferenceNames( Root : TComponent; Names : TStrings)
4336:  Procedure GetFixupInstanceNames(Root: TComponent; const ReferenceRootName string; Names : TStrings)
4337:  Procedure RedirectFixupReferences( Root : TComponent; const OldRootName, NewRootName : string)
4338:  Procedure RemoveFixupReferences( Root : TComponent; const RootName : string)
4339:  Procedure RemoveFixups( Instance : TPersistent)
4340:  Function FindNestedComponent( Root : TComponent; const NamePath : string) : TComponent
4341:  Procedure BeginGlobalLoading
4342:  Procedure NotifyGlobalLoading
4343:  Procedure EndGlobalLoading
4344:  Function GetUltimateOwner1( ACollection : TCollection) : TPersistent;
4345:  Function GetUltimateOwner( APersistent : TPersistent) : TPersistent;
4346:  // AddTypeS('TWndMethod', 'Procedure (var Message : TMessage)
4347:  //Function MakeObjectInstance( Method : TWndMethod) : Pointer
4348:  Procedure FreeObjectInstance( ObjectInstance : Pointer)
4349: // Function AllocateHWnd( Method : TWndMethod) : HWND
4350:  Procedure DeallocateHWnd( Wnd : HWND)
4351:  Function AncestorIsValid( Ancestor : TPersistent; Root, RootAncestor : TComponent) : Boolean
4352: ************************************unit uPSI_SqlTimSt and DB;*********************************
4353: Procedure VarSQLTimeStampCreate4( var aDest : Variant; const ASQLTimeStamp : TSQLTimeStamp);
4354: Function VarSQLTimeStampCreate3: Variant;
4355: Function VarSQLTimeStampCreate2( const AValue : string) : Variant;
4356: Function VarSQLTimeStampCreate1( const AValue : TDateTime) : Variant;
4357: Function VarSQLTimeStampCreate( const ASQLTimeStamp : TSQLTimeStamp) : Variant;
4358: Function VarSQLTimeStamp : TVarType
4359: Function VarIsSQLTimeStamp( const aValue : Variant) : Boolean;
4360: Function LocalToUTC( var TZInfo : TTimeZone; var Value : TSQLTimeStamp) : TSQLTimeStamp //beta
4361: Function UTCToLocal( var TZInfo : TTimeZone; var Value : TSQLTimeStamp) : TSQLTimeStamp //beta
4362: Function VarToSQLTimeStamp( const aValue : Variant) : TSQLTimeStamp
4363: Function SQLTimeStampToStr( const Format : string; DateTime : TSQLTimeStamp) : string
```

```
4364: Function SQLDayOfWeek( const DateTime : TSQLTimeStamp) : integer
4365: Function DateTimeToSQLTimeStamp( const DateTime : TDateTime) : TSQLTimeStamp
4366: Function SQLTimeStampToDateTime( const DateTime : TSQLTimeStamp) : TDateTime
4367: Function TryStrToSQLTimeStamp( const S : string; var TimeStamp : TSQLTimeStamp) : Boolean
4368: Function StrToSQLTimeStamp( const S : string) : TSQLTimeStamp
4369: Procedure CheckSqlTimeStamp( const ASQLTimeStamp : TSQLTimeStamp)
4370: Function ExtractFieldName( const Fields : string; var Pos : Integer) : string;
4371: Function ExtractFieldName( const Fields : WideString; var Pos : Integer) : WideString;
4372:  //'Procedure RegisterFields( const FieldClasses : array of TFieldClass)
4373: Procedure DatabaseError( const Message : WideString; Component : TComponent)
4374: Procedure DatabaseErrorFmt(const Message:WIdeString; const Args:array of const;Component:TComponent)
4375: Procedure DisposeMem( var Buffer, Size : Integer)
4376: Function BuffersEqual( Buf1, Buf2 : Pointer; Size : Integer) : Boolean
4377: Function GetFieldProperty(DataSet:TDataSet; Control:TComponent; const FieldName: WideString): TField
4378: Function VarTypeToDataType( VarType : Integer) : TFieldType
4379: ******************************************unit JvStrings;************************************
4380: {template functions}
4381: function ReplaceFirst(const SourceStr, FindStr, ReplaceStr: string): string;
4382: function ReplaceLast(const SourceStr, FindStr, ReplaceStr: string): string;
4383: function InsertLastBlock(var SourceStr: string; BlockStr: string): Boolean;
4384: function RemoveMasterBlocks(const SourceStr: string): string;
4385: function RemoveFields(const SourceStr: string): string;
4386: {http functions}
4387: function URLEncode(const Value: AnsiString): AnsiString; // Converts string To A URLEncoded string
4388: function URLDecode(const Value: AnsiString): AnsiString; // Converts string From A URLEncoded string
4389: {set functions}
4390: procedure SplitSet(AText: string; AList: TStringList);
4391: function JoinSet(AList: TStringList): string;
4392: function FirstOfSet(const AText: string): string;
4393: function LastOfSet(const AText: string): string;
4394: function CountOfSet(const AText: string): Integer;
4395: function SetRotateRight(const AText: string): string;
4396: function SetRotateLeft(const AText: string): string;
4397: function SetPick(const AText: string; AIndex: Integer): string;
4398: function SetSort(const AText: string): string;
4399: function SetUnion(const Set1, Set2: string): string;
4400: function SetIntersect(const Set1, Set2: string): string;
4401: function SetExclude(const Set1, Set2: string): string;
4402: {replace any <,> etc by &lt; &gt;}
4403: function XMLSafe(const AText: string): string;
4404: {simple hash, Result can be used in Encrypt}
4405: function Hash(const AText: string): Integer;
4406: { Base64 encode and decode a string }
4407: function B64Encode(const S: AnsiString): AnsiString;
4408: function B64Decode(const S: AnsiString): AnsiString;
4409: {Basic encryption from a Borland Example}
4410: function Encrypt(const InString: AnsiString; StartKey, MultKey, AddKey: Integer): AnsiString;
4411: function Decrypt(const InString: AnsiString; StartKey, MultKey, AddKey: Integer): AnsiString;
4412: {Using Encrypt and Decrypt in combination with B64Encode and B64Decode}
4413: function EncryptB64(const InString: AnsiString; StartKey, MultKey, AddKey: Integer): AnsiString;
4414: function DecryptB64(const InString: AnsiString; StartKey, MultKey, AddKey: Integer): AnsiString;
4415: procedure CSVToTags(Src, Dst: TStringList);
4416: // converts a csv list to a tagged string list
4417: procedure TagsToCSV(Src, Dst: TStringList);
4418: // converts a tagged string list to a csv list
4419: // only fieldnames from the first record are scanned ib the other records
4420: procedure ListSelect(Src, Dst: TStringList; const AKey, AValue: string);
4421: {selects akey=avalue from Src and returns recordset in Dst}
4422: procedure ListFilter(Src: TStringList; const AKey, AValue: string);
4423: {filters Src for akey=avalue}
4424: procedure ListOrderBy(Src: TStringList; const AKey: string; Numeric: Boolean);
4425: {orders a tagged Src list by akey}
4426: function PosStr(const FindString, SourceString: string;
4427:   StartPos: Integer = 1): Integer;
4428: { PosStr searches the first occurrence of a substring FindString in a string
4429:   given by SourceString with case sensitivity (upper and lower case characters
4430:   are differed). This function returns the index value of the first character
4431:   of a specified substring from which it occurs in a given string starting with
4432:   StartPos character index. If a specified substring is not found Q_PosStr
4433:   returns zero. author of algorithm is Peter Morris (UK) (Faststrings unit from www.torry.ru). }
4434: function PosStrLast(const FindString, SourceString: string): Integer;
4435: {finds the last occurance}
4436: function LastPosChar(const FindChar: Char; SourceString: string): Integer;
4437: function PosText(const FindString, SourceString: string; StartPos: Integer = 1): Integer;
4438: { PosText searches the first occurrence of a substring FindString in a string
4439:   given by SourceString without case sensitivity (upper and lower case characters are not differed). This
      function returns the index value of the first character of a specified substring from which it occurs in a
      given string starting with Start
4440: function PosTextLast(const FindString, SourceString: string): Integer;
4441: {finds the last occurance}
4442: function NameValuesToXML(const AText: string): string;
4443: {$IFDEF MSWINDOWS}
4444: procedure LoadResourceFile(AFile: string; MemStream: TMemoryStream);
4445: {$ENDIF MSWINDOWS}
4446: procedure DirFiles(const ADir, AMask: string; AFileList: TStringList);
4447: procedure RecurseDirFiles(const ADir: string; var AFileList: TStringList);
4448: procedure RecurseDirProgs(const ADir: string; var AFileList: TStringList);
4449: procedure SaveString(const AFile, AText: string);
4450: Procedure SaveStringasFile( const AFile, AText : string)
```

```
4451: function LoadStringJ(const AFile: string): string;
4452: Function LoadStringofFile( const AFile : string) : string
4453: Procedure SaveStringtoFile( const AFile, AText : string)
4454: Function LoadStringfromFile( const AFile : string) : string
4455: function HexToColor(const AText: string): TColor;
4456: function UppercaseHTMLTags(const AText: string): string;
4457: function LowercaseHTMLTags(const AText: string): string;
4458: procedure GetHTMLAnchors(const AFile: string; AList: TStringList);
4459: function RelativePath(const ASrc, ADst: string): string;
4460: function GetToken(var Start: Integer; const SourceText: string): string;
4461: function PosNonSpace(Start: Integer; const SourceText: string): Integer;
4462: function PosEscaped(Start: Integer; const SourceText, FindText: string; EscapeChar: Char): Integer;
4463: function DeleteEscaped(const SourceText: string; EscapeChar: Char): string;
4464: function BeginOfAttribute(Start: Integer; const SourceText: string): Integer;
4465: // parses the beginning of an attribute: space + alpha character
4466: function ParseAttribute(var Start:Integer; const SourceText:string; var AName,AValue:string): Boolean;
4467: //parses a name="value" attrib from Start; returns 0 when not found or else the position behind attribute
4468: procedure ParseAttributes(const SourceText: string; Attributes: TStrings);
4469: // parses all name=value attributes to the attributes TStringList
4470: function HasStrValue(const AText, AName: string; var AValue: string): Boolean;
4471: // checks if a name="value" pair exists and returns any value
4472: function GetStrValue(const AText, AName, ADefault: string): string;
4473: // retrieves string value from a line like:
4474: //  name="jan verhoeven" email="jan1 dott verhoeven att wxs dott nl"
4475: // returns ADefault when not found
4476: function GetHTMLColorValue(const AText, AName: string; ADefault: TColor): TColor;
4477: // same for a color
4478: function GetIntValue(const AText, AName: string; ADefault: Integer): Integer;
4479: // same for an Integer
4480: function GetFloatValue(const AText, AName: string; ADefault: Extended): Extended;
4481: // same for a float
4482: function GetBoolValue(const AText, AName: string): Boolean;
4483: // same for Boolean but without default
4484: function GetValue(const AText, AName: string): string;
4485: //retrieves string value from a line like: name="jan verhoeven" email="jan1 verhoeven att wxs dott nl"
4486: procedure SetValue(var AText: string; const AName, AValue: string);
4487: // sets a string value in a line
4488: procedure DeleteValue(var AText: string; const AName: string);
4489: // deletes a AName="value" pair from AText
4490: procedure GetNames(AText: string; AList: TStringList);
4491: // get a list of names from a string with name="value" pairs
4492: function GetHTMLColor(AColor: TColor): string;
4493: // converts a color value to the HTML hex value
4494: function BackPosStr(Start: Integer; const FindString, SourceString: string): Integer;
4495: // finds a string backward case sensitive
4496: function BackPosText(Start: Integer; const FindString, SourceString: string): Integer;
4497: // finds a string backward case insensitive
4498: function PosRangeStr(Start: Integer; const HeadString, TailString, SourceString: string;
4499:   var RangeBegin: Integer; var RangeEnd: Integer): Boolean;
4500: // finds a text range, e.g. <TD>....</TD> case sensitive
4501: function PosRangeText(Start: Integer; const HeadString, TailString, SourceString: string;
4502:   var RangeBegin: Integer; var RangeEnd: Integer): Boolean;
4503: // finds a text range, e.g. <TD>....</td> case insensitive
4504: function BackPosRangeStr(Start: Integer; const HeadString, TailString, SourceString: string;
4505:   var RangeBegin: Integer; var RangeEnd: Integer): Boolean;
4506: // finds a text range backward, e.g. <TD>....</TD> case sensitive
4507: function BackPosRangeText(Start: Integer; const HeadString, TailString, SourceString: string;
4508:   var RangeBegin: Integer; var RangeEnd: Integer): Boolean;
4509: // finds a text range backward, e.g. <TD>....</td> case insensitive
4510: function PosTag(Start: Integer; SourceString: string; var RangeBegin: Integer;
4511:   var RangeEnd: Integer): Boolean;
4512: // finds a HTML or XML tag:  <....>
4513: function InnerTag(Start: Integer; const HeadString, TailString, SourceString: string;
4514:   var RangeBegin: Integer; var RangeEnd: Integer): Boolean;
4515: // finds the innertext between opening and closing tags
4516: function Easter(NYear: Integer): TDateTime;
4517: // returns the easter date of a year.
4518: function GetWeekNumber(Today: TDateTime): string;
4519: //gets a datecode. Returns year and weeknumber in format: YYWW
4520: function ParseNumber(const S: string): Integer;
4521: // parse number returns the last position, starting from 1
4522: function ParseDate(const S: string): Integer;
4523: // parse a SQL style data string from positions 1,
4524: // starts and ends with #
4525:
4526: ****************************************unit JvJCLUtils;****************************************
4527:
4528: function VarIsInt(Value: Variant): Boolean;
4529:  // VarIsInt returns VarIsOrdinal-[varBoolean]
4530: { PosIdx returns the index of the first appearance of SubStr in Str. The search starts at index "Index". }
4531: function PosIdx(const SubStr, S: string; Index: Integer = 0): Integer;
4532: function PosIdxW(const SubStr, S: WideString; Index: Integer = 0): Integer;
4533: function PosLastCharIdx(Ch: Char; const S: string; Index: Integer = 0): Integer;
4534: { GetWordOnPos returns Word from string, S, on the cursor position, P}
4535: function GetWordOnPos(const S: string; const P: Integer): string;
4536: function GetWordOnPosW(const S: WideString; const P: Integer): WideString;
4537: function GetWordOnPos2(const S: string; P: Integer; var iBeg, iEnd: Integer): string;
4538: function GetWordOnPos2W(const S: WideString; P: Integer; var iBeg, iEnd: Integer): WideString;
4539: { GetWordOnPosEx working like GetWordOnPos function, but
```

```
4540:   also returns Word position in iBeg, iEnd variables }
4541: function GetWordOnPosEx(const S: string; const P: Integer; var iBeg, iEnd: Integer): string;
4542: function GetWordOnPosExW(const S: WideString; const P: Integer; var iBeg, iEnd: Integer): WideString;
4543: function GetNextWordPosEx(const Text: string; StartIndex: Integer; var iBeg, iEnd: Integer): string;
4544: function GetNextWordPosExW(const Text:WideString;StartIndex:Integer; var iBeg,iEnd:Integer):WideString;
4545: procedure GetEndPosCaret(const Text: string; CaretX, CaretY: Integer; var X, Y: Integer);
4546: { GetEndPosCaret returns the caret position of the last char. For the position
4547:   after the last char of Text you must add 1 to the returned X value. }
4548: procedure GetEndPosCaretW(const Text: WideString;CaretX,CaretY:Integer;var X,Y:Integer);
4549: { GetEndPosCaret returns the caret position of the last char. For the position
4550:   after the last char of Text you must add 1 to the returned X value. }
4551: { SubStrBySeparator returns substring from string, S, separated with Separator string}
4552: function SubStrBySeparator(const S:string;const Index:Integer;const
      Separator:string;StartIndex:Int=1):string;
4553: function SubStrBySeparatorW(const S:WideString;const Index:Int;const
      Separator:WideString;StartIndex:Int:WideString;
4554: { SubStrEnd same to previous function but Index numerated from the end of string }
4555: function SubStrEnd(const S: string; const Index: Integer; const Separator: string): string;
4556: { SubWord returns next Word from string, P, and offsets Pointer to the end of Word, P2 }
4557: function SubWord(P: PChar; var P2: PChar): string;
4558: function CurrencyByWord(Value: Currency): string;
4559: { GetLineByPos returns the Line number, there the symbol Pos is pointed. Lines separated with #13 symbol }
4560: function GetLineByPos(const S: string; const Pos: Integer): Integer;
4561: { GetXYByPos is same as GetLineByPos, but returns X position in line as well}
4562: procedure GetXYByPos(const S: string; const Pos: Integer; var X, Y: Integer);
4563: procedure GetXYByPosW(const S: WideString; const Pos: Integer; var X, Y: Integer);
4564: { ReplaceString searches for all substrings, OldPattern,
4565:   in a string, S, and replaces them with NewPattern }
4566: function ReplaceString(S: string; const OldPattern,NewPattern: string; StartIndex:Integer = 1):string;
4567: function ReplaceStringW(S: WideString; const OldPattern,NewPattern:
      WideString;StartIndex:Integer=1):WideString;
4568: { ConcatSep concatenate S1 and S2 strings with Separator. if S = '' then separator not included }
4569: function ConcatSep(const S1, S2, Separator: string): string; {$IFDEF SUPPORTS_INLINE} inline; {$ENDIF
      SUPPORTS_INLINE}
4570: { ConcatLeftSep is same to previous function, but   strings concatenate right to left }
4571: function ConcatLeftSep(const S1, S2, Separator: string): string; {$IFDEF SUPPORTS_INLINE} inline; {$ENDIF
      SUPPORTS_INLINE}
4572:
4573: { Next 4 function for russian chars transliterating.
4574:   This functions are needed because Oem2Ansi and Ansi2Oem functions sometimes suck }
4575: procedure Dos2Win(var S: AnsiString);
4576: procedure Win2Dos(var S: AnsiString);
4577: function Dos2WinRes(const S: AnsiString): AnsiString; inline; {$ENDIF SUPPORTS_INLINE}
4578: function Win2DosRes(const S: AnsiString): AnsiString; inline; {$ENDIF SUPPORTS_INLINE}
4579: function Win2Koi(const S: AnsiString): AnsiString;
4580: { FillString fills the string Buffer with Count Chars }
4581: procedure FillString(var Buffer: string; Count: Integer; const Value: Char); overload;
4582: procedure FillString(var Buffer: string; StartIndex, Count: Integer; const Value: Char); overload;
4583: { MoveString copies Count Chars from Source to Dest }
4584: procedure MoveString(const Source: string; var Dest: string; Count: Integer); {$IFDEF SUPPORTS_INLINE}
      inline; {$ENDIF SUPPORTS_INLINE} overload;
4585: procedure MoveString(const Source: string; SrcStartIdx: Integer; var Dest: string;
4586:   DstStartIdx: Integer;Count: Integer);{$IFDEF SUPPORTS_INLINE} inline; {$ENDIF SUPPORTS_INLINE} overload;
4587: { FillWideChar fills Buffer with Count WideChars (2 Bytes) }
4588: procedure FillWideChar(var Buffer; Count: Integer; const Value: WideChar);
4589: { MoveWideChar copies Count WideChars from Source to Dest }
4590: procedure MoveWideChar(const Source; var Dest;Count:Integer);{$IFDEF SUPPORTS_INLINE}inline;{$ENDIF
      SUPPORTS_INLINE}
4591: { FillNativeChar fills Buffer with Count NativeChars }
4592: procedure FillNativeChar(var Buffer; Count: Integer; const Value: Char); // D2009 internal error {$IFDEF
      SUPPORTS_INLINE} inline; {$ENDIF SUPPORTS_INLINE}
4593: { MoveWideChar copies Count WideChars from Source to Dest }
4594: procedure MoveNativeChar(const Source; var Dest; Count: Integer); // D2009 internal error {$IFDEF
      SUPPORTS_INLINE} inline; {$ENDIF SUPPORTS_INLINE}
4595: { IsSubString() compares the sub string to the string. Indices are 1th based. }
4596: function IsSubString(const S: string; StartIndex: Integer; const SubStr: string): Boolean;
4597: { Spaces returns string consists on N space chars }
4598: function Spaces(const N: Integer): string;
4599: { AddSpaces adds spaces to string S, if its Length is smaller than N }
4600: function AddSpaces(const S: string; const N: Integer): string;
4601: function SpacesW(const N: Integer): WideString;
4602: function AddSpacesW(const S: WideString; const N: Integer): WideString;
4603: { function LastDateRUS for russian users only }
4604: { returns date relative to current date: 'ääà äíý íàçàä' }
4605: function LastDateRUS(const Dat: TDateTime): string;
4606: { CurrencyToStr format Currency, Cur, using ffCurrency float format}
4607: function CurrencyToStr(const Cur: Currency): string;
4608: { HasChar returns True, if Char, Ch, contains in string, S }
4609: function HasChar(const Ch: Char; const S: string): Boolean;
4610: function HasCharW(const Ch: WideChar; const S: WideString): Boolean; inline; {$ENDIF SUPPORTS_INLINE}
4611: function HasAnyChar(const Chars: string; const S: string): Boolean;
4612: {$IFNDEF COMPILER12_UP}
4613: function CharInSet(const Ch: AnsiChar;const SetOfChar:TSysCharSet):Boolean;inline;{$ENDIF SUPPORTS_INLINE}
4614: {$ENDIF ~COMPILER12_UP}
4615: function CharInSetW(const Ch: WideChar;const SetOfChar: TSysCharSet):Boolean;inline; {$ENDIF
      SUPPORTS_INLINE}
4616: function CountOfChar(const Ch: Char; const S: string): Integer;
4617: function DefStr(const S: string; Default: string): string; {$IFDEF SUPPORTS_INLINE} inline; {$ENDIF
      SUPPORTS_INLINE}
```

```
4618: { StrLICompW2 is a faster replacement for JclUnicode.StrLICompW }
4619: function StrLICompW2(S1, S2: PWideChar; MaxLen: Integer): Integer;
4620: function StrPosW(S, SubStr: PWideChar): PWideChar;
4621: function StrLenW(S: PWideChar): Integer;
4622: function TrimW(const S: WideString):WideString;{$IFDEF SUPPORTS_INLINE} inline;{$ENDIF SUPPORTS_INLINE}
4623: function TrimLeftW(const S: WideString): WideString; {$IFDEF SUPPORTS_INLINE} inline; {$ENDIF
      SUPPORTS_INLINE}
4624: function TrimRightW(const S: WideString): WideString; inline; {$ENDIF SUPPORTS_INLINE}
4625: TPixelFormat', '( pfDevice, pf1bit, pf4bit, pf8bit, pf24bit )
4626: TMappingMethod', '( mmHistogram, mmQuantize, mmTrunc784, mmTrunc666, mmTripel, mmGrayscale )
4627:  Function GetBitmapPixelFormat( Bitmap : TBitmap) : TPixelFormat
4628: Function GetPaletteBitmapFormat( Bitmap : TBitmap) : TPixelFormat
4629: Procedure SetBitmapPixelFormat( Bitmap: TBitmap; PixelFormat: TPixelFormat; Method: TMappingMethod)
4630: Function BitmapToMemoryStream(Bitmap:TBitmap;PixelFormat:TPixelFormat;Method:TMappingMethod):TMemoryStream;
4631: Procedure GrayscaleBitmap( Bitmap : TBitmap)
4632: Function BitmapToMemory( Bitmap : TBitmap; Colors : Integer) : TStream
4633: Procedure SaveBitmapToFile( const Filename : string; Bitmap : TBitmap; Colors : Integer)
4634: Function ScreenPixelFormat : TPixelFormat
4635: Function ScreenColorCount : Integer
4636: Procedure TileImage( Canvas : TCanvas; Rect : TRect; Image : TGraphic)
4637: Function ZoomImage( ImageW, ImageH, MaxW, MaxH : Integer; Stretch : Boolean) : TPoint
4638: //  SIRegister_TJvGradient(CL);
4639:
4640: {************************************* files routines}
4641: procedure SetDelimitedText(List: TStrings; const Text: string; Delimiter: Char);
4642: const
4643:   {$IFDEF MSWINDOWS}
4644:   DefaultCaseSensitivity = False;
4645:   {$ENDIF MSWINDOWS}
4646:   {$IFDEF UNIX}
4647:   DefaultCaseSensitivity = True;
4648:   {$ENDIF UNIX}
4649: { GenTempFileName returns temporary file name on
4650:   drive, there FileName is placed }
4651: function GenTempFileName(FileName: string): string;
4652: { GenTempFileNameExt same to previous function, but
4653:   returning filename has given extension, FileExt }
4654: function GenTempFileNameExt(FileName: string; const FileExt: string): string;
4655: { ClearDir clears folder Dir }
4656: function ClearDir(const Dir: string): Boolean;
4657: { DeleteDir clears and than delete folder Dir }
4658: function DeleteDir(const Dir: string): Boolean;
4659: { FileEquMask returns True if file, FileName, is compatible with given dos file mask, Mask }
4660: function FileEquMask(FileName, Mask: TFileName; CaseSensitive: Boolean=DefaultCaseSensitivity): Boolean;
4661: { FileEquMasks returns True if file, FileName, is compatible with given Masks.
4662:   Masks must be separated with SepPath (MSW: ';' / UNIX: ':') }
4663: function FileEquMasks(FileName, Masks: TFileName;
4664:   CaseSensitive: Boolean = DefaultCaseSensitivity): Boolean;
4665: function DeleteFiles(const Folder: TFileName; const Masks: string): Boolean;
4666: {$IFDEF MSWINDOWS}
4667: { LZFileExpand expand file, FileSource,
4668:   into FileDest. Given file must be compressed, using MS Compress program }
4669: function LZFileExpand(const FileSource, FileDest: string): Boolean;
4670: {$ENDIF MSWINDOWS}
4671: { FileGetInfo fills SearchRec record for specified file attributes}
4672: function FileGetInfo(FileName: TFileName; var SearchRec: TSearchRec): Boolean;
4673: { HasSubFolder returns True, if folder APath contains other folders }
4674: function HasSubFolder(APath: TFileName): Boolean;
4675: { IsEmptyFolder returns True, if there are no files or
4676:   folders in given folder, APath}
4677: function IsEmptyFolder(APath: TFileName): Boolean;
4678: { AddSlash returns string with added slash Char to Dir parameter, if needed }
4679: function AddSlash(const Dir: TFileName): string; {$IFDEF SUPPORTS_INLINE} inline; {$ENDIF SUPPORTS_INLINE}
4680: { AddPath returns FileName with Path, if FileName not contain any path }
4681: function AddPath(const FileName, Path: TFileName): TFileName;
4682: function AddPaths(const PathList, Path: string): string;
4683: function ParentPath(const Path: TFileName): TFileName;
4684: function FindInPath(const FileName, PathList: string): TFileName;
4685: { DeleteReadOnlyFile clears R/O file attribute and delete file }
4686: function DeleteReadOnlyFile(const FileName: TFileName): Boolean;
4687: { HasParam returns True, if program running with specified parameter, Param }
4688: function HasParam(const Param: string): Boolean;
4689: function HasSwitch(const Param: string): Boolean;
4690: function Switch(const Param: string): string;
4691: { ExePath returns ExtractFilePath(ParamStr(0)) }
4692: function ExePath: TFileName; {$IFDEF SUPPORTS_INLINE} inline; {$ENDIF SUPPORTS_INLINE}
4693: function CopyDir(const SourceDir, DestDir: TFileName): Boolean;
4694: //function FileTimeToDateTime(const FT: TFileTime): TDateTime;
4695: procedure FileTimeToDosDateTimeDWord(const FT: TFileTime; out Dft: DWORD);
4696: function MakeValidFileName(const FileName: TFileName; ReplaceBadChar: Char): TFileName;
4697: {**** Graphic routines }
4698: { IsTTFontSelected returns True, if True Type font is selected in specified device context }
4699: function IsTTFontSelected(const DC: HDC): Boolean;
4700: function KeyPressed(VK: Integer): Boolean;
4701: Function isKeypressed: boolean;  //true if key on memo2 (shell output) is pressed
4702: { TrueInflateRect inflates rect in other method, than InflateRect API function }
4703: function TrueInflateRect(const R: TRect; const I: Integer): TRect;
4704: {**** Color routines }
4705: procedure RGBToHSV(R, G, B: Integer; var H, S, V: Integer);
```

```
4706: function RGBToBGR(Value: Cardinal): Cardinal;
4707: //function ColorToPrettyName(Value: TColor): string;
4708: //function PrettyNameToColor(const Value: string): TColor;
4709: {**** other routines }
4710: procedure SwapInt(var Int1, Int2: Integer); {$IFDEF SUPPORTS_INLINE} inline; {$ENDIF SUPPORTS_INLINE}
4711: function IntPower(Base, Exponent: Integer): Integer;
4712: function ChangeTopException(E: TObject): TObject; // Linux version writes error message to ErrOutput
4713: function StrToBool(const S: string): Boolean;
4714: function Var2Type(V: Variant; const DestVarType: Integer): Variant;
4715: function VarToInt(V: Variant): Integer;
4716: function VarToFloat(V: Variant): Double;
4717: { following functions are not documented because they not work properly sometimes, so do not use them }
4718: // (rom) ReplaceStrings1, GetSubStr removed
4719: function GetLongFileName(const FileName: string): string;
4720: function FileNewExt(const FileName, NewExt: TFileName): TFileName;
4721: function GetParameter: string;
4722: function GetComputerID: string;
4723: function GetComputerName: string;
4724: {**** string routines }
4725: { ReplaceAllStrings searches for all substrings, Words,
4726:   in a string, S, and replaces them with Frases with the same Index. }
4727: function ReplaceAllStrings(const S: string; Words, Frases: TStrings): string;
4728: { ReplaceStrings searches the Word in a string, S, on PosBeg position,
4729:   in the list, Words, and if founds, replaces this Word with string from another list,Frases, with the
     same Index, and then update NewSelStart variable }
4730: function ReplaceStrings(const S:string;PosBeg,Len:Int;Words,Frases:TStrings;var NewSelStart:Int):string;
4731: { CountOfLines calculates the lines count in a string, S,
4732:   each line must be separated from another with CrLf sequence }
4733: function CountOfLines(const S: string): Integer;
4734: { DeleteLines deletes all lines from strings which in the words,  words.
4735:   The word of will be deleted from strings. }
4736: procedure DeleteOfLines(Ss: TStrings; const Words: array of string);
4737: { DeleteEmptyLines deletes all empty lines from strings, Ss.
4738:   Lines contained only spaces also deletes. }
4739: procedure DeleteEmptyLines(Ss: TStrings);
4740: { SQLAddWhere addes or modifies existing where-statement, where,
4741:   to the strings, SQL. Note: If strings SQL allready contains where-statement,
4742:   it must be started on the begining of any line }
4743: procedure SQLAddWhere(SQL: TStrings; const Where: string);
4744: {**** files routines - }
4745: {$IFDEF MSWINDOWS}
4746: { ResSaveToFile save resource named as Name with Typ type into file FileName.
4747:   Resource can be compressed using MS Compress program}
4748: function ResSaveToFile(const Typ,Name:string; const Compressed: Boolean; const FileName: string): Boolean;
4749: function ResSaveToFileEx(Instance:HINST;Typ,Name:PChar;const Compressed:Boolean;const FileName:string):
     Boolean;
4750: function ResSaveToString(Instance: HINST; const Typ, Name: string; var S: string): Boolean;
4751: {$ENDIF MSWINDOWS}
4752: { IniReadSection read section, Section, from ini-file,
4753:   IniFileName, into strings, Ss.This function reads ALL strings from specified section.
4754:   Note: TIninFile.ReadSection function reads only strings with '=' symbol.}
4755: function IniReadSection(const IniFileName: TFileName; const Section: string; Ss: TStrings): Boolean;
4756: { LoadTextFile load text file, FileName, into string }
4757: function LoadTextFile(const FileName: TFileName): string;
4758: procedure SaveTextFile(const FileName: TFileName; const Source: string);
4759: { ReadFolder reads files list from disk folder,Folder,that are equal to mask, Mask,into strings, FileList}
4760: function ReadFolder(const Folder, Mask: TFileName; FileList: TStrings): Integer;
4761: function ReadFolders(const Folder: TFileName; FolderList: TStrings): Integer;
4762: { RATextOut same with TCanvas.TextOut procedure, but can clipping drawing with rectangle, RClip. }
4763: procedure RATextOut(Canvas: TCanvas; const R, RClip: TRect; const S: string);
4764: { RATextOutEx same with RATextOut function, but can calculate needed height for correct output }
4765: function RATextOutEx(Canvas:TCanvas;const R,RClip:TRect; const S:string;const CalcHeight:Boolean):Integer;
4766: { RATextCalcHeight calculate needed height for
4767:   correct output, using RATextOut or RATextOutEx functions }
4768: function RATextCalcHeight(Canvas: TCanvas; const R: TRect; const S: string): Integer;
4769: { Cinema draws some visual effect }
4770: procedure Cinema(Canvas: TCanvas; rS {Source}, rD {Dest}: TRect);
4771: { Roughed fills rect with special 3D pattern }
4772: procedure Roughed(ACanvas: TCanvas; const ARect: TRect; const AVert: Boolean);
4773: { BitmapFromBitmap creates new small bitmap from part of source bitmap, SrcBitmap, with specified width
     and height, AWidth, AHeight and placed on a specified Index, Index in the  source bitmap }
4774: function BitmapFromBitmap(SrcBitmap: TBitmap; const AWidth, AHeight, Index: Integer): TBitmap;
4775: { TextWidth calculate text with for writing using standard desktop font }
4776: function TextWidth(const AStr: string): Integer;
4777: { TextHeight calculate text height for writing using standard desktop font }
4778: function TextHeight(const AStr: string): Integer;
4779: procedure SetChildPropOrd(Owner: TComponent; const PropName: string; Value: Longint);
4780: procedure Error(const Msg: string);
4781: procedure ItemHtDrawEx(Canvas: TCanvas; Rect: TRect; const State: TOwnerDrawState; const Text: string;
4782:   const HideSelColor: Boolean; var PlainItem: string; var Width: Integer; CalcWidth: Boolean);
4783: {example Text parameter:'Item 1<b>bold</b><i>italic ITALIC <c:Red>red<c:Green>green<c:blue>blue</i>' }
4784: function ItemHtDraw(Canvas: TCanvas; Rect: TRect;
4785:   const State: TOwnerDrawState; const Text: string; const HideSelColor: Boolean): string;
4786: function ItemHtWidth(Canvas: TCanvas; Rect: TRect;
4787:   const State: TOwnerDrawState; const Text: string; const HideSelColor: Boolean): Integer;
4788: function ItemHtPlain(const Text: string): string;
4789: { ClearList - clears list of TObject }
4790: procedure ClearList(List: TList);
4791: procedure MemStreamToClipBoard(MemStream: TMemoryStream; const Format: Word);
```

```
4792: procedure ClipBoardToMemStream(MemStream: TMemoryStream; const Format: Word);
4793: { RTTI support }
4794: function GetPropType(Obj: TObject; const PropName: string): TTypeKind;
4795: function GetPropStr(Obj: TObject; const PropName: string): string;
4796: function GetPropOrd(Obj: TObject; const PropName: string): Integer;
4797: function GetPropMethod(Obj: TObject; const PropName: string): TMethod;
4798: procedure PrepareIniSection(Ss: TStrings);
4799: { following functions are not documented because they are don't work properly, so don't use them }
4800: // (rom) from JvBandWindows to make it obsolete
4801: function PointL(const X, Y: Longint): TPointL; {$IFDEF SUPPORTS_INLINE} inline; {$ENDIF SUPPORTS_INLINE}
4802: // (rom) from JvBandUtils to make it obsolete
4803: function iif(const Test: Boolean; const ATrue, AFalse: Variant): Variant;
4804: procedure CopyIconToClipboard(Icon: TIcon; BackColor: TColor);
4805: function CreateIconFromClipboard: TIcon;
4806: { begin JvIconClipboardUtils } { Icon clipboard routines }
4807: function CF_ICON: Word;
4808: procedure AssignClipboardIcon(Icon: TIcon);
4809: { Real-size icons support routines (32-bit only) }
4810: procedure GetIconSize(Icon: HICON; var W, H: Integer);
4811: function CreateRealSizeIcon(Icon: TIcon): HICON;
4812: procedure DrawRealSizeIcon(Canvas: TCanvas; Icon: TIcon; X, Y: Integer);
4813: {end JvIconClipboardUtils }
4814: function CreateScreenCompatibleDC: HDC;
4815: function InvalidateRect(hWnd: HWND; const lpRect: TRect; bErase: BOOL): BOOL; overload; {$IFDEF
      SUPPORTS_INLINE} inline; {$ENDIF}
4816: function InvalidateRect(hWnd: HWND; lpRect: PRect; bErase: BOOL): BOOL; overload;
4817: { begin JvRLE } // (rom) changed API for inclusion in JCL
4818: procedure RleCompressTo(InStream, OutStream: TStream);
4819: procedure RleDecompressTo(InStream, OutStream: TStream);
4820: procedure RleCompress(Stream: TStream);
4821: procedure RleDecompress(Stream: TStream);
4822: { end JvRLE } { begin JvDateUtil }
4823: function CurrentYear: Word; {$IFDEF SUPPORTS_INLINE} inline; {$ENDIF SUPPORTS_INLINE}
4824: function IsLeapYear(AYear: Integer): Boolean;
4825: function DaysInAMonth(const AYear, AMonth: Word): Word;
4826: function DaysPerMonth(AYear, AMonth: Integer): Integer;
4827: function FirstDayOfPrevMonth: TDateTime;
4828: function LastDayOfPrevMonth: TDateTime;
4829: function FirstDayOfNextMonth: TDateTime;
4830: function ExtractDay(ADate: TDateTime): Word;
4831: function ExtractMonth(ADate: TDateTime): Word;
4832: function ExtractYear(ADate: TDateTime): Word;
4833: function IncDate(ADate: TDateTime; Days, Months, Years: Integer): TDateTime;
4834: function IncDay(ADate: TDateTime;Delta:Integer):TDateTime; inline; {$ENDIF SUPPORTS_INLINE}
4835: function IncMonth(ADate: TDateTime; Delta: Integer): TDateTime;
4836: function IncYear(ADate: TDateTime; Delta: Integer): TDateTime;
4837: function ValidDate(ADate: TDateTime): Boolean;
4838: procedure DateDiff(Date1, Date2: TDateTime; var Days, Months, Years: Word);
4839: function MonthsBetween(Date1, Date2: TDateTime): Double;
4840: function DaysInPeriod(Date1, Date2: TDateTime): Longint;
4841: { Count days between Date1 and Date2 + 1, so if Date1 = Date2 result = 1 }
4842: function DaysBetween(Date1, Date2: TDateTime): Longint;
4843: { The same as previous but if Date2 < Date1 result = 0 }
4844: function IncTime(ATime: TDateTime; Hours, Minutes, Seconds, MSecs: Integer): TDateTime;
4845: function IncHour(ATime: TDateTime; Delta: Integer): TDateTime;
4846: function IncMinute(ATime: TDateTime; Delta: Integer): TDateTime;
4847: function IncSecond(ATime: TDateTime; Delta: Integer): TDateTime;
4848: function IncMSec(ATime: TDateTime; Delta: Integer): TDateTime;
4849: function CutTime(ADate: TDateTime): TDateTime;  { Set time to 00:00:00:00 }
4850: { String to date conversions }
4851: function GetDateOrder(const DateFormat: string): TDateOrder;
4852: function MonthFromName(const S: string; MaxLen: Byte): Byte;
4853: function StrToDateDef(const S: string; Default: TDateTime): TDateTime;
4854: function StrToDateFmt(const DateFormat, S: string): TDateTime;
4855: function StrToDateFmtDef(const DateFormat, S: string; Default: TDateTime): TDateTime;
4856: //function DefDateFormat(AFourDigitYear: Boolean): string;
4857: //function DefDateMask(BlanksChar: Char; AFourDigitYear: Boolean): string;
4858: function FormatLongDate(Value: TDateTime): string;
4859: function FormatLongDateTime(Value: TDateTime): string;
4860: { end JvDateUtil }
4861: function BufToBinStr(Buf: Pointer; BufSize: Integer): string;
4862: function BinStrToBuf(Value: string; Buf: Pointer; BufSize: Integer): Integer;
4863: { begin JvStrUtils } { ** Common string handling routines ** }
4864: {$IFDEF UNIX}
4865: function iconversion(InP: PAnsiChar; OutP: Pointer; InBytes, OutBytes: Cardinal;
4866:   const ToCode, FromCode: AnsiString): Boolean;
4867: function iconvString(const S, ToCode, FromCode: AnsiString): string;
4868: function iconvWideString(const S: WideString; const ToCode, FromCode: AnsiString): WideString;
4869: function OemStrToAnsi(const S: AnsiString): AnsiString;
4870: function AnsiStrToOem(const S: AnsiString): AnsiString;
4871: {$ENDIF UNIX}
4872: function StrToOem(const AnsiStr: AnsiString): AnsiString;
4873: { StrToOem translates a string from the Windows character set into the OEM character set. }
4874: function OemToAnsiStr(const OemStr: AnsiString): AnsiString;
4875: { OemToAnsiStr translates a string from the OEM character set into the Windows character set. }
4876: function IsEmptyStr(const S: string; const EmptyChars: TSysCharSet): Boolean;
4877: { EmptyStr returns True if the given string contains only character from the EmptyChars. }
4878: function ReplaceStr(const S, Srch, Replace: string): string;
4879: { Returns string with every occurrence of Srch string replaced with Replace string. }
```

```
4880: function DelSpace(const S: string): string;
4881: { DelSpace return a string with all white spaces removed. }
4882: function DelChars(const S: string; Chr: Char): string;
4883: { DelChars return a string with all Chr characters removed. }
4884: function DelBSpace(const S: string): string;
4885: { DelBSpace trims leading spaces from the given string. }
4886: function DelESpace(const S: string): string;
4887: { DelESpace trims trailing spaces from the given string. }
4888: function DelRSpace(const S: string): string;
4889: { DelRSpace trims leading and trailing spaces from the given string. }
4890: function DelSpace1(const S: string): string;
4891: { DelSpace1 return a string with all non-single white spaces removed. }
4892: function Tab2Space(const S: string; Numb: Byte): string;
4893: { Tab2Space converts any tabulation character in the given string to the
4894:   Numb spaces characters. }
4895: function NPos(const C: string; S: string; N: Integer): Integer;
4896: { NPos searches for a N-th position of substring C in a given string. }
4897: function MakeStr(C: Char; N: Integer): string; overload;
4898: {$IFNDEF COMPILER12_UP}
4899: function MakeStr(C: WideChar; N: Integer): WideString; overload;
4900: {$ENDIF !COMPILER12_UP}
4901: function MS(C: Char; N: Integer): string; {$IFDEF SUPPORTS_INLINE} inline; {$ENDIF SUPPORTS_INLINE}
4902: { MakeStr return a string of length N filled with character C. }
4903: function AddChar(C: Char; const S: string; N: Integer): string;
4904: { AddChar return a string left-padded to length N with characters C. }
4905: function AddCharR(C: Char; const S: string; N: Integer): string;
4906: { AddCharR return a string right-padded to length N with characters C. }
4907: function LeftStr(const S: string; N: Integer): string;
4908: { LeftStr return a string right-padded to length N with blanks. }
4909: function RightStr(const S: string; N: Integer): string;
4910: { RightStr return a string left-padded to length N with blanks. }
4911: function CenterStr(const S: string; Len: Integer): string;
4912: { CenterStr centers the characters in the string based upon the Len specified. }
4913: function CompStr(const S1, S2: string): Integer; {$IFDEF SUPPORTS_INLINE} inline; {$ENDIF SUPPORTS_INLINE}
4914: { CompStr compares S1 to S2, with case-sensitivity. The return value is
4915:   -1 if S1 < S2, 0 if S1 = S2, or 1 if S1 > S2. }
4916: function CompText(const S1, S2: string):Integer; {$IFDEF SUPPORTS_INLINE} inline; {$ENDIF SUPPORTS_INLINE}
4917: { CompText compares S1 to S2, without case-sensitivity. The return value is the same as for CompStr. }
4918: function Copy2Symb(const S: string; Symb: Char): string;
4919: { Copy2Symb returns a substring of a string S from begining to first character Symb. }
4920: function Copy2SymbDel(var S: string; Symb: Char): string;
4921: { Copy2SymbDel returns a substring of a string S from begining to first
4922:   character Symb and removes this substring from S. }
4923: function Copy2Space(const S: string): string;
4924: { Copy2Symb returns a substring of a string S from begining to first white space. }
4925: function Copy2SpaceDel(var S: string): string;
4926: { Copy2SpaceDel returns a substring of a string S from begining to first
4927:   white space and removes this substring from S. }
4928: function AnsiProperCase(const S: string; const WordDelims: TSysCharSet): string;
4929: { Returns string, with the first letter of each word in uppercase,
4930:   all other letters in lowercase. Words are delimited by WordDelims. }
4931: function WordCount(const S: string; const WordDelims: TSysCharSet): Integer;
4932: { WordCount given a set of word delimiters, returns number of words in S. }
4933: function WordPosition(const N: Integer; const S: string; const WordDelims: TSysCharSet): Integer;
4934: { Given a set of word delimiters, returns start position of N'th word in S. }
4935: function ExtractWord(N: Integer; const S: string; const WordDelims: TSysCharSet): string;
4936: function ExtractWordPos(N: Integer;const S: string;const WordDelims:TSysCharSet;var Pos: Integer): string;
4937: function ExtractDelimited(N: Integer; const S: string;const Delims: TSysCharSet): string;
4938: { ExtractWord, ExtractWordPos and ExtractDelimited given a set of word
4939:   delimiters, return the N'th word in S. }
4940: function ExtractSubstr(const S: string; var Pos: Integer;const Delims: TSysCharSet): string;
4941: { ExtractSubstr given a set of word delimiters, returns the substring from S,
4942:   that started from position Pos. }
4943: function IsWordPresent(const W, S: string; const WordDelims: TSysCharSet): Boolean;
4944: { IsWordPresent given a set of word delimiters, returns True if word W is present in string S. }
4945: function QuotedString(const S: string; Quote: Char): string;
4946: { QuotedString returns the given string as a quoted string, using the provided Quote character. }
4947: function ExtractQuotedString(const S: string; Quote: Char): string;
4948: { ExtractQuotedString removes the Quote characters from the beginning and
4949:   end of a quoted string, and reduces pairs of Quote characters within quoted string to single character.}
4950: function FindPart(const HelpWilds, InputStr: string): Integer;
4951: { FindPart compares a string with '?' and another, returns the position of HelpWilds in InputStr. }
4952: function IsWild(InputStr, Wilds: string; IgnoreCase: Boolean): Boolean;
4953: { IsWild compares InputString with WildCard string and returns True if corresponds. }
4954: function XorString(const Key, Src: ShortString): ShortString;
4955: function XorEncode(const Key, Source: string): string;
4956: function XorDecode(const Key, Source: string): string;
4957: { ** Command line routines ** }
4958: function GetCmdLineArg(const Switch: string; ASwitchChars: TSysCharSet): string;
4959: { ** Numeric string handling routines ** }
4960: function Numb2USA(const S: string): string;
4961: { Numb2USA converts numeric string S to USA-format. }
4962: function Dec2Hex(N: Longint; A: Byte): string; {$IFDEF SUPPORTS_INLINE} inline; {$ENDIF SUPPORTS_INLINE}
4963: { Dec2Hex converts the given value to a hexadecimal string representation
4964:   with the minimum number of digits (A) specified. }
4965: function Hex2Dec(const S: string): Longint;
4966: { Hex2Dec converts the given hexadecimal string to the corresponding integer value. }
4967: function Dec2Numb(N: Int64; A, B: Byte): string;
4968: { Dec2Numb converts the given value to a string representation with the
```

```
4969:   base equal to B and with the minimum number of digits (A) specified. }
4970: function Numb2Dec(S: string; B: Byte): Int64;
4971: { Numb2Dec converts the given B-based numeric string to the corresponding
4972:   integer value. }
4973: function IntToBin(Value: Longint; Digits, Spaces: Integer): string;
4974: { IntToBin converts the given value to a binary string representation
4975:   with the minimum number of digits specified. }
4976: function IntToRoman(Value: Longint): string;
4977: { IntToRoman converts the given value to a roman numeric string representation. }
4978: function RomanToInt(const S: string): Longint;
4979: { RomanToInt converts the given string to an integer value. If the string
4980:   doesn't contain a valid roman numeric value, the 0 value is returned. }
4981: function FindNotBlankCharPos(const S: string): Integer;
4982: function FindNotBlankCharPosW(const S: WideString): Integer;
4983: function AnsiChangeCase(const S: string): string;
4984: function WideChangeCase(const S: string): string;
4985: function StartsText(const SubStr, S: string): Boolean;
4986: function EndsText(const SubStr, S: string): Boolean;
4987: function DequotedStr(const S: string; QuoteChar: Char = ''''): string;
4988: function AnsiDequotedStr(const S: string; AQuote: Char): string; //follow Delphi 2009's "Ansi" prefix
4989: {end JvStrUtils}
4990: {$IFDEF UNIX}
4991: function GetTempFileName(const Prefix: AnsiString): AnsiString;
4992: {$ENDIF UNIX}
4993: { begin JvFileUtil }
4994: function FileDateTime(const FileName: string): TDateTime;
4995: function HasAttr(const FileName: string; Attr: Integer): Boolean;
4996: function DeleteFilesEx(const FileMasks: array of string): Boolean;
4997: function NormalDir(const DirName: string): string;
4998: function RemoveBackSlash(const DirName: string): string; // only for Windows/DOS Paths
4999: function ValidFileName(const FileName: string): Boolean;
5000: {$IFDEF MSWINDOWS}
5001: function FileLock(Handle: Integer; Offset, LockSize: Longint): Integer; overload;
5002: function FileLock(Handle: Integer; Offset, LockSize: Int64): Integer; overload;
5003: function FileUnlock(Handle: Integer; Offset, LockSize: Longint): Integer; overload;
5004: function FileUnlock(Handle: Integer; Offset, LockSize: Int64): Integer; overload;
5005: {$ENDIF MSWINDOWS}
5006: function GetWindowsDir: string;
5007: function GetSystemDir: string;
5008: function ShortToLongFileName(const ShortName: string): string;
5009: function LongToShortFileName(const LongName: string): string;
5010: function ShortToLongPath(const ShortName: string): string;
5011: function LongToShortPath(const LongName: string): string;
5012: {$IFDEF MSWINDOWS}
5013: procedure CreateFileLink(const FileName, DisplayName: string; Folder: Integer);
5014: procedure DeleteFileLink(const DisplayName: string; Folder: Integer);
5015: {$ENDIF MSWINDOWS}
5016: { end JvFileUtil }
5017: // Works like PtInRect but includes all edges in comparision
5018: function PtInRectInclusive(R: TRect; Pt: TPoint): Boolean;
5019: // Works like PtInRect but excludes all edges from comparision
5020: function PtInRectExclusive(R: TRect; Pt: TPoint): Boolean;
5021: function FourDigitYear: Boolean; {$IFDEF SUPPORTS_DEPRECATED} deprecated; {$ENDIF}
5022: function IsFourDigitYear: Boolean;
5023: { moved from JvJVCLUTils }
5024: //Open an object with the shell (url or something like that)
5025: function OpenObject(const Value: string): Boolean; overload;
5026: function OpenObject(Value: PChar): Boolean; overload;
5027: {$IFDEF MSWINDOWS}
5028: //Raise the last Exception
5029: procedure RaiseLastWin32; overload;
5030: procedure RaiseLastWin32(const Text: string); overload;
5031: //Raise the last Exception with a small comment from your part { GetFileVersion returns the most
     significant 32 bits of a file's binary version number. Typically, this includes the major and minor
     version placed together in one 32-bit Integer. I
5032: function GetFileVersion(const AFileName: string): Cardinal;
5033: {$EXTERNALSYM GetFileVersion}
5034: //Get version of Shell.dll
5035: function GetShellVersion: Cardinal;
5036: {$EXTERNALSYM GetShellVersion}
5037: // CD functions  on HW
5038: procedure OpenCdDrive;
5039: procedure CloseCdDrive;
5040: // returns True if Drive is accessible
5041: function DiskInDrive(Drive: Char): Boolean;
5042: {$ENDIF MSWINDOWS}
5043: //Same as linux function ;)
5044: procedure PError(const Text: string);
5045: // execute a program without waiting
5046: procedure Exec(const FileName, Parameters, Directory: string);
5047: // execute a program and wait for it to finish
5048: function ExecuteAndWait(CmdLine:string;const WorkingDirectory:string;Visibility:Integer=SW_SHOW): Int;
5049: // returns True if this is the first instance of the program that is running
5050: function FirstInstance(const ATitle: string): Boolean;
5051: // restores a window based on it's classname and Caption. Either can be left empty
5052: // to widen the search
5053: procedure RestoreOtherInstance(const MainFormClassName, MainFormCaption: string);
5054: // manipulate the traybar and start button
5055: procedure HideTraybar;
```

```
5056: procedure ShowTraybar;
5057: procedure ShowStartButton(Visible: Boolean = True);
5058: // (rom) SC_MONITORPOWER is documented as Win 95 only(rom) better do some testing set monitor functions
5059: procedure MonitorOn;
5060: procedure MonitorOff;
5061: procedure LowPower;
5062: // send a key to the window named AppName
5063: function SendKey(const AppName: string; Key: Char): Boolean;
5064: {$IFDEF MSWINDOWS}
5065: // returns a list of all win currently visible, the Objects property is filled with their window handle
5066: procedure GetVisibleWindows(List: TStrings);
5067: Function GetVisibleWindowsF( List : TStrings):TStrings');
5068: // associates an extension to a specific program
5069: procedure AssociateExtension(const IconPath, ProgramName, Path, Extension: string);
5070: procedure AddToRecentDocs(const FileName: string);
5071: function GetRecentDocs: TStringList;
5072: {$ENDIF MSWINDOWS}
5073: function CharIsMoney(const Ch: Char): Boolean;
5074: //function StrToCurrDef(const Str: string; Def: Currency): Currency;
5075: function IntToExtended(I: Integer): Extended;
5076: { GetChangedText works out the new text given the current cursor pos & the key pressed
5077:   It is not very useful in other contexts, but in this unit as it is needed in both MemoEx and TypedEdit }
5078: function GetChangedText(const Text: string; SelStart, SelLength: Integer; Key: Char): string;
5079: function MakeYear4Digit(Year, Pivot: Integer): Integer;
5080: //function StrIsInteger(const S: string): Boolean;
5081: function StrIsFloatMoney(const Ps: string): Boolean;
5082: function StrIsDateTime(const Ps: string): Boolean;
5083: function PreformatDateString(Ps: string): string;
5084: function BooleanToInteger(const B: Boolean): Integer;
5085: function StringToBoolean(const Ps: string): Boolean;
5086: function SafeStrToDateTime(const Ps: string): TDateTime;
5087: function SafeStrToDate(const Ps: string): TDateTime;
5088: function SafeStrToTime(const Ps: string): TDateTime;
5089: function StrDelete(const psSub, psMain: string): string;
5090:   { returns the fractional value of pcValue}
5091: function TimeOnly(pcValue: TDateTime): TTime;
5092: { returns the integral value of pcValue }
5093: function DateOnly(pcValue: TDateTime): TDate;
5094: type TdtKind = (dtkDateOnly, dtkTimeOnly, dtkDateTime);
5095: const { TDateTime value used to signify Null value}
5096:   NullEquivalentDate: TDateTime = 0.0;
5097: function DateIsNull(const pdtValue: TDateTime; const pdtKind: TdtKind): Boolean;
5098: // Replacement for Win32Check to avoid platform specific warnings in D6
5099: function OSCheck(RetVal: Boolean): Boolean;
5100: { Shortens a fully qualified Path name so that it can be drawn with a specified length limit.
5101:   Same as FileCtrl.MinimizeName in functionality (but not implementation). Included here to
5102:   not be forced to use FileCtrl unnecessarily }
5103: function MinimizeFileName(const FileName: string; Canvas: TCanvas; MaxLen: Integer): string;
5104: function MinimizeText(const Text: string; Canvas: TCanvas; MaxWidth: Integer): string;
5105: { MinimizeString trunactes long string, S, and appends'...'symbols,if Length of S is more than MaxLen }
5106: function MinimizeString(const S: string; const MaxLen: Integer): string;
5107: procedure RunDll32Internal(Wnd:THandle; const DLLName,FuncName,CmdLine:string;CmdShow:Integer=
     SW_SHOWDEFAULT);
5108: { GetDLLVersion loads DLLName, gets a pointer to DLLVersion function and calls it, returning major and
     minor version values from the function. Returns False if DLL not loaded or if GetDLLVersion couldn't be
     found.}
5109: function GetDLLVersion(const DLLName: string; var pdwMajor, pdwMinor: Integer): Boolean;
5110: {$ENDIF MSWINDOWS}
5111: procedure ResourceNotFound(ResID: PChar);
5112: function EmptyRect: TRect;
5113: function RectWidth(R: TRect): Integer;
5114: function RectHeight(R: TRect): Integer;
5115: function CompareRect(const R1, R2: TRect): Boolean;
5116: procedure RectNormalize(var R: TRect);
5117: function RectIsSquare(const R: TRect): Boolean;
5118: function RectSquare(var ARect: TRect; AMaxSize: Integer = -1): Boolean;
5119: //If AMaxSize = -1 ,then auto calc Square's max size
5120: {$IFDEF MSWINDOWS}
5121: procedure FreeUnusedOle;
5122: function GetWindowsVersion: string;
5123: function LoadDLL(const LibName: string): THandle;
5124: function RegisterServer(const ModuleName: string): Boolean;
5125: function UnregisterServer(const ModuleName: string): Boolean;
5126: {$ENDIF MSWINDOWS}
5127: { String routines }
5128: function GetEnvVar(const VarName: string): string;
5129: function AnsiUpperFirstChar(const S: string): string; //follow Delphi 2009's example with "Ansi" prefix
5130: function StringToPChar(var S: string): PChar;
5131: function StrPAlloc(const S: string): PChar;
5132: procedure SplitCommandLine(const CmdLine: string; var ExeName, Params: string);
5133: function DropT(const S: string): string;
5134: { Memory routines }
5135: function AllocMemo(Size: Longint): Pointer;
5136: function ReallocMemo(fpBlock: Pointer; Size: Longint): Pointer;
5137: procedure FreeMemo(var fpBlock: Pointer);
5138: function GetMemoSize(fpBlock: Pointer): Longint;
5139: function CompareMem(fpBlock1, fpBlock2: Pointer; Size: Cardinal): Boolean;
5140: { Manipulate huge pointers routines }
5141: procedure HugeInc(var HugePtr: Pointer; Amount: Longint);
```

```
5142: procedure HugeDec(var HugePtr: Pointer; Amount: Longint);
5143: function HugeOffset(HugePtr: Pointer; Amount: Longint): Pointer;
5144: procedure HugeMove(Base: Pointer; Dst, Src, Size: Longint);
5145: procedure HMemCpy(DstPtr, SrcPtr: Pointer; Amount: Longint);
5146: function WindowClassName(Wnd: THandle): string;
5147: procedure SwitchToWindow(Wnd: THandle; Restore: Boolean);
5148: procedure ActivateWindow(Wnd: THandle);
5149: procedure ShowWinNoAnimate(Handle: THandle; CmdShow: Integer);
5150: procedure KillMessage(Wnd: THandle; Msg: Cardinal);
5151: { SetWindowTop put window to top without recreating window }
5152: procedure SetWindowTop(const Handle: THandle; const Top: Boolean);
5153: procedure CenterWindow(Wnd: THandle);
5154: function MakeVariant(const Values: array of Variant): Variant;
5155: { Convert dialog units to pixels and backwards }
5156: {$IFDEF MSWINDOWS}
5157: function DialogUnitsToPixelsX(DlgUnits: Word): Word;
5158: function DialogUnitsToPixelsY(DlgUnits: Word): Word;
5159: function PixelsToDialogUnitsX(PixUnits: Word): Word;
5160: function PixelsToDialogUnitsY(PixUnits: Word): Word;
5161: {$ENDIF MSWINDOWS}
5162: function GetUniqueFileNameInDir(const Path, FileNameMask: string): string;
5163: {$IFDEF BCB}
5164: function FindPrevInstance(const MainFormClass: ShortString;const ATitle: string): THandle;
5165: function ActivatePrevInstance(const MainFormClass: ShortString;const ATitle: string): Boolean;
5166: {$ELSE}
5167: function FindPrevInstance(const MainFormClass, ATitle: string): THandle;
5168: function ActivatePrevInstance(const MainFormClass, ATitle: string): Boolean;
5169: {$ENDIF BCB}
5170: {$IFDEF MSWINDOWS}
5171: { BrowseForFolderNative displays Browse For Folder dialog }
5172: function BrowseForFolderNative(const Handle: THandle; const Title: string; var Folder: string): Boolean;
5173: {$ENDIF MSWINDOWS}
5174: procedure AntiAlias(Clip: TBitmap);
5175: procedure AntiAliasRect(Clip: TBitmap; XOrigin, YOrigin,XFinal, YFinal: Integer);
5176: procedure CopyRectDIBits(ACanvas: TCanvas; const DestRect: TRect;
5177:   ABitmap: TBitmap; const SourceRect: TRect);
5178: function IsTrueType(const FontName: string): Boolean;
5179: // Removes all non-numeric characters from AValue and returns the resulting string
5180: function TextToValText(const AValue: string): string;
5181: Function ExecRegExpr( const ARegExpr, AInputStr : RegExprString) : boolean
5182: Procedure SplitRegExpr( const ARegExpr, AInputStr : RegExprString; APieces : TStrings)
5183: Function ReplaceRegExpr(const ARegExpr,AInputStr,
     AReplaceStr:RegExprString;AUseSubstitution:bool):RegExprString;
5184: Function QuoteRegExprMetaChars( const AStr : RegExprString) : RegExprString
5185: Function RegExprSubExpressions(const ARegExpr:string; ASubExprs:TStrings; AExtendedSyntax : boolean) :
5186:
5187: ******************************************************unit uPSI_JvTFUtils;
5188:  Function JExtractYear( ADate : TDateTime) : Word
5189:  Function JExtractMonth( ADate : TDateTime) : Word
5190:  Function JExtractDay( ADate : TDateTime) : Word
5191:  Function ExtractHours( ATime : TDateTime) : Word
5192:  Function ExtractMins( ATime : TDateTime) : Word
5193:  Function ExtractSecs( ATime : TDateTime) : Word
5194:  Function ExtractMSecs( ATime : TDateTime) : Word
5195:  Function FirstOfMonth( ADate : TDateTime) : TDateTime
5196:  Function GetDayOfNthDOW( Year, Month, DOW, N : Word) : Word
5197:  Function GetWeeksInMonth( Year, Month : Word; StartOfWeek : Integer) : Word
5198:  Procedure IncBorlDOW( var BorlDOW : Integer; N : Integer)
5199:  Procedure IncDOW( var DOW : TTFDayOfWeek; N : Integer)
5200:  Procedure IncDays( var ADate : TDateTime; N : Integer)
5201:  Procedure IncWeeks( var ADate : TDateTime; N : Integer)
5202:  Procedure IncMonths( var ADate : TDateTime; N : Integer)
5203:  Procedure IncYears( var ADate : TDateTime; N : Integer)
5204:  Function EndOfMonth( ADate : TDateTime) : TDateTime
5205:  Function IsFirstOfMonth( ADate : TDateTime) : Boolean
5206:  Function IsEndOfMonth( ADate : TDateTime) : Boolean
5207:  Procedure EnsureMonth( Month : Word)
5208:  Procedure EnsureDOW( DOW : Word)
5209:  Function EqualDates( D1, D2 : TDateTime) : Boolean
5210:  Function Lesser( N1, N2 : Integer) : Integer
5211:  Function Greater( N1, N2 : Integer) : Integer
5212:  Function GetDivLength( TotalLength, DivCount, DivNum : Integer) : Integer
5213:  Function GetDivNum( TotalLength, DivCount, X : Integer) : Integer
5214:  Function GetDivStart( TotalLength, DivCount, DivNum : Integer) : Integer
5215:  Function DOWToBorl( ADOW : TTFDayOfWeek) : Integer
5216:  Function BorlToDOW( BorlDOW : Integer) : TTFDayOfWeek
5217:  Function DateToDOW( ADate : TDateTime) : TTFDayOfWeek
5218:  Procedure CalcTextPos( HostRect : TRect; var TextLeft, TextTop:Integer; var TextBounds : TRect;
     AFont:TFont;AAngle: Integer; HAlign : TAlignment; VAlign : TJvTFVAlignment; ATxt : string)
5219:  Procedure DrawAngleText( ACanvas : TCanvas; HostRect : TRect; var TextBounds : TRect; AAngle : Integer;
     HAlign : TAlignment; VAlign : TJvTFVAlignment; ATxt : string)
5220:  Function JRectWidth( ARect : TRect) : Integer
5221:  Function JRectHeight( ARect : TRect) : Integer
5222:  Function JEmptyRect : TRect
5223:  Function IsClassByName( Obj : TObject; ClassName : string) : Boolean
5224:
5225: procedure SIRegister_MSysUtils(CL: TPSPascalCompiler);
5226: begin
5227:  Procedure HideTaskBarButton( hWindow : HWND)
```

```
5228:  Function msLoadStr( ID : Integer) : String
5229:  Function msFormat( fmt : String; params : array of const) : String
5230:  Function msFileExists( const FileName : String) : Boolean
5231:  Function msIntToStr( Int : Int64) : String
5232:  Function msStrPas( const Str : PChar) : String
5233:  Function msRenameFile( const OldName, NewName : String) : Boolean
5234:  Function CutFileName( s : String) : String
5235:  Function GetVersionInfo( var VersionString : String) : DWORD
5236:  Function FormatTime( t : Cardinal) : String
5237:  Function msCreateDir( const Dir : string) : Boolean
5238:  Function SetAutoRun( NeedAutoRun : Boolean; AppName : String) : Boolean
5239:  Function SetTreeViewStyle( const hTV : HWND; dwNewStyle : dword) : DWORD
5240:  Function msStrLen( Str : PChar) : Integer
5241:  Function msDirectoryExists( const Directory : String) : Boolean
5242:  Function GetFolder( hWnd : hWnd; RootDir : Integer; Caption : String) : String
5243:  Function SetBlendWindow( hWnd : HWND; AlphaBlend : Byte) : LongBool
5244:  Function EditWindowProc( hWnd : HWND; Msg : UINT; wParam : WPARAM; lParam : LPARAM) : LRESULT
5245:  Procedure SetEditWndProc( hWnd : HWND; ptr : TObject)
5246:  Function GetTextFromFile( Filename : String) : string
5247:  Function IsTopMost( hWnd : HWND) : Bool // 'LWA_ALPHA','LongWord').SetUInt( $00000002);
5248:  Function msStrToIntDef( const s : String; const i : Integer) : Integer
5249:  Function msStrToInt( s : String) : Integer
5250:  Function GetItemText( hDlg : THandle; ID : DWORD) : String
5251: end;
5252:
5253: procedure SIRegister_ESBMaths2(CL: TPSPascalCompiler);
5254: begin
5255:   //TDynFloatArray', 'array of Extended
5256:   TDynLWordArray', 'array of LongWord
5257:   TDynLIntArray', 'array of LongInt
5258:   TDynFloatMatrix', 'array of TDynFloatArray
5259:   TDynLWordMatrix', 'array of TDynLWordArray
5260:   TDynLIntMatrix', 'array of TDynLIntArray
5261:  Function SquareAll( const X : TDynFloatArray) : TDynFloatArray
5262:  Function InverseAll( const X : TDynFloatArray) : TDynFloatArray
5263:  Function LnAll( const X : TDynFloatArray) : TDynFloatArray
5264:  Function Log10All( const X : TDynFloatArray) : TDynFloatArray
5265:  Function LinearTransform( const X : TDynFloatArray; Offset, Scale : Extended) : TDynFloatArray
5266:  Function AddVectors( const X, Y : TDynFloatArray) : TDynFloatArray
5267:  Function SubVectors( const X, Y : TDynFloatArray) : TDynFloatArray
5268:  Function MultVectors( const X, Y : TDynFloatArray) : TDynFloatArray
5269:  Function DotProduct( const X, Y : TDynFloatArray) : Extended
5270:  Function MNorm( const X : TDynFloatArray) : Extended
5271:  Function MatrixIsRectangular( const X : TDynFloatMatrix) : Boolean
5272:  Procedure MatrixDimensions(const X:TDynFloatMatrix;var Rows,Columns:LongWord;var Rectangular:Boolean;
5273:  Function MatrixIsSquare( const X : TDynFloatMatrix) : Boolean
5274:  Function MatricesSameDimensions( const X, Y : TDynFloatMatrix) : Boolean
5275:  Function AddMatrices( const X, Y : TDynFloatMatrix) : TDynFloatMatrix
5276:  Procedure AddToMatrix( var X : TDynFloatMatrix; const Y : TDynFloatMatrix)
5277:  Function SubtractMatrices( const X, Y : TDynFloatMatrix) : TDynFloatMatrix
5278:  Procedure SubtractFromMatrix( var X : TDynFloatMatrix; const Y : TDynFloatMatrix)
5279:  Function MultiplyMatrixByConst( const X : TDynFloatMatrix; const K : Extended) : TDynFloatMatrix
5280:  Procedure MultiplyMatrixByConst2( var X : TDynFloatMatrix; const K : Extended);
5281:  Function MultiplyMatrices( const X, Y : TDynFloatMatrix) : TDynFloatMatrix;
5282:  Function TransposeMatrix( const X : TDynFloatMatrix) : TDynFloatMatrix;
5283:  Function GrandMean( const X : TDynFloatMatrix; var N : LongWord) : Extended
5284: end;
5285:
5286: procedure SIRegister_ESBMaths(CL: TPSPascalCompiler);
5287: begin
5288:  'ESBMinSingle','Single').setExtended( 1.5e-45);
5289:  'ESBMaxSingle','Single').setExtended( 3.4e+38);
5290:  'ESBMinDouble','Double').setExtended( 5.0e-324);
5291:  'ESBMaxDouble','Double').setExtended( 1.7e+308);
5292:  'ESBMinExtended','Extended').setExtended( 3.6e-4951);
5293:  'ESBMaxExtended','Extended').setExtended( 1.1e+4932);
5294:  'ESBMinCurrency','Currency').SetExtended( - 922337203685477.5807);
5295:  'ESBMaxCurrency','Currency').SetExtended( 922337203685477.5807);
5296:  'ESBSqrt2','Extended').setExtended( 1.4142135623730950488);
5297:  'ESBSqrt3','Extended').setExtended( 1.7320508075688772935);
5298:  'ESBSqrt5','Extended').setExtended( 2.2360679774997896964);
5299:  'ESBSqrt10','Extended').setExtended( 3.1622776601683793320);
5300:  'ESBSqrtPi','Extended').setExtended( 1.77245385090551602729);
5301:  'ESBCbrt2','Extended').setExtended( 1.2599210498948731648);
5302:  'ESBCbrt3','Extended').setExtended( 1.4422495703074083823);
5303:  'ESBCbrt10','Extended').setExtended( 2.1544346900318837219);
5304:  'ESBCbrt100','Extended').setExtended( 4.6415888336127788924);
5305:  'ESBCbrtPi','Extended').setExtended( 1.4645918875615232630);
5306:  'ESBInvSqrt2','Extended').setExtended( 0.70710678118654752440);
5307:  'ESBInvSqrt3','Extended').setExtended( 0.57735026918962576451);
5308:  'ESBInvSqrt5','Extended').setExtended( 0.44721359549995793928);
5309:  'ESBInvSqrtPi','Extended').setExtended( 0.56418958354775628695);
5310:  'ESBInvCbrtPi','Extended').setExtended( 0.68278406325529568147);
5311:  'ESBe','Extended').setExtended( 2.7182818284590452354);
5312:  'ESBe2','Extended').setExtended( 7.3890560989306502272);
5313:  'ESBePi','Extended').setExtended( 23.140692632779269006);
5314:  'ESBePiOn2','Extended').setExtended( 4.8104773809653516555);
5315:  'ESBePiOn4','Extended').setExtended( 2.1932800507380154566);
5316:  'ESBLn2','Extended').setExtended( 0.69314718055994530942);
```

```
5317:  'ESBLn10','Extended').setExtended( 2.30258509299404568402);
5318:  'ESBLnPi','Extended').setExtended( 1.14472988584940017414);
5319:  'ESBLog10Base2','Extended').setExtended( 3.3219280948873623478);
5320:  'ESBLog2Base10','Extended').setExtended( 0.30102999566398119521);
5321:  'ESBLog3Base10','Extended').setExtended( 0.47712125471966243730);
5322:  'ESBLogPiBase10','Extended').setExtended( 0.4971498726941339);
5323:  'ESBLogEBase10','Extended').setExtended( 0.43429448190325182765);
5324:  'ESBPi','Extended').setExtended( 3.14159265358979323385);
5325:  'ESBInvPi','Extended').setExtended( 3.18309886183790671154e-1);
5326:  'ESBTwoPi','Extended').setExtended( 6.28318530717958647769);
5327:  'ESBThreePi','Extended').setExtended( 9.42477796076937971153);
5328:  'ESBPi2','Extended').setExtended( 9.86960440108935861188);
5329:  'ESBPiToE','Extended').setExtended( 22.459157718361045473);
5330:  'ESBPiOn2','Extended').setExtended( 1.57079632679489661923);
5331:  'ESBPiOn3','Extended').setExtended( 1.04719755119659774615);
5332:  'ESBPiOn4','Extended').setExtended( 0.78539816339744830962);
5333:  'ESBThreePiOn2','Extended').setExtended( 4.71238898038468985769);
5334:  'ESBFourPiOn3','Extended').setExtended( 4.18879020478639098462);
5335:  'ESBTwoToPower63','Extended').setExtended( 9223372036854775808.0);
5336:  'ESBOneRadian','Extended').setExtended( 57.295779513082320877);
5337:  'ESBOneDegree','Extended').setExtended( 1.7453292519943295769E-2);
5338:  'ESBOneMinute','Extended').setExtended( 2.9088820866572159615E-4);
5339:  'ESBOneSecond','Extended').setExtended( 4.8481368110953599359E-6);
5340:  'ESBGamma','Extended').setExtended( 0.57721566490153286061);
5341:  'ESBLnRt2Pi','Extended').setExtended( 9.189385332046727E-1);
5342:   //LongWord', 'Cardinal
5343:   TBitList', 'Word
5344:  Function UMul( const Num1, Num2 : LongWord) : LongWord
5345:  Function UMulDiv2p32( const Num1, Num2 : LongWord) : LongWord
5346:  Function UMulDiv( const Num1, Num2, Divisor : LongWord) : LongWord
5347:  Function UMulMod( const Num1, Num2, Modulus : LongWord) : LongWord
5348:  Function SameFloat( const X1, X2 : Extended) : Boolean
5349:  Function FloatIsZero( const X : Extended) : Boolean
5350:  Function FloatIsPositive( const X : Extended) : Boolean
5351:  Function FloatIsNegative( const X : Extended) : Boolean
5352:  Procedure IncLim( var B : Byte; const Limit : Byte)
5353:  Procedure IncLimSI( var B : ShortInt; const Limit : ShortInt)
5354:  Procedure IncLimW( var B : Word; const Limit : Word)
5355:  Procedure IncLimI( var B : Integer; const Limit : Integer)
5356:  Procedure IncLimL( var B : LongInt; const Limit : LongInt)
5357:  Procedure DecLim( var B : Byte; const Limit : Byte)
5358:  Procedure DecLimSI( var B : ShortInt; const Limit : ShortInt)
5359:  Procedure DecLimW( var B : Word; const Limit : Word)
5360:  Procedure DecLimI( var B : Integer; const Limit : Integer)
5361:  Procedure DecLimL( var B : LongInt; const Limit : LongInt)
5362:  Function MaxB( const B1, B2 : Byte) : Byte
5363:  Function MinB( const B1, B2 : Byte) : Byte
5364:  Function MaxSI( const B1, B2 : ShortInt) : ShortInt
5365:  Function MinSI( const B1, B2 : ShortInt) : ShortInt
5366:  Function MaxW( const B1, B2 : Word) : Word
5367:  Function MinW( const B1, B2 : Word) : Word
5368:  Function esbMaxI( const B1, B2 : Integer) : Integer
5369:  Function esbMinI( const B1, B2 : Integer) : Integer
5370:  Function MaxL( const B1, B2 : LongInt) : LongInt
5371:  Function MinL( const B1, B2 : LongInt) : LongInt
5372:  Procedure SwapB( var B1, B2 : Byte)
5373:  Procedure SwapSI( var B1, B2 : ShortInt)
5374:  Procedure SwapW( var B1, B2 : Word)
5375:  Procedure SwapI( var B1, B2 : SmallInt)
5376:  Procedure SwapL( var B1, B2 : LongInt)
5377:  Procedure SwapI32( var B1, B2 : Integer)
5378:  Procedure SwapC( var B1, B2 : LongWord)
5379:  Procedure SwapInt64( var X, Y : Int64)
5380:  Function esbSign( const B : LongInt) : ShortInt
5381:  Function Max4Word( const X1, X2, X3, X4 : Word) : Word
5382:  Function Min4Word( const X1, X2, X3, X4 : Word) : Word
5383:  Function Max3Word( const X1, X2, X3 : Word) : Word
5384:  Function Min3Word( const X1, X2, X3 : Word) : Word
5385:  Function MaxBArray( const B : array of Byte) : Byte
5386:  Function MaxWArray( const B : array of Word) : Word
5387:  Function MaxSIArray( const B : array of ShortInt) : ShortInt
5388:  Function MaxIArray( const B : array of Integer) : Integer
5389:  Function MaxLArray( const B : array of LongInt) : LongInt
5390:  Function MinBArray( const B : array of Byte) : Byte
5391:  Function MinWArray( const B : array of Word) : Word
5392:  Function MinSIArray( const B : array of ShortInt) : ShortInt
5393:  Function MinIArray( const B : array of Integer) : Integer
5394:  Function MinLArray( const B : array of LongInt) : LongInt
5395:  Function SumBArray( const B : array of Byte) : Byte
5396:  Function SumBArray2( const B : array of Byte) : Word
5397:  Function SumSIArray( const B : array of ShortInt) : ShortInt
5398:  Function SumSIArray2( const B : array of ShortInt) : Integer
5399:  Function SumWArray( const B : array of Word) : Word
5400:  Function SumWArray2( const B : array of Word) : LongInt
5401:  Function SumIArray( const B : array of Integer) : Integer
5402:  Function SumLArray( const B : array of LongInt) : LongInt
5403:  Function SumLWArray( const B : array of LongWord) : LongWord
5404:  Function ESBDigits( const X : LongWord) : Byte
5405:  Function BitsHighest( const X : LongWord) : Integer
```

```
5406:  Function ESBBitsNeeded( const X : LongWord) : Integer
5407:  Function esbGCD( const X, Y : LongWord) : LongWord
5408:  Function esbLCM( const X, Y : LongInt) : Int64
5409:  //Function esbLCM( const X, Y : LongInt) : LongInt
5410:  Function RelativePrime( const X, Y : LongWord) : Boolean
5411:  Function Get87ControlWord : TBitList
5412:  Procedure Set87ControlWord( const CWord : TBitList)
5413:  Procedure SwapExt( var X, Y : Extended)
5414:  Procedure SwapDbl( var X, Y : Double)
5415:  Procedure SwapSing( var X, Y : Single)
5416:  Function esbSgn( const X : Extended) : ShortInt
5417:  Function Distance( const X1, Y1, X2, Y2 : Extended) : Extended
5418:  Function ExtMod( const X, Y : Extended) : Extended
5419:  Function ExtRem( const X, Y : Extended) : Extended
5420:  Function CompMOD( const X, Y : Comp) : Comp
5421:  Procedure Polar2XY( const Rho, Theta : Extended; var X, Y : Extended)
5422:  Procedure XY2Polar( const X, Y : Extended; var Rho, Theta : Extended)
5423:  Function DMS2Extended( const Degs, Mins, Secs : Extended) : Extended
5424:  Procedure Extended2DMS( const X : Extended; var Degs, Mins, Secs : Extended)
5425:  Function MaxExt( const X, Y : Extended) : Extended
5426:  Function MinExt( const X, Y : Extended) : Extended
5427:  Function MaxEArray( const B : array of Extended) : Extended
5428:  Function MinEArray( const B : array of Extended) : Extended
5429:  Function MaxSArray( const B : array of Single) : Single
5430:  Function MinSArray( const B : array of Single) : Single
5431:  Function MaxCArray( const B : array of Comp) : Comp
5432:  Function MinCArray( const B : array of Comp) : Comp
5433:  Function SumSArray( const B : array of Single) : Single
5434:  Function SumEArray( const B : array of Extended) : Extended
5435:  Function SumSqEArray( const B : array of Extended) : Extended
5436:  Function SumSqDiffEArray( const B : array of Extended; Diff : Extended) : Extended
5437:  Function SumXYEArray( const X, Y : array of Extended) : Extended
5438:  Function SumCArray( const B : array of Comp) : Comp
5439:  Function FactorialX( A : LongWord) : Extended
5440:  Function PermutationX( N, R : LongWord) : Extended
5441:  Function esbBinomialCoeff( N, R : LongWord) : Extended
5442:  Function IsPositiveEArray( const X : array of Extended) : Boolean
5443:  Function esbGeometricMean( const X : array of Extended) : Extended
5444:  Function esbHarmonicMean( const X : array of Extended) : Extended
5445:  Function ESBMean( const X : array of Extended) : Extended
5446:  Function esbSampleVariance( const X : array of Extended) : Extended
5447:  Function esbPopulationVariance( const X : array of Extended) : Extended
5448:  Procedure esbSampleVarianceAndMean( const X : array of Extended; var Variance, Mean : Extended)
5449:  Procedure esbPopulationVarianceAndMean( const X : array of Extended; var Variance, Mean : Extended)
5450:  Function GetMedian( const SortedX : array of Extended) : Extended
5451:  Function GetMode( const SortedX : array of Extended; var Mode : Extended) : Boolean
5452:  Procedure GetQuartiles( const SortedX : array of Extended; var Q1, Q3 : Extended)
5453:  Function ESBMagnitude( const X : Extended) : Integer
5454:  Function ESBTan( Angle : Extended) : Extended
5455:  Function ESBCot( Angle : Extended) : Extended
5456:  Function ESBCosec( const Angle : Extended) : Extended
5457:  Function ESBSec( const Angle : Extended) : Extended
5458:  Function ESBArcTan( X, Y : Extended) : Extended
5459:  Procedure ESBSinCos( Angle : Extended; var SinX, CosX : Extended)
5460:  Function ESBArcCos( const X : Extended) : Extended
5461:  Function ESBArcSin( const X : Extended) : Extended
5462:  Function ESBArcSec( const X : Extended) : Extended
5463:  Function ESBArcCosec( const X : Extended) : Extended
5464:  Function ESBLog10( const X : Extended) : Extended
5465:  Function ESBLog2( const X : Extended) : Extended
5466:  Function ESBLogBase( const X, Base : Extended) : Extended
5467:  Function Pow2( const X : Extended) : Extended
5468:  Function IntPow( const Base : Extended; const Exponent : LongWord) : Extended
5469:  Function ESBIntPower( const X : Extended; const N : LongInt) : Extended
5470:  Function XtoY( const X, Y : Extended) : Extended
5471:  Function esbTenToY( const Y : Extended) : Extended
5472:  Function esbTwoToY( const Y : Extended) : Extended
5473:  Function LogXtoBaseY( const X, Y : Extended) : Extended
5474:  Function esbISqrt( const I : LongWord) : Longword
5475:  Function ILog2( const I : LongWord) : LongWord
5476:  Function IGreatestPowerOf2( const N : LongWord) : LongWord
5477:  Function ESBArCosh( X : Extended) : Extended
5478:  Function ESBArSinh( X : Extended) : Extended
5479:  Function ESBArTanh( X : Extended) : Extended
5480:  Function ESBCosh( X : Extended) : Extended
5481:  Function ESBSinh( X : Extended) : Extended
5482:  Function ESBTanh( X : Extended) : Extended
5483:  Function InverseGamma( const X : Extended) : Extended
5484:  Function esbGamma( const X : Extended) : Extended
5485:  Function esbLnGamma( const X : Extended) : Extended
5486:  Function esbBeta( const X, Y : Extended) : Extended
5487:  Function IncompleteBeta( X : Extended; P, Q : Extended) : Extended
5488: end;
5489:
5490: ******************************Integer Huge Cardinal Utils**************************
5491: Function Add_uint64_WithCarry( x, y : uint64; var Carry : Boolean) : uint64
5492: Function Add_uint32_WithCarry( x, y : uint32; var Carry : Boolean) : uint32
5493: Function Subtract_uint64_WithBorrow( x, y : uint64; var Borrow : Boolean) : uint64
5494: Function Subtract_uint32_WithBorrow( x, y : uint32; var Borrow : Boolean) : uint32
```

```
5495: Function BitCount_8( Value : byte) : integer
5496: Function BitCount_16( Value : uint16) : integer
5497: Function BitCount_32( Value : uint32) : integer
5498: Function BitCount_64( Value : uint64) : integer
5499: Function CountSetBits_64( Value : uint64) : integer TPrimalityTestNoticeProc',
5500:  Procedure ( CountPrimalityTests : integer)
5501:  Function gcd( a, b : THugeCardinal) : THugeCardinal
5502:  Function lcm( a, b : THugeCardinal) : THugeCardinal
5503:  Function isCoPrime( a, b : THugeCardinal) : boolean
5504:  Function isProbablyPrime(p: THugeCardinal;OnProgress: TProgress; var wasAborted: boolean): boolean
5505:  Function hasSmallFactor( p : THugeCardinal) : boolean
5506:  //Function GeneratePrime( NumBits : integer; OnProgress : TProgress; OnPrimalityTest:
      TPrimalityTestNoticeProc; PassCount: integer; Pool1:TMemoryStreamPool;var Prime: THugeCardinal; var
      NumbersTested: integer) : boolean
5507:  Function Inverse( Prime, Modulus : THugeCardinal) : THugeCardinal
5508:  Const('StandardExponent','LongInt'( 65537);
5509: //Procedure Compute_RSA_Fundamentals_2Factors(RequiredBitLengthOfN:integer;Fixed_e:uint64;var N,e,d,
      Totient:TProgress;OnPrimalityTest:TPrimalityTestNoticeProc;GeneratePrimePassCount:int;Pool1:TMemoryStreamPo
      Numbers
5510:  Function Validate_RSA_Fundamentals( var N, e, d, Totient : THugeCardinal) : boolean')
5511:
5512: procedure SIRegister_xrtl_math_Integer(CL: TPSPascalCompiler);
5513: begin
5514:   AddTypeS('TXRTLInteger', 'array of Integer
5515:   AddClassN(FindClass('TOBJECT'),'EXRTLMathException
5516:   (FindClass('TOBJECT'),'EXRTLExtendInvalidArgument
5517:   AddClassN(FindClass('TOBJECT'),'EXRTLDivisionByZero
5518:   AddClassN(FindClass('TOBJECT'),'EXRTLExpInvalidArgument
5519:   AddClassN(FindClass('TOBJECT'),'EXRTLInvalidRadix
5520:   AddClassN(FindClass('TOBJECT'),'EXRTLInvalidRadixDigit
5521:   AddClassN(FindClass('TOBJECT'),'EXRTLRootInvalidArgument
5522:   'BitsPerByte','LongInt'( 8);
5523:   BitsPerDigit','LongInt'( 32);
5524:   SignBitMask','LongWord( $80000000);
5525:  Function XRTLAdjustBits( const ABits : Integer) : Integer
5526:  Function XRTLLength( const AInteger : TXRTLInteger) : Integer
5527:  Function XRTLDataBits( const AInteger : TXRTLInteger) : Integer
5528:  Procedure XRTLBitPosition( const BitIndex : Integer; var Index, Mask : Integer)
5529:  Procedure XRTLBitSet( var AInteger : TXRTLInteger; const BitIndex : Integer)
5530:  Procedure XRTLBitReset( var AInteger : TXRTLInteger; const BitIndex : Integer)
5531:  Function XRTLBitGet( const AInteger : TXRTLInteger; const BitIndex : Integer) : Integer
5532:  Function XRTLBitGetBool( const AInteger : TXRTLInteger; const BitIndex : Integer) : Boolean
5533:  Function XRTLExtend(const AInteger:TXRTLInteger;ADataBits:Integer;Sign:Int;var AResult:TXRTLInteger):Int;
5534:  Function XRTLZeroExtend(const AInteger:TXRTLInteger;ADataBits:Integer; var AResult:TXRTLInteger):Integer;
5535:  Function XRTLSignExtend(const AInteger:TXRTLInteger; ADataBits:Integer;var AResult:TXRTLInteger):Integer;
5536:  Function XRTLSignStrip(const AInteger:TXRTLInteger;var AResult:TXRTLInteger;const AMinDataBits:Int):Int;
5537:  Procedure XRTLNot( const AInteger : TXRTLInteger; var AResult : TXRTLInteger)
5538:  Procedure XRTLOr( const AInteger1, AInteger2 : TXRTLInteger; var AResult : TXRTLInteger)
5539:  Procedure XRTLAnd( const AInteger1, AInteger2 : TXRTLInteger; var AResult : TXRTLInteger)
5540:  Procedure XRTLXor( const AInteger1, AInteger2 : TXRTLInteger; var AResult : TXRTLInteger)
5541:  Function XRTLSign( const AInteger : TXRTLInteger) : Integer
5542:  Procedure XRTLZero( var AInteger : TXRTLInteger)
5543:  Procedure XRTLOne( var AInteger : TXRTLInteger)
5544:  Procedure XRTLMOne( var AInteger : TXRTLInteger)
5545:  Procedure XRTLTwo( var AInteger : TXRTLInteger)
5546:  Function XRTLNeg( const AInteger : TXRTLInteger; var AResult : TXRTLInteger) : Integer
5547:  Function XRTLAbs( const AInteger : TXRTLInteger; var AResult : TXRTLInteger) : Integer
5548:  Procedure XRTLFullSum( const A, B, C : Integer; var Sum, Carry : Integer)
5549:  Function XRTLAdd( const AInteger1, AInteger2 : TXRTLInteger; var AResult : TXRTLInteger) : Integer;
5550:  Function XRTLAdd1(const AInteger1:TXRTLInteger;const AInteger2:Int64;var AResult:TXRTLInteger):Integer;
5551:  Function XRTLSub( const AInteger1, AInteger2 : TXRTLInteger; var AResult : TXRTLInteger) : Integer;
5552:  Function XRTLSub1( const AInteger1:TXRTLInteger;const AInteger2:Int64;var AResult:TXRTLInteger):Integer;
5553:  Function XRTLCompare( const AInteger1, AInteger2 : TXRTLInteger) : Integer;
5554:  Function XRTLCompare1( const AInteger1 : TXRTLInteger; const AInteger2 : Int64) : Integer;
5555:  Function XRTLUMul( const AInteger1, AInteger2 : TXRTLInteger; var AResult : TXRTLInteger) : Integer
5556:  Function XRTLMulAdd(const AInteger1,AInteger2,AInteger3:TXRTLInteger; var AResult:TXRTLInteger):Integer
5557:  Function XRTLMul( const AInteger1, AInteger2 : TXRTLInteger; var AResult : TXRTLInteger) : Integer
5558:  Procedure XRTLDivMod( const AInteger1, AInteger2 : TXRTLInteger; var QResult, RResult : TXRTLInteger)
5559:  Procedure XRTLSqr( const AInteger : TXRTLInteger; var AResult : TXRTLInteger)
5560:  Procedure XRTLSqrt( const AInteger : TXRTLInteger; var AResult : TXRTLInteger)
5561:  Procedure XRTLRoot( const AInteger1, AInteger2 : TXRTLInteger; var AResult : TXRTLInteger)
5562:  Procedure XRTLRootApprox(const AInteger1,AInteger2:TXRTLInteger;var ALowApproxResult,
      AHighApproxResult:TXRTLInteger)
5563:  Procedure XRTLURootApprox(const AInteger1,AInteger2:TXRTLInteger;var ALowApproxResult,
      AHighApproxResult:TXRTLInteger);
5564:  Procedure XRTLExp( const AInteger1, AInteger2 : TXRTLInteger; var AResult : TXRTLInteger)
5565:  Procedure XRTLExpMod( const AInteger1, AInteger2, AInteger3 : TXRTLInteger;var AResult: TXRTLInteger)
5566:  Procedure XRTLSLBL(const AInteger: TXRTLInteger; const BitCount:Integer; var AResult: TXRTLInteger)
5567:  Procedure XRTLSABL(const AInteger: TXRTLInteger; const BitCount:Integer; var AResult: TXRTLInteger)
5568:  Procedure XRTLRCBL(const AInteger: TXRTLInteger; const BitCount:Integer; var AResult: TXRTLInteger)
5569:  Procedure XRTLSLDL(const AInteger:TXRTLInteger;const DigitCount:Integer; var AResult:TXRTLInteger)
5570:  Procedure XRTLSADL(const AInteger: TXRTLInteger; const DigitCount:Integer;var AResult: TXRTLInteger)
5571:  Procedure XRTLRCDL(const AInteger:TXRTLInteger; const DigitCount:Integer; var AResult: TXRTLInteger)
5572:  Procedure XRTLSLBR(const AInteger: TXRTLInteger; const BitCount:Integer; var AResult: TXRTLInteger)
5573:  Procedure XRTLSABR(const AInteger: TXRTLInteger; const BitCount:Integer; var AResult: TXRTLInteger)
5574:  Procedure XRTLRCBR(const AInteger: TXRTLInteger; const BitCount:Integer; var AResult: TXRTLInteger)
5575:  Procedure XRTLSLDR(const AInteger:TXRTLInteger; const DigitCount:Integer; var AResult: TXRTLInteger)
5576:  Procedure XRTLSADR(const AInteger: TXRTLInteger; const DigitCount:Integer;var AResult: TXRTLInteger)
5577:  Procedure XRTLRCDR(const AInteger: TXRTLInteger;const DigitCount:Integer;var AResult: TXRTLInteger)
```

```
5578:  Function XRTLToHex( const AInteger : TXRTLInteger; Digits : Integer) : string
5579:  Function XRTLToBin( const AInteger : TXRTLInteger; Digits : Integer) : string
5580:  Function XRTLToString( const AInteger : TXRTLInteger; Radix : Integer; Digits : Integer) : string
5581:  Procedure XRTLFromHex( const Value : string; var AResult : TXRTLInteger)
5582:  Procedure XRTLFromBin( const Value : string; var AResult : TXRTLInteger)
5583:  Procedure XRTLFromString( const Value : string; var AResult : TXRTLInteger; Radix : Integer)
5584:  Procedure XRTLAssign( const AInteger : TXRTLInteger; var AResult : TXRTLInteger);
5585:  Procedure XRTLAssign1( const Value : Integer; var AResult : TXRTLInteger);
5586:  Procedure XRTLAssign2( const Value : Int64; var AResult : TXRTLInteger);
5587:  Procedure XRTLAppend( const ALow, AHigh : TXRTLInteger; var AResult : TXRTLInteger)
5588:  Procedure XRTLSplit(const AInteger: TXRTLInteger; var ALow,AHigh: TXRTLInteger;LowDigits: Integer)
5589:  Function XRTLGetMSBitIndex( const AInteger : TXRTLInteger) : Integer
5590:  Procedure XRTLMinMax(const AInteger1, AInteger2 : TXRTLInteger;var AMinResult,AMaxResult: TXRTLInteger)
5591:  Procedure XRTLMin( const AInteger1, AInteger2 : TXRTLInteger; var AResult : TXRTLInteger);
5592:  Procedure XRTLMin1(const AInteger1: TXRTLInteger;const AInteger2:Integer;var AResult : TXRTLInteger);
5593:  Procedure XRTLMax( const AInteger1, AInteger2 : TXRTLInteger; var AResult : TXRTLInteger);
5594:  Procedure XRTLMax1(const AInteger1:TXRTLInteger; const AInteger2:Integer; var AResult:TXRTLInteger);
5595:  Procedure XRTLGCD( const AInteger1, AInteger2 : TXRTLInteger; var AResult : TXRTLInteger)
5596:  Procedure XRTLSwap( var AInteger1, AInteger2 : TXRTLInteger)
5597:  Procedure XRTLFactorial( const AInteger : TXRTLInteger; var AResult : TXRTLInteger)
5598:  Procedure XRTLFactorialMod( const AInteger1, AInteger2 : TXRTLInteger; var AResult : TXRTLInteger)
5599: end;
5600:
5601: procedure SIRegister_JvXPCoreUtils(CL: TPSPascalCompiler);
5602: begin
5603:  Function JvXPMethodsEqual( const Method1, Method2 : TMethod) : Boolean
5604:  Procedure JvXPDrawLine( const ACanvas : TCanvas; const X1, Y1, X2, Y2 : Integer)
5605:  Procedure JvXPCreateGradientRect( const AWidth, AHeight : Integer; const StartColor, EndColor : TColor;
      const Colors:TJvXPGradientColors;const Style:TJvXPGradientStyle;const Dithered:Boolean;var Bitmap:TBitmap);
5606:  Procedure JvXPAdjustBoundRect(const BorderWidth:Byte; const ShowBoundLines:Boolean; const
      BoundLines:TJvXPBoundLines; var Rect : TRect)
5607:  Procedure JvXPDrawBoundLines(const ACan:TCanvas;const BoundLns:TJvXPBoundLins;const
      AColor:TColor;Rect:TRect;
5608:  Procedure JvXPConvertToGray2( Bitmap : TBitmap)
5609:  Procedure JvXPRenderText( const AParent : TControl; const ACanvas : TCanvas; ACaption : TCaption; const
      AFont : TFont; const AEnabled, AShowAccelChar : Boolean; var ARect : TRect; AFlags : Integer)
5610:  Procedure JvXPFrame3D(const ACanvas:TCanvas;const Rect:TRect; TopColor,BottomColor:TColor;const
      Swapped:Bool;
5611:  Procedure JvXPColorizeBitmap( Bitmap : TBitmap; const AColor : TColor)
5612:  Procedure JvXPSetDrawFlags(const AAlignment: TAlignment;const AWordWrap: Boolean; var Flags : Integer)
5613:  Procedure JvXPPlaceText( const AParent: TControl; const ACanvas : TCanvas; const AText : TCaption; const
      AFont : TFont; const AEnabled,AShowAccelChar:Boolean;const AAlignment:TAlignment;const
      AWordWrap:Boolean;var Rect:TRect)
5614: end;
5615:
5616:
5617: procedure SIRegister_uwinstr(CL: TPSPascalCompiler);
5618: begin
5619:  Function StrDec( S : String) : String
5620:  Function uIsNumeric( var S : String; var X : Float) : Boolean
5621:  Function ReadNumFromEdit( Edit : TEdit) : Float
5622:  Procedure WriteNumToFile( var F : Text; X : Float)
5623: end;
5624:
5625: procedure SIRegister_utexplot(CL: TPSPascalCompiler);
5626: begin
5627:  Function TeX_InitGraphics( FileName : String; PgWidth, PgHeight : Integer; Header : Boolean) : Boolean
5628:  Procedure TeX_SetWindow( X1, X2, Y1, Y2 : Integer; GraphBorder : Boolean)
5629:  Procedure TeX_LeaveGraphics( Footer : Boolean)
5630:  Procedure TeX_SetOxScale( Scale : TScale; OxMin, OxMax, OxStep : Float)
5631:  Procedure TeX_SetOyScale( Scale : TScale; OyMin, OyMax, OyStep : Float)
5632:  Procedure TeX_SetGraphTitle( Title : String)
5633:  Procedure TeX_SetOxTitle( Title : String)
5634:  Procedure TeX_SetOyTitle( Title : String)
5635:  Procedure TeX_PlotOxAxis
5636:  Procedure TeX_PlotOyAxis
5637:  Procedure TeX_PlotGrid( Grid : TGrid)
5638:  Procedure TeX_WriteGraphTitle
5639:  Function TeX_SetMaxCurv( NCurv : Byte) : Boolean
5640:  Procedure TeX_SetPointParam( CurvIndex, Symbol, Size : Integer)
5641:  Procedure TeX_SetLineParam( CurvIndex, Style : Integer; Width : Float; Smooth : Boolean)
5642:  Procedure TeX_SetCurvLegend( CurvIndex : Integer; Legend : String)
5643:  Procedure TeX_SetCurvStep( CurvIndex, Step : Integer)
5644:  Procedure TeX_PlotCurve( X, Y : TVector; Lb, Ub, CurvIndex : Integer)
5645:  Procedure TeX_PlotCurveWithErrorBars( X, Y, S : TVector; Ns, Lb, Ub, CurvIndex : Integer)
5646:  Procedure TeX_PlotFunc( Func : TFunc; X1, X2 : Float; Npt : Integer; CurvIndex : Integer)
5647:  Procedure TeX_WriteLegend( NCurv : Integer; ShowPoints, ShowLines : Boolean)
5648:  Procedure TeX_ConRec( Nx, Ny, Nc : Integer; X, Y, Z : TVector; F : TMatrix)
5649:  Function Xcm( X : Float) : Float
5650:  Function Ycm( Y : Float) : Float
5651: end;
5652:
5653: *---------------------------------------------------------------------------*)
5654: procedure SIRegister_VarRecUtils(CL: TPSPascalCompiler);
5655: begin
5656:   TConstArray', 'array of TVarRec
5657:  Function CopyVarRec( const Item : TVarRec) : TVarRec
5658:  Function CreateConstArray( const Elements : array of const) : TConstArray
5659:  Procedure FinalizeVarRec( var Item : TVarRec)
```

```
5660:  Procedure FinalizeConstArray( var Arr : TConstArray)
5661: end;
5662:
5663: procedure SIRegister_StStrS(CL: TPSPascalCompiler);
5664: begin
5665:  Function HexBS( B : Byte) : ShortString
5666:  Function HexWS( W : Word) : ShortString
5667:  Function HexLS( L : LongInt) : ShortString
5668:  Function HexPtrS( P : Pointer) : ShortString
5669:  Function BinaryBS( B : Byte) : ShortString
5670:  Function BinaryWS( W : Word) : ShortString
5671:  Function BinaryLS( L : LongInt) : ShortString
5672:  Function OctalBS( B : Byte) : ShortString
5673:  Function OctalWS( W : Word) : ShortString
5674:  Function OctalLS( L : LongInt) : ShortString
5675:  Function Str2Int16S( const S : ShortString; var I : SmallInt) : Boolean
5676:  Function Str2WordS( const S : ShortString; var I : Word) : Boolean
5677:  Function Str2LongS( const S : ShortString; var I : LongInt) : Boolean
5678:  Function Str2RealS( const S : ShortString; var R : Double) : Boolean
5679:  Function Str2RealS( const S : ShortString; var R : Real) : Boolean
5680:  Function Str2ExtS( const S : ShortString; var R : Extended) : Boolean
5681:  Function Long2StrS( L : LongInt) : ShortString
5682:  Function Real2StrS( R : Double; Width : Byte; Places : ShortInt) : ShortString
5683:  Function Ext2StrS( R : Extended; Width : Byte; Places : ShortInt) : ShortString
5684:  Function ValPrepS( const S : ShortString) : ShortString
5685:  Function CharStrS( C : AnsiChar; Len : Cardinal) : ShortString
5686:  Function PadChS( const S : ShortString; C : AnsiChar; Len : Cardinal) : ShortString
5687:  Function PadS( const S : ShortString; Len : Cardinal) : ShortString
5688:  Function LeftPadChS( const S : ShortString; C : AnsiChar; Len : Cardinal) : ShortString
5689:  Function LeftPadS( const S : ShortString; Len : Cardinal) : ShortString
5690:  Function TrimLeadS( const S : ShortString) : ShortString
5691:  Function TrimTrailS( const S : ShortString) : ShortString
5692:  Function TrimS( const S : ShortString) : ShortString
5693:  Function TrimSpacesS( const S : ShortString) : ShortString
5694:  Function CenterChS( const S : ShortString; C : AnsiChar; Len : Cardinal) : ShortString
5695:  Function CenterS( const S : ShortString; Len : Cardinal) : ShortString
5696:  Function EntabS( const S : ShortString; TabSize : Byte) : ShortString
5697:  Function DetabS( const S : ShortString; TabSize : Byte) : ShortString
5698:  Function ScrambleS( const S, Key : ShortString) : ShortString
5699:  Function SubstituteS( const S, FromStr, ToStr : ShortString) : ShortString
5700:  Function FilterS( const S, Filters : ShortString) : ShortString
5701:  Function CharExistsS( const S : ShortString; C : AnsiChar) : Boolean
5702:  Function CharCountS( const S : ShortString; C : AnsiChar) : Byte
5703:  Function WordCountS( const S, WordDelims : ShortString) : Cardinal
5704:  Function WordPositionS( N : Cardinal; const S, WordDelims : ShortString; var Pos : Cardinal) : Boolean
5705:  Function ExtractWordS( N : Cardinal; const S, WordDelims : ShortString) : ShortString
5706:  Function AsciiCountS( const S, WordDelims : ShortString; Quote : AnsiChar) : Cardinal
5707:  Function AsciiPositionS(N:Cardinal;const S,WordDelims:ShortString;Quote:AnsiChar;var Pos:Cardinal):Boolean
5708:  Function ExtractAsciiS(N:Cardinal;const S,WordDelims:ShortString;Quote:AnsiChar): ShortString
5709:  Procedure WordWrapS(const InSt: ShortString; var OutSt,Overlap: ShortString;
      Margin:Cardinal;PadToMargin:Boolean)
5710:  Function CompStringS( const S1, S2 : ShortString) : Integer
5711:  Function CompUCStringS( const S1, S2 : ShortString) : Integer
5712:  Function SoundexS( const S : ShortString) : ShortString
5713:  Function MakeLetterSetS( const S : ShortString) : Longint
5714:  Procedure BMMakeTableS( const MatchString : ShortString; var BT : BTable)
5715:  Function BMSearchS(var Buffer,BufLength:Card;var BT:BTable;const MatchString:ShortString;var
      Pos:Cardinal):Bool;
5716:  Function BMSearchUCS(var Buffer,BufLength:Card;var BT:BTable;const MatchStr:ShortString;var
      Pos:Cardinal):Bool;
5717:  Function DefaultExtensionS( const Name, Ext : ShortString) : ShortString
5718:  Function ForceExtensionS( const Name, Ext : ShortString) : ShortString
5719:  Function JustFilenameS( const PathName : ShortString) : ShortString
5720:  Function JustNameS( const PathName : ShortString) : ShortString
5721:  Function JustExtensionS( const Name : ShortString) : ShortString
5722:  Function JustPathnameS( const PathName : ShortString) : ShortString
5723:  Function AddBackSlashS( const DirName : ShortString) : ShortString
5724:  Function CleanPathNameS( const PathName : ShortString) : ShortString
5725:  Function HasExtensionS( const Name : ShortString; var DotPos : Cardinal) : Boolean
5726:  Function CommaizeS( L : LongInt) : ShortString
5727:  Function CommaizeChS( L : Longint; Ch : AnsiChar) : ShortString
5728:  Function FloatFormS(const Mask:ShortString;R:TstFloat;const LtCurr,RtCurr:SString;Sep,
      DecPt:Char):ShortString;
5729:  Function LongIntFormS(const Mask:ShortString;L:LongInt;const LtCurr,
      RtCurr:ShortString;Sep:AnsiChar):ShortString;
5730:  Function StrChPosS( const P : ShortString; C : AnsiChar; var Pos : Cardinal) : Boolean
5731:  Function StrStPosS( const P, S : ShortString; var Pos : Cardinal) : Boolean
5732:  Function StrStCopyS( const S : ShortString; Pos, Count : Cardinal) : ShortString
5733:  Function StrChInsertS( const S : ShortString; C : AnsiChar; Pos : Cardinal) : ShortString
5734:  Function StrStInsertS( const S1, S2 : ShortString; Pos : Cardinal) : ShortString
5735:  Function StrChDeleteS( const S : ShortString; Pos : Cardinal) : ShortString
5736:  Function StrStDeleteS( const S : ShortString; Pos, Count : Cardinal) : ShortString
5737:  Function ContainsOnlyS( const S, Chars : ShortString; var BadPos : Cardinal) : Boolean
5738:  Function ContainsOtherThanS( const S, Chars : ShortString; var BadPos : Cardinal) : Boolean
5739:  Function CopyLeftS( const S : ShortString; Len : Cardinal) : ShortString
5740:  Function CopyMidS( const S : ShortString; First, Len : Cardinal) : ShortString
5741:  Function CopyRightS( const S : ShortString; First : Cardinal) : ShortString
5742:  Function CopyRightAbsS( const S : ShortString; NumChars : Cardinal) : ShortString
5743:  Function CopyFromNthWordS(const S,WordDelims:string;const AWord:String;N:Card;var
      SubString:ShortString):Bool;
```

```
5744:  Function DeleteFromNthWordS(const S,WordDelims:String;AWord:ShortString;N:Card;var
       SubStr:ShortString):Bool;
5745:  Function CopyFromToWordS(const S,WordDelims,Word1,Word2:ShortString;N1,N2:Card;var
       SubString:ShortString):Bool;
5746:  Function DeleteFromToWordS(const S,WordDelims,Wrd1,Wrd2:ShortString;N1,N2:Card;var
       SubString:ShortString):Bool;
5747:  Function CopyWithinS( const S, Delimiter : ShortString; Strip : Boolean) : ShortString
5748:  Function DeleteWithinS( const S, Delimiter : ShortString) : ShortString
5749:  Function ExtractTokensS(const S,
       Delims:ShortString;QuoteChar:AnsiChar;AllowNulls:Boolean;Tokens:TStrings):Cardinal
5750:  Function IsChAlphaS( C : Char) : Boolean
5751:  Function IsChNumericS( C : Char; const Numbers : ShortString) : Boolean
5752:  Function IsChAlphaNumericS( C : Char; const Numbers : ShortString) : Boolean
5753:  Function IsStrAlphaS( const S : Shortstring) : Boolean
5754:  Function IsStrNumericS( const S, Numbers : ShortString) : Boolean
5755:  Function IsStrAlphaNumericS( const S, Numbers : ShortString) : Boolean
5756:  Function LastWordS( const S, WordDelims, AWord : ShortString; var Position : Cardinal) : Boolean
5757:  Function LastWordAbsS( const S, WordDelims : ShortString; var Position : Cardinal) : Boolean
5758:  Function LastStringS( const S, AString : ShortString; var Position : Cardinal) : Boolean
5759:  Function LeftTrimCharsS( const S, Chars : ShortString) : ShortString
5760:  Function KeepCharsS( const S, Chars : ShortString) : ShortString
5761:  Function RepeatStringS(const RepeatString:ShortString;var Repetitions: Cardinal; MaxLen :
       Cardinal):ShortString;
5762:  Function ReplaceStringS(const S,OldStr,NewStr:ShortString;N:Cardinal;var
       Replacements:Cardinal):ShortString;
5763:  Function ReplaceStringAllS(const S,OldString,NewString:ShortString;var Replacements:Cardinal):ShortString;
5764:  Function ReplaceWordS(const S,WordDelims,OldWord,NewW:SString;N:Cardinal;var
       Replacements:Cardinal):ShortString
5765:  Function ReplaceWordAllS(const S,WordDelims,OldWord,NewWord:ShortString;var
       Replacements:Cardinal):ShortString
5766:  Function RightTrimCharsS( const S, Chars : ShortString) : ShortString
5767:  Function StrWithinS(const S,SearchStr: ShortString;Start:Cardinal;var Position:Cardinal):boolean
5768:  Function TrimCharsS( const S, Chars : ShortString) : ShortString
5769:  Function WordPosS(const S,WordDelims,AWord:ShortString;N:Cardinal; var Position: Cardinal):Boolean
5770: end;
5771:
5772:
5773: ********unit uPSI_StUtils; from Systools4*************************************************************
5774: Function SignL( L : LongInt) : Integer
5775: Function SignF( F : Extended) : Integer
5776: Function MinWord( A, B : Word) : Word
5777: Function MidWord( W1, W2, W3 : Word) : Word
5778: Function MaxWord( A, B : Word) : Word
5779: Function MinLong( A, B : LongInt) : LongInt
5780: Function MidLong( L1, L2, L3 : LongInt) : LongInt
5781: Function MaxLong( A, B : LongInt) : LongInt
5782: Function MinFloat( F1, F2 : Extended) : Extended
5783: Function MidFloat( F1, F2, F3 : Extended) : Extended
5784: Function MaxFloat( F1, F2 : Extended) : Extended
5785: Function MakeInteger16( H, L : Byte) : SmallInt
5786: Function MakeWordS( H, L : Byte) : Word
5787: Function SwapNibble( B : Byte) : Byte
5788: Function SwapWord( L : LongInt) : LongInt
5789: Procedure SetFlag( var Flags : Word; FlagMask : Word)
5790: Procedure ClearFlag( var Flags : Word; FlagMask : Word)
5791: Function FlagIsSet( Flags, FlagMask : Word) : Boolean
5792: Procedure SetByteFlag( var Flags : Byte; FlagMask : Byte)
5793: Procedure ClearByteFlag( var Flags : Byte; FlagMask : Byte)
5794: Function ByteFlagIsSet( Flags, FlagMask : Byte) : Boolean
5795: Procedure SetLongFlag( var Flags : LongInt; FlagMask : LongInt)
5796: Procedure ClearLongFlag( var Flags : LongInt; FlagMask : LongInt)
5797: Function LongFlagIsSet( Flags, FlagMask : LongInt) : Boolean
5798: Procedure ExchangeBytes( var I, J : Byte)
5799: Procedure ExchangeWords( var I, J : Word)
5800: Procedure ExchangeLongInts( var I, J : LongInt)
5801: Procedure ExchangeStructs( var I, J, Size : Cardinal)
5802: Procedure FillWord( var Dest, Count : Cardinal; Filler : Word)
5803: Procedure FillStruct( var Dest, Count : Cardinal; var Filler, FillerSize : Cardinal)
5804: Function AddWordToPtr( P : ___Pointer; W : Word) : ___Pointer
5805: //******************uPSI_StFIN;*************************************************************
5806: Function AccruedInterestMaturity(Issue,Maturity:TStDate;Rate,Par:Extended;Basis: TStBasis): Extended
5807: Function AccruedInterestPeriodic(Issue,Settlement,Maturity:TStDate;Rate,
       Par:Extended;Frequency:TStFrequency; Basis : TStBasis) : Extended
5808: Function BondDuration( Settlement,Maturity:TStDate;Rate,
       Yield:Ext;Frequency:TStFrequency;Basis:TStBasis):Extended;
5809: Function BondPrice(Settlement,Maturity:TStDate;Rate,Yield,Redempt:Ext;Freq:TStFrequency;Basis:TStBasis):
       Extended
5810: Function CumulativeInterest( Rate : Extended; NPeriods : Integer; PV : Extended; StartPeriod, EndPeriod :
       Integer; Frequency : TStFrequency; Timing : TStPaymentTime) : Extended
5811: Function CumulativePrincipal( Rate : Extended; NPeriods : Integer; PV : Extended; StartPeriod, EndPeriod :
       Integer; Frequency : TStFrequency; Timing : TStPaymentTime) : Extended
5812: Function DayCount( Day1, Day2 : TStDate; Basis : TStBasis) : LongInt
5813: Function DecliningBalance( Cost, Salvage : Extended; Life, Period, Month : Integer) : Extended
5814: Function DiscountRate(Settlement,Maturity:TStDate; Price,Redemption:Extended;Basis:TStBasis): Extended;
5815: Function DollarToDecimal( FracDollar : Extended; Fraction : Integer) : Extended
5816: Function DollarToDecimalText( DecDollar : Extended) : string
5817: Function DollarToFraction( DecDollar : Extended; Fraction : Integer) : Extended
5818: Function DollarToFractionStr( FracDollar : Extended; Fraction : Integer) : string
5819: Function EffectiveInterestRate( NominalRate : Extended; Frequency : TStFrequency) : Extended
```

```
5820: Function FutureValueS(Rate:Extended;NPeriods:Int;Pmt,
      PV:Extended;Freq:TStFreq;Timing:TStPaymentTime):Extended;
5821: Function FutureValueSchedule( Principal : Extended; const Schedule : array of Double) : Extended
5822: Function FutureValueSchedule16( Principal : Extended; const Schedule, NRates : Integer) : Extended
5823: Function InterestRateS(NPeriods:Int;Pmt,PV,
      FV:Extended;Freq:TStFrequency;Timing:TStPaymentTime;Guess:Extended):Extend;
5824: Function InternalRateOfReturn( const Values : array of Double; Guess : Extended) : Extended
5825: Function InternalRateOfReturn16( const Values, NValues : Integer; Guess : Extended) : Extended
5826: Function IsCardValid( const S : string) : Boolean
5827: Function ModifiedDuration(Settlement,Maturity:TStDate;Rate,
      Yield:Extended;Freq:TStFrequency;Basis:TStBasis):Extended;
5828: Function ModifiedIRR(const Values: array of Double; FinanceRate,ReinvestRate: Extended) : Extended
5829: Function ModifiedIRR16(const Values,NValues:Integer; FinanceRate,ReinvestRate: Extended) : Extended
5830: Function NetPresentValueS( Rate : Extended; const Values : array of Double) : Extended
5831: Function NetPresentValue16( Rate : Extended; const Values, NValues : Integer) : Extended
5832: Function NominalInterestRate( EffectRate : Extended; Frequency : TStFrequency) : Extended
5833: Function NonperiodicIRR(const Values:array of Double;const Dates:array of TStDate;Guess:Extended):Extended;
5834: Function NonperiodicNPV(Rate:Extended;const Values: array of Double;const Dates:array of TStDate):Extended;
5835: Function Payment( Rate : Extended; NPeriods : Integer; PV, FV : Extended; Frequency : TStFrequency; Timing
      : TStPaymentTime): Extended
5836: Function Periods(Rate:Extended;Pmt,PV,FV:Extended;Frequency:TStFrequency;Timing:TStPaymentTime):Integer;
5837: Function PresentValueS( Rate: Extended; NPeriods: Integer; Pmt, FV: Extended; Frequency: TStFrequency;
      Timing: TStPaymentTime): Extended
5838: Function ReceivedAtMaturity(Settlement,Maturity:TStDate;Invest,Discount:Extended;Basis:TStBasis):Extended;
5839: Function RoundToDecimal( Value : Extended; Places : Integer; Bankers : Boolean) : Extended
5840: Function TBillEquivYield( Settlement, Maturity : TStDate; Discount : Extended) : Extended
5841: Function TBillPrice( Settlement, Maturity : TStDate; Discount : Extended) : Extended
5842: Function TBillYield( Settlement, Maturity : TStDate; Price : Extended) : Extended
5843: Function VariableDecliningBalance( Cost, Salvage : Extended; Life : Integer; StartPeriod, EndPeriod,
      Factor : Extended; NoSwitch : boolean) : Extended
5844: Function YieldDiscounted(Settlement,Maturity:TStDate;Price,Redemption:Extended;Basis:TStBasis):Extended;
5845: Function YieldPeriodic(Settlement,Maturity:TStDate;Rate,Price,
      Redemption:Extended;Freq:TStFrequency;Basis:TStBasis):Extended
5846: Function YieldMaturity(Issue,Settlement,Maturity:TStDate;Rate,Price:Extended;Basis:TStBasis):Extended;
5847:
5848: //*****************************************unit uPSI_StAstroP;
5849: Procedure PlanetsPos( JD : Double; var PA : TStPlanetsArray)
5850: //*****unit unit uPSI_StStat; Statistic Package of SysTools***************************************
5851: Function AveDev( const Data : array of Double) : Double
5852: Function AveDev16( const Data, NData : Integer) : Double
5853: Function Confidence( Alpha, StandardDev : Double; Size : LongInt) : Double
5854: Function Correlation( const Data1, Data2 : array of Double) : Double
5855: Function Correlation16( const Data1, Data2, NData : Integer) : Double
5856: Function Covariance( const Data1, Data2 : array of Double) : Double
5857: Function Covariance16( const Data1, Data2, NData : Integer) : Double
5858: Function DevSq( const Data : array of Double) : Double
5859: Function DevSq16( const Data, NData : Integer) : Double
5860: Procedure Frequency(const Data:array of Double;const Bins:array of Double;var Counts: array of LongInt);
5861:  //Procedure Frequency16( const Data, NData : Integer; const Bins, NBins : Integer; var Counts)
5862: Function GeometricMeanS( const Data : array of Double) : Double
5863: Function GeometricMean16( const Data, NData : Integer) : Double
5864: Function HarmonicMeanS( const Data : array of Double) : Double
5865: Function HarmonicMean16( const Data, NData : Integer) : Double
5866: Function Largest( const Data : array of Double; K : Integer) : Double
5867: Function Largest16( const Data, NData : Integer; K : Integer) : Double
5868: Function MedianS( const Data : array of Double) : Double
5869: Function Median16( const Data, NData : Integer) : Double
5870: Function Mode( const Data : array of Double) : Double
5871: Function Mode16( const Data, NData : Integer) : Double
5872: Function Percentile( const Data : array of Double; K : Double) : Double
5873: Function Percentile16( const Data, NData : Integer; K : Double) : Double
5874: Function PercentRank( const Data : array of Double; X : Double) : Double
5875: Function PercentRank16( const Data, NData : Integer; X : Double) : Double
5876: Function Permutations( Number, NumberChosen : Integer) : Extended
5877: Function Combinations( Number, NumberChosen : Integer) : Extended
5878: Function FactorialS( N : Integer) : Extended
5879: Function Rank( Number : Double; const Data : array of Double; Ascending : Boolean) : Integer
5880: Function Rank16( Number : Double; const Data, NData : Integer; Ascending : Boolean) : Integer
5881: Function Smallest( const Data : array of Double; K : Integer) : Double
5882: Function Smallest16( const Data, NData : Integer; K : Integer) : Double
5883: Function TrimMean( const Data : array of Double; Percent : Double) : Double
5884: Function TrimMean16( const Data, NData : Integer; Percent : Double) : Double
5885:   AddTypeS('TStLinEst', 'record B0 : Double; B1 : double; seB0 : double; seB'
5886:    +'1 : Double; R2 : Double; sigma :Double; SSr: double; SSe: Double; F0 : Double; df : Integer;end
5887: Procedure LinEst(const KnownY:array of Double;const KnownX:array of Double;var
      LF:TStLinEst;ErrorStats:Bool;
5888: Procedure LogEst(const KnownY:array of Double;const KnownX:array of Double;var
      LF:TStLinEst;ErrorStats:Bool;
5889: Function Forecast(X: Double; const KnownY: array of Double; const KnownX: array of Double) : Double
5890: Function ForecastExponential(X:Double;const KnownY:array of Double;const KnownX:array of Double):Double;
5891: Function Intercept( const KnownY : array of Double; const KnownX : array of Double) : Double
5892: Function RSquared( const KnownY : array of Double; const KnownX : array of Double) : Double
5893: Function Slope( const KnownY : array of Double; const KnownX : array of Double) : Double
5894: Function StandardErrorY( const KnownY : array of Double; const KnownX : array of Double) : Double
5895: Function BetaDist( X, Alpha, Beta, A, B : Single) : Single
5896: Function BetaInv( Probability, Alpha, Beta, A, B : Single) : Single
5897: Function BinomDist( NumberS, Trials : Integer; ProbabilityS : Single; Cumulative : Boolean) : Single
5898: Function CritBinom( Trials : Integer; ProbabilityS, Alpha : Single) : Integer
5899: Function ChiDist( X : Single; DegreesFreedom : Integer) : Single
```

```
5900: Function ChiInv( Probability : Single; DegreesFreedom : Integer) : Single
5901: Function ExponDist( X, Lambda : Single; Cumulative : Boolean) : Single
5902: Function FDist( X : Single; DegreesFreedom1, DegreesFreedom2 : Integer) : Single
5903: Function FInv( Probability : Single; DegreesFreedom1, DegreesFreedom2 : Integer) : Single
5904: Function LogNormDist( X, Mean, StandardDev : Single) : Single
5905: Function LogInv( Probability, Mean, StandardDev : Single) : Single
5906: Function NormDist( X, Mean, StandardDev : Single; Cumulative : Boolean) : Single
5907: Function NormInv( Probability, Mean, StandardDev : Single) : Single
5908: Function NormSDist( Z : Single) : Single
5909: Function NormSInv( Probability : Single) : Single
5910: Function Poisson( X : Integer; Mean : Single; Cumulative : Boolean) : Single
5911: Function TDist( X : Single; DegreesFreedom : Integer; TwoTails : Boolean) : Single
5912: Function TInv( Probability : Single; DegreesFreedom : Integer) : Single
5913: Function Erfc( X : Single) : Single
5914: Function GammaLn( X : Single) : Single
5915: Function LargestSort( const Data : array of Double; K : Integer) : Double
5916: Function SmallestSort( const Data : array of double; K : Integer) : Double
5917:
5918: procedure SIRegister_TStSorter(CL: TPSPascalCompiler);
5919:  Function OptimumHeapToUse( RecLen : Cardinal; NumRecs : LongInt) : LongInt
5920:  Function MinimumHeapToUse( RecLen : Cardinal) : LongInt
5921:  Function MergeInfo( MaxHeap : LongInt; RecLen : Cardinal; NumRecs : LongInt) : TMergeInfo
5922:  Function DefaultMergeName( MergeNum : Integer) : string
5923:  Procedure ArraySort( var A, RecLen, NumRecs : Cardinal; Compare : TUntypedCompareFunc)
5924:
5925: procedure SIRegister_StAstro(CL: TPSPascalCompiler);
5926: Function AmountOfSunlight( LD : TStDate; Longitude, Latitude : Double) : TStTime
5927:  Function FixedRiseSet( LD : TStDate; RA, DC, Longitude, Latitude : Double) : TStRiseSetRec
5928:  Function SunPos( UT : TStDateTimeRec) : TStPosRec
5929:  Function SunPosPrim( UT : TStDateTimeRec) : TStSunXYZRec
5930:  Function SunRiseSet( LD : TStDate; Longitude, Latitude : Double) : TStRiseSetRec
5931:  Function Twilight( LD : TStDate; Longitude, Latitude : Double; TwiType:TStTwilight):TStRiseSetRec
5932:  Function LunarPhase( UT : TStDateTimeRec) : Double
5933:  Function MoonPos( UT : TStDateTimeRec) : TStMoonPosRec
5934:  Function MoonRiseSet( LD : TStDate; Longitude, Latitude : Double) : TStRiseSetRec
5935:  Function FirstQuarter( D : TStDate) : TStLunarRecord
5936:  Function FullMoon( D : TStDate) : TStLunarRecord
5937:  Function LastQuarter( D : TStDate) : TStLunarRecord
5938:  Function NewMoon( D : TStDate) : TStLunarRecord
5939:  Function NextFirstQuarter( D : TStDate) : TStDateTimeRec
5940:  Function NextFullMoon( D : TStDate) : TStDateTimeRec
5941:  Function NextLastQuarter( D : TStDate) : TStDateTimeRec
5942:  Function NextNewMoon( D : TStDate) : TStDateTimeRec
5943:  Function PrevFirstQuarter( D : TStDate) : TStDateTimeRec
5944:  Function PrevFullMoon( D : TStDate) : TStDateTimeRec
5945:  Function PrevLastQuarter( D : TStDate) : TStDateTimeRec
5946:  Function PrevNewMoon( D : TStDate) : TStDateTimeRec
5947:  Function SiderealTime( UT : TStDateTimeRec) : Double
5948:  Function Solstice( Y, Epoch : Integer; Summer : Boolean) : TStDateTimeRec
5949:  Function Equinox( Y, Epoch : Integer; Vernal : Boolean) : TStDateTimeRec
5950:  Function SEaster( Y, Epoch : Integer) : TStDate
5951:  Function DateTimeToAJD( D : TDateTime) : Double
5952:  Function HoursMin( RA : Double) : ShortString
5953:  Function DegsMin( DC : Double) : ShortString
5954:  Function AJDToDateTime( D : Double) : TDateTime
5955:
5956: Procedure SIRegister_StDate(CL: TPSPascalCompiler);
5957:  Function CurrentDate : TStDate
5958:  Function StValidDate( Day, Month, Year, Epoch : Integer) : Boolean
5959:  Function DMYtoStDate( Day, Month, Year, Epoch : Integer) : TStDate
5960:  Procedure StDateToDMY( Julian : TStDate; var Day, Month, Year : Integer)
5961:  Function StIncDate( Julian : TStDate; Days, Months, Years : Integer) : TStDate
5962:  Function IncDateTrunc( Julian : TStDate; Months, Years : Integer) : TStDate
5963:  Procedure StDateDiff( Date1, Date2 : TStDate; var Days, Months, Years : Integer)
5964:  Function BondDateDiff( Date1, Date2 : TStDate; DayBasis : TStBondDateType) : TStDate
5965:  Function WeekOfYear( Julian : TStDate) : Byte
5966:  Function AstJulianDate( Julian : TStDate) : Double
5967:  Function AstJulianDatetoStDate( AstJulian : Double; Truncate : Boolean) : TStDate
5968:  Function AstJulianDatePrim( Year, Month, Date : Integer; UT : TStTime) : Double
5969:  Function StDayOfWeek( Julian : TStDate) : TStDayType
5970:  Function DayOfWeekDMY( Day, Month, Year, Epoch : Integer) : TStDayType
5971:  Function StIsLeapYear( Year : Integer) : Boolean
5972:  Function StDaysInMonth( Month : Integer; Year, Epoch : Integer) : Integer
5973:  Function ResolveEpoch( Year, Epoch : Integer) : Integer
5974:  Function ValidTime( Hours, Minutes, Seconds : Integer) : Boolean
5975:  Procedure StTimeToHMS( T : TStTime; var Hours, Minutes, Seconds : Byte)
5976:  Function HMStoStTime( Hours, Minutes, Seconds : Byte) : TStTime
5977:  Function CurrentTime : TStTime
5978:  Procedure TimeDiff( Time1, Time2 : TStTime; var Hours, Minutes, Seconds : Byte)
5979:  Function StIncTime( T : TStTime; Hours, Minutes, Seconds : Byte) : TStTime
5980:  Function DecTime( T : TStTime; Hours, Minutes, Seconds : Byte) : TStTime
5981:  Function RoundToNearestHour( T : TStTime; Truncate : Boolean) : TStTime
5982:  Function RoundToNearestMinute( const T : TStTime; Truncate : Boolean) : TStTime
5983:  Procedure DateTimeDiff(const DT1:TStDateTimeRec;var DT2:TStDateTimeRec;var Days:LongInt;var Secs:LongInt
5984:  Procedure IncDateTime(const DT1:TStDateTimeRec;var DT2:TStDateTimeRec;Days:Integer;Secs:LongInt)
5985:  Function DateTimeToStDate( DT : TDateTime) : TStDate
5986:  Function DateTimeToStTime( DT : TDateTime) : TStTime
5987:  Function StDateToDateTime( D : TStDate) : TDateTime
5988:  Function StTimeToDateTime( T : TStTime) : TDateTime
```

```
5989:  Function Convert2ByteDate( TwoByteDate : Word) : TStDate
5990:  Function Convert4ByteDate( FourByteDate : TStDate) : Word
5991:
5992: Procedure SIRegister_StDateSt(CL: TPSPascalCompiler);
5993: Function DateStringHMStoAstJD( const Picture, DS : string; H, M, S, Epoch : integer) : Double
5994:  Function MonthToString( const Month : Integer) : string
5995:  Function DateStringToStDate( const Picture, S : string; Epoch : Integer) : TStDate
5996:  Function DateStringToDMY(const Picture,S:string; Epoch:Integer; var D, M, Y : Integer):Boolean
5997:  Function StDateToDateString( const Picture : string; const Julian : TStDate; Pack : Boolean):string
5998:  Function DayOfWeekToString( const WeekDay : TStDayType) : string
5999:  Function DMYtoDateString(const Picture:string;Day,Month,Year,Epoch:Integer;Pack:Boolean): string);
6000:  Function CurrentDateString( const Picture : string; Pack : Boolean) : string
6001:  Function CurrentTimeString( const Picture : string; Pack : Boolean) : string
6002:  Function TimeStringToHMS( const Picture, St : string; var H, M, S : Integer) : Boolean
6003:  Function TimeStringToStTime( const Picture, S : string) : TStTime
6004:  Function StTimeToAmPmString( const Picture : string; const T : TStTime; Pack : Boolean) : string
6005:  Function StTimeToTimeString( const Picture : string; const T : TStTime; Pack : Boolean) : string
6006:  Function DateStringIsBlank( const Picture, S : string) : Boolean
6007:  Function InternationalDate( ForceCentury : Boolean) : string
6008:  Function InternationalLongDate( ShortNames : Boolean; ExcludeDOW : Boolean) : string
6009:  Function InternationalTime( ShowSeconds : Boolean) : string
6010:  Procedure ResetInternationalInfo
6011:
6012: procedure SIRegister_StBase(CL: TPSPascalCompiler);
6013:  Function DestroyNode( Container : TStContainer; Node : TStNode; OtherData : Pointer) : Boolean
6014:  Function AnsiUpperCaseShort32( const S : string) : string
6015:  Function AnsiCompareTextShort32( const S1, S2 : string) : Integer
6016:  Function AnsiCompareStrShort32( const S1, S2 : string) : Integer
6017:  Function HugeCompressRLE( const InBuffer, InLen : Longint; var OutBuffer) : Longint
6018:  Function HugeDecompressRLE( const InBuffer, InLen : Longint; var OutBuffer,OutLen:LongInt): Longint
6019:  Procedure HugeFillChar( var Dest, Count : Longint; Value : Byte)
6020:  Procedure HugeFillStruc( var Dest, Count : Longint; const Value, ValSize : Cardinal)
6021:  Function Upcase( C : AnsiChar) : AnsiChar
6022:  Function LoCase( C : AnsiChar) : AnsiChar
6023:  Function CompareLetterSets( Set1, Set2 : LongInt) : Cardinal
6024:  Function CompStruct( const S1, S2, Size : Cardinal) : Integer
6025:  Function Search(const Buffer,BufLength:Cardinal;const Match,MatLength:Cardinal;var Pos:Cardinal):Bool;
6026:  Function StSearch(const Buffer,BufLength:Cardinal;const Match,MatLength:Cardinal;var Pos:Cardi):Boolean
6027:  Function SearchUC(const Buffer,BufLength:Cardinal;const Match,MatLength:Cardinal;var Pos:Cardi):Boolean
6028:  Function IsOrInheritsFrom( Root, Candidate : TClass) : boolean
6029:  Procedure RaiseContainerError( Code : longint)
6030:  Procedure RaiseContainerErrorFmt( Code : Longint; Data : array of const)
6031:  Function ProductOverflow( A, B : LongInt) : Boolean
6032:  Function StNewStr( S : string) : PShortString
6033:  Procedure StDisposeStr( PS : PShortString)
6034:  Procedure ValLongInt( S : ShortString; var LI : Longint; var ErrorCode : integer)
6035:  Procedure ValSmallint( const S : ShortString; var SI : smallint; var ErrorCode : integer)
6036:  Procedure ValWord( const S : ShortString; var Wd : word; var ErrorCode : integer)
6037:  Procedure RaiseStError( ExceptionClass : EStExceptionClass; Code : LongInt)
6038:  Procedure RaiseStWin32Error( ExceptionClass : EStExceptionClass; Code : LongInt)
6039:  Procedure RaiseStWin32ErrorEx( ExceptionClass : EStExceptionClass; Code : LongInt; Info : string)
6040:
6041: procedure SIRegister_usvd(CL: TPSPascalCompiler);
6042: begin
6043:  Procedure SV_Decomp( A : TMatrix; Lb, Ub1, Ub2 : Integer; S : TVector; V : TMatrix)
6044:  Procedure SV_SetZero( S : TVector; Lb, Ub : Integer; Tol : Float)
6045:  Procedure SV_Solve(U:TMatrix; S:TVector;V:TMatrix;B:TVector;Lb,Ub1,Ub2:Integer;X:TVector);
6046:  Procedure SV_Approx( U : TMatrix; S : TVector; V : TMatrix; Lb, Ub1, Ub2 : Integer; A : TMatrix)
6047:  Procedure RKF45(F:TDiffEqs;Neqn:Int;Y,Yp:TVector;var T:Float;Tout,RelErr,AbsErr:Float;var Flag:Int;
6048: end;
6049:
6050: //**********unit unit ; StMath Package of SysTools*****************************************
6051: Function IntPowerS( Base : Extended; Exponent : Integer) : Extended
6052: Function PowerS( Base, Exponent : Extended) : Extended
6053: Function StInvCos( X : Double) : Double
6054: Function StInvSin( Y : Double) : Double
6055: Function StInvTan2( X, Y : Double) : Double
6056: Function StTan( A : Double) : Double
6057: Procedure DumpException;  //unit StExpEng;
6058: Function HexifyBlock( var Buffer, BufferSize : Integer) : string
6059:
6060: //**********unit unit ; StCRC Package of SysTools*****************************************
6061: Function Adler32Prim( var Data, DataSize : Cardinal; CurCrc : LongInt) : LongInt
6062: Function Adler32OfStream( Stream : TStream; CurCrc : LongInt) : LongInt
6063: Function Adler32OfFile( FileName : AnsiString) : LongInt
6064: Function Crc16Prim( var Data, DataSize, CurCrc : Cardinal) : Cardinal
6065: Function Crc16OfStream( Stream : TStream; CurCrc : Cardinal) : Cardinal
6066: Function Crc16OfFile( FileName : AnsiString) : Cardinal
6067: Function Crc32Prim( var Data, DataSize : Cardinal; CurCrc : LongInt) : LongInt
6068: Function Crc32OfStream( Stream : TStream; CurCrc : LongInt) : LongInt
6069: Function Crc32OfFile( FileName : AnsiString) : LongInt
6070: Function InternetSumPrim( var Data, DataSize, CurCrc : Cardinal) : Cardinal
6071: Function InternetSumOfStream( Stream : TStream; CurCrc : Cardinal) : Cardinal
6072: Function InternetSumOfFile( FileName : AnsiString) : Cardinal
6073: Function Kermit16Prim( var Data, DataSize, CurCrc : Cardinal) : Cardinal
6074: Function Kermit16OfStream( Stream : TStream; CurCrc : Cardinal) : Cardinal
6075: Function Kermit16OfFile( FileName : AnsiString) : Cardinal
6076:
6077: //**********unit unit ; StBCD Package of SysTools*****************************************
```

```
6078: Function AddBcd( const B1, B2 : TbcdS) : TbcdS
6079: Function SubBcd( const B1, B2 : TbcdS) : TbcdS
6080: Function MulBcd( const B1, B2 : TbcdS) : TbcdS
6081: Function DivBcd( const B1, B2 : TbcdS) : TbcdS
6082: Function ModBcd( const B1, B2 : TbcdS) : TbcdS
6083: Function NegBcd( const B : TbcdS) : TbcdS
6084: Function AbsBcd( const B : TbcdS) : TbcdS
6085: Function FracBcd( const B : TbcdS) : TbcdS
6086: Function IntBcd( const B : TbcdS) : TbcdS
6087: Function RoundDigitsBcd( const B : TbcdS; Digits : Cardinal) : TbcdS
6088: Function RoundPlacesBcd( const B : TbcdS; Places : Cardinal) : TbcdS
6089: Function ValBcd( const S : string) : TbcdS
6090: Function LongBcd( L : LongInt) : TbcdS
6091: Function ExtBcd( E : Extended) : TbcdS
6092: Function ExpBcd( const B : TbcdS) : TbcdS
6093: Function LnBcd( const B : TbcdS) : TbcdS
6094: Function IntPowBcd( const B : TbcdS; E : LongInt) : TbcdS
6095: Function PowBcd( const B, E : TbcdS) : TbcdS
6096: Function SqrtBcd( const B : TbcdS) : TbcdS
6097: Function CmpBcd( const B1, B2 : TbcdS) : Integer
6098: Function EqDigitsBcd( const B1, B2 : TbcdS; Digits : Cardinal) : Boolean
6099: Function EqPlacesBcd( const B1, B2 : TbcdS; Digits : Cardinal) : Boolean
6100: Function IsIntBcd( const B : TbcdS) : Boolean
6101: Function TruncBcd( const B : TbcdS) : LongInt
6102: Function BcdExt( const B : TbcdS) : Extended
6103: Function RoundBcd( const B : TbcdS) : LongInt
6104: Function StrBcd( const B : TbcdS; Width, Places : Cardinal) : string
6105: Function StrExpBcd( const B : TbcdS; Width : Cardinal) : string
6106: Function FormatBcd( const Format : string; const B : TbcdS) : string
6107: Function StrGeneralBcd( const B : TbcdS) : string
6108: Function FloatFormBcd(const Mask:string;B:TbcdS;const LtCurr,RtCurr:string;Sep,DecPt:AnsiChar):string
6109: Procedure ConvertBcd( const SrcB, SrcSize : Byte; var DestB, DestSize : Byte)
6110:
6111: ////*******unit unit ; StTxtDat; TStTextDataRecordSet Package of SysTools**********************
6112: Procedure StParseLine( const Data : AnsiString; Schema : TStTextDataSchema; Result : TStrings)
6113: Function StFieldTypeToStr( FieldType : TStSchemaFieldType) : AnsiString
6114: Function StStrToFieldType( const S : AnsiString) : TStSchemaFieldType
6115: Function StDeEscape( const EscStr : AnsiString) : Char
6116: Function StDoEscape( Delim : Char) : AnsiString
6117: Function StTrimTrailingChars( const S : AnsiString; Trailer : Char) : AnsiString
6118: Function AnsiHashText( const S : string; Size : Integer) : Integer
6119: Function AnsiHashStr( const S : string; Size : Integer) : Integer
6120: Function AnsiELFHashText( const S : string; Size : Integer) : Integer
6121: Function AnsiELFHashStr( const S : string; Size : Integer) : Integer
6122:
6123: //**********unit unit ; StNetCon Package of SysTools*****************************************
6124:   with AddClassN(FindClass('TStComponent'),'TStNetConnection') do begin
6125:     Constructor Create( AOwner : TComponent)
6126:     Function Connect : DWord
6127:     Function Disconnect : DWord
6128:     RegisterProperty('Password', 'String', iptrw);
6129:     Property('UserName', 'String', iptrw);
6130:     Property('ConnectOptions', 'TStNetConnectOptionsSet', iptrw);
6131:     Property('DisconnectOptions', 'TStNetDisconnectOptionsSet', iptrw);
6132:     Property('LocalDevice', 'String', iptrw);
6133:     Property('ServerName', 'String', iptrw);
6134:     Property('ShareName', 'String', iptrw);
6135:     Property('OnConnect', 'TNotifyEvent', iptrw);
6136:     Property('OnConnectFail', 'TOnConnectFailEvent', iptrw);
6137:     Property('OnConnectCancel', 'TOnConnectCancelEvent', iptrw);
6138:     Property('OnDisconnect', 'TNotifyEvent', iptrw);
6139:     Property('OnDisconnectFail', 'TOnDisconnectFailEvent', iptrw);
6140:     Property('OnDisconnectCancel', 'TOnDisconnectCancelEvent', iptrw);
6141:   end;
6142: //***********Thread Functions Context of Win API --- more objects in SyncObjs.pas
6143: / /153 unit uPSI_SyncObjs, unit uPSIParallelJobs;
6144: Procedure InitializeCriticalSection( var lpCriticalSection : TRTLCriticalSection)
6145: Procedure EnterCriticalSection( var lpCriticalSection : TRTLCriticalSection)
6146: Procedure LeaveCriticalSection( var lpCriticalSection : TRTLCriticalSection)
6147: Function InitializeCriticalSectionAndSpinCount(var
      lpCriticalSection:TRTLCriticalSection;dwSpinCount:DWORD):BOOL;
6148: Function SetCriticalSectionSpinCount(var lpCriticalSection:TRTLCriticalSection;dwSpinCount:DWORD):DWORD;
6149: Function TryEnterCriticalSection( var lpCriticalSection : TRTLCriticalSection) : BOOL
6150: Procedure DeleteCriticalSection( var lpCriticalSection : TRTLCriticalSection)
6151: Function GetThreadContext( hThread : THandle; var lpContext : TContext) : BOOL
6152: Function SetThreadContext( hThread : THandle; const lpContext : TContext) : BOOL
6153: Function SuspendThread( hThread : THandle) : DWORD
6154: Function ResumeThread( hThread : THandle) : DWORD
6155: Function CreateThread2(ThreadFunc: TThreadFunction2; thrid: DWord) : THandle
6156: Function GetCurrentThread : THandle
6157: Procedure ExitThread( dwExitCode : DWORD)
6158: Function TerminateThread( hThread : THandle; dwExitCode : DWORD) : BOOL
6159: Function GetExitCodeThread( hThread : THandle; var lpExitCode : DWORD) : BOOL
6160: Procedure EndThread(ExitCode: Integer);
6161: Function WaitForSingleObject( hHandle : THandle; dwMilliseconds : DWORD) : DWORD
6162: Function MakeProcInstance( Proc : FARPROC; Instance : THandle) : FARPROC
6163: Procedure FreeProcInstance( Proc : FARPROC)
6164: Procedure FreeLibraryAndExitThread( hLibModule : HMODULE; dwExitCode : DWORD)
6165: Function DisableThreadLibraryCalls( hLibModule : HMODULE) : BOOL
```

```
6166: Procedure ParallelJob( ASelf : TObject; ATarget : Pointer; AParam : Pointer; ASafeSection : boolean);
6167: Procedure ParallelJob1( ATarget : Pointer; AParam : Pointer; ASafeSection : boolean);
6168: Procedure ParallelJob2(AJobGroup:TJobsGroup;ASelf:TObject;ATarget:Ptr;AParam:Pointer;ASafeSection:bool;
6169: Procedure ParallelJob3( AJobGroup:TJobsGroup;ATarget:Pointer;AParam:Pointer;ASafeSection: boolean);
6170: Function CreateParallelJob(ASelf:TObject;ATarget:Pointer;AParam:Ptr;ASafeSection:bool:TParallelJob;
6171: Function CreateParallelJob1(ATarget:Pointer; AParam:Pointer; ASafeSection : boolean) : TParallelJob;
6172: Function CurrentParallelJobInfo : TParallelJobInfo
6173: Function ObtainParallelJobInfo : TParallelJobInfo
6174: Procedure GetSystemInfo( var lpSystemInfo : TSystemInfo)');
6175: Function IsProcessorFeaturePresent( ProcessorFeature : DWORD) : BOOL');
6176: Function SetStdHandle( nStdHandle : DWORD; hHandle : THandle) : BOOL');
6177: Function
      DeviceIoControl(hDevice:THandle;dwIoControlCode:DWORD;lpInBuffer:TObject;nInBufferSize:DWORD;lpOutBuffer:
      TObject; nOutBufferSize: DWORD; var lpBytesReturned: DWORD; lpOverlapped:TOverlapped):BOOL');
6178: Function SetFileTime(hFile:THandle;lpCreationTime,lpLastAccessTime,lpLastWriteTime:TFileTime): BOOL');
6179: Function DuplicateHandle(hSourceProcessHandle,hSourceHandle,hTargetProcessHandle:THandle;
      lpTargetHandle:THandle; dwDesiredAccess : DWORD; bInheritHandle:BOOL; dwOptions : DWORD) : BOOL');
6180: Function GetHandleInformation( hObject : THandle; var lpdwFlags : DWORD) : BOOL');
6181: Function SetHandleInformation( hObject : THandle; dwMask : DWORD; dwFlags : DWORD) : BOOL');
6182:
6183: ************************************************unit uPSI_JclMime;
6184:  Function MimeEncodeString( const S : AnsiString) : AnsiString
6185:  Function MimeDecodeString( const S : AnsiString) : AnsiString
6186:  Procedure MimeEncodeStream( const InputStream : TStream; const OutputStream : TStream)
6187:  Procedure MimeDecodeStream( const InputStream : TStream; const OutputStream : TStream)
6188:  Function MimeEncodedSize( const I : Cardinal) : Cardinal
6189:  Function MimeDecodedSize( const I : Cardinal) : Cardinal
6190:  Procedure MimeEncode( var InputBuffer : string; const InputByteCount : Cardinal; var OutputBuffer)
6191:  Function MimeDecode(var InputBuffer:string;const InputBytesCount:Cardinal;var OutputBuffer):Cardinal;
6192:  Function MimeDecodePartial(var InputBuffer:string;const InputBytesCount:Cardinal;var
      OutputBuffer:string;var ByteBuffer : Cardinal; var ByteBufferSpace : Cardinal) : Cardinal
6193:  Function MimeDecodePartialEnd(var OutputBuf:string;const ByteBuf:Card;const ByteBufferSpace:Card):
      Cardinal;
6194:
6195: ************************************************unit uPSI_JclPrint;
6196:  Procedure DirectPrint( const Printer, Data : string)
6197:  Procedure SetPrinterPixelsPerInch
6198:  Function GetPrinterResolution : TPoint
6199:  Function CharFitsWithinDots( const Text : string; const Dots : Integer) : Integer
6200:  Procedure PrintMemo( const Memo : TMemo; const Rect : TRect)
6201:
6202:
6203: //*************************************unit uPSI_ShLwApi;************************************
6204:  Function StrChr( lpStart : PChar; wMatch : WORD) : PChar
6205:  Function StrChrI( lpStart : PChar; wMatch : WORD) : PChar
6206:  Function StrCmpN( lpStr1, lpStr2 : PChar; nChar : Integer) : Integer
6207:  Function StrCmpNI( lpStr1, lpStr2 : PChar; nChar : Integer) : Integer
6208:  Function StrCSpn( lpStr_, lpSet : PChar) : Integer
6209:  Function StrCSpnI( lpStr1, lpSet : PChar) : Integer
6210:  Function StrDup( lpSrch : PChar) : PChar
6211:  Function StrFormatByteSize( dw : DWORD; szBuf : PChar; uiBufSize : UINT) : PChar
6212:  Function StrFormatKBSize( qdw : Dword; szBuf : PChar; uiBufSize : UINT) : PChar
6213:  Function StrFromTimeInterval(pszOut: PChar; cchMax:UINT;dwTimeMS:DWORD; digits: Integer): Integer
6214:  Function StrIsIntlEqual( fCaseSens : BOOL; lpString1, lpString2 : PChar; nChar : Integer) : BOOL
6215: /Function StrNCat( psz1 : PChar; psz2 : PChar; cchMax : Integer) : PChar
6216:  Function StrPBrk( psz, pszSet : PChar) : PChar
6217:  Function StrRChr( lpStart, lpEnd : PChar; wMatch : WORD) : PChar
6218:  Function StrRChrI( lpStart, lpEnd : PChar; wMatch : WORD) : PChar
6219:  Function StrRStrI( lpSource, lpLast, lpSrch : PChar) : PChar
6220:  Function StrSpn( psz, pszSet : PChar) : Integer
6221:  Function StrStr( lpFirst, lpSrch : PChar) : PChar
6222:  Function StrStrI( lpFirst, lpSrch : PChar) : PChar
6223:  Function StrToInt( lpSrch : PChar) : Integer
6224:  Function StrToIntEx( pszString : PChar; dwFlags : DWORD; var piRet : Integer) : BOOL
6225:  Function StrTrim( psz : PChar; pszTrimChars : PChar) : BOOL
6226:  Function ChrCmpI( w1, w2 : WORD) : BOOL
6227:  Function ChrCmpIA( w1, w2 : WORD) : BOOL
6228:  Function ChrCmpIW( w1, w2 : WORD) : BOOL
6229:  Function StrIntlEqN( s1, s2 : PChar; nChar : Integer) : BOOL
6230:  Function StrIntlEqNI( s1, s2 : PChar; nChar : Integer) : BOOL
6231:  Function StrCatBuff( pszDest, pszSrc : PChar; cchDestBuffSize : Integer) : PChar
6232:  Function StrCpyNX( psz1 : PChar; psz2 : PChar; cchMax : Integer) : PChar
6233:  Function IntlStrEqWorker( fCaseSens : BOOL; lpString1, lpString2 : PChar; nChar : Integer) : BOOL
6234:  Function IntlStrEqN( s1, s2 : PChar; nChar : Integer) : BOOL
6235:  SZ_CONTENTTYPE_HTMLA','String 'text/html
6236:  SZ_CONTENTTYPE_HTMLW','String 'text/html
6237:  SZ_CONTENTTYPE_HTML','string SZ_CONTENTTYPE_HTMLA);
6238:  SZ_CONTENTTYPE_CDFA','String 'application/x-cdf
6239:  SZ_CONTENTTYPE_CDFW','String 'application/x-cdf
6240:  SZ_CONTENTTYPE_CDF','string SZ_CONTENTTYPE_CDFA);
6241:  Function PathIsHTMLFile( pszPath : PChar) : BOOL
6242:  STIF_DEFAULT','LongWord( $00000000);
6243:  STIF_SUPPORT_HEX','LongWord( $00000001);
6244:  Function StrNCmpI( lpStr1, lpStr2 : PChar; nChar : Integer) : Integer
6245:  Function StrNCpy( psz1, psz2 : PChar; cchMax : Integer) : PChar
6246:  Function StrCatN( psz1 : PChar; psz2 : PChar; cchMax : Integer) : PChar
6247:  Function PathAddBackslash( pszPath : PChar) : PChar
6248:  Function PathAddExtension( pszPath : PChar; pszExt : PChar) : BOOL
6249:  Function PathAppend( pszPath : PChar; pMore : PChar) : BOOL
```

```
6250:  Function PathBuildRoot( szRoot : PChar; iDrive : Integer) : PChar
6251:  Function PathCanonicalize( pszBuf : PChar; pszPath : PChar) : BOOL
6252:  Function PathCombine( szDest : PChar; lpszDir, lpszFile : PChar) : PChar
6253:  Function PathCompactPath( hDC : HDC; pszPath : PChar; dx : UINT) : BOOL
6254:  Function PathCompactPathEx( pszOut : PChar; pszSrc : PChar; cchMax : UINT; dwFlags:DWORD) : BOOL
6255:  Function PathCommonPrefix( pszFile1, pszFile2 : PChar; achPath : PChar) : Integer
6256:  Function PathFileExists( pszPath : PChar) : BOOL
6257:  Function PathFindExtension( pszPath : PChar) : PChar
6258:  Function PathFindFileName( pszPath : PChar) : PChar
6259:  Function PathFindNextComponent( pszPath : PChar) : PChar
6260:  Function PathFindOnPath( pszPath : PChar; var ppszOtherDirs : PChar) : BOOL
6261:  Function PathGetArgs( pszPath : PChar) : PChar
6262:  Function PathFindSuffixArray(pszPath: PChar; const apszSuffix: PChar; iArraySize: Integer): PChar
6263:  Function PathIsLFNFileSpec( lpName : PChar) : BOOL
6264:  Function PathGetCharType( ch : Char) : UINT
6265:  GCT_INVALID','LongWord( $0000);
6266:  GCT_LFNCHAR','LongWord( $0001);
6267:  GCT_SHORTCHAR','LongWord( $0002);
6268:  GCT_WILD','LongWord( $0004);
6269:  GCT_SEPARATOR','LongWord( $0008);
6270:  Function PathGetDriveNumber( pszPath : PChar) : Integer
6271:  Function PathIsDirectory( pszPath : PChar) : BOOL
6272:  Function PathIsDirectoryEmpty( pszPath : PChar) : BOOL
6273:  Function PathIsFileSpec( pszPath : PChar) : BOOL
6274:  Function PathIsPrefix( pszPrefix, pszPath : PChar) : BOOL
6275:  Function PathIsRelative( pszPath : PChar) : BOOL
6276:  Function PathIsRoot( pszPath : PChar) : BOOL
6277:  Function PathIsSameRoot( pszPath1, pszPath2 : PChar) : BOOL
6278:  Function PathIsUNC( pszPath : PChar) : BOOL
6279:  Function PathIsNetworkPath( pszPath : PChar) : BOOL
6280:  Function PathIsUNCServer( pszPath : PChar) : BOOL
6281:  Function PathIsUNCServerShare( pszPath : PChar) : BOOL
6282:  Function PathIsContentType( pszPath, pszContentType : PChar) : BOOL
6283:  Function PathIsURL( pszPath : PChar) : BOOL
6284:  Function PathMakePretty( pszPath : PChar) : BOOL
6285:  Function PathMatchSpec( pszFile, pszSpec : PChar) : BOOL
6286:  Function PathParseIconLocation( pszIconFile : PChar) : Integer
6287:  Procedure PathQuoteSpaces( lpsz : PChar)
6288:  Function PathRelativePathTo(pszPath:PChar;pszFrom:PChar;dwAttrFrom:DWORD;pszTo:PChar;dwAttrTo:DWORD):BOOL;
6289:  Procedure PathRemoveArgs( pszPath : PChar)
6290:  Function PathRemoveBackslash( pszPath : PChar) : PChar
6291:  Procedure PathRemoveBlanks( pszPath : PChar)
6292:  Procedure PathRemoveExtension( pszPath : PChar)
6293:  Function PathRemoveFileSpec( pszPath : PChar) : BOOL
6294:  Function PathRenameExtension( pszPath : PChar; pszExt : PChar) : BOOL
6295:  Function PathSearchAndQualify( pszPath : PChar; pszBuf : PChar; cchBuf : UINT) : BOOL
6296:  Procedure PathSetDlgItemPath( hDlg : HWND; id : Integer; pszPath : PChar)
6297:  Function PathSkipRoot( pszPath : PChar) : PChar
6298:  Procedure PathStripPath( pszPath : PChar)
6299:  Function PathStripToRoot( pszPath : PChar) : BOOL
6300:  Procedure PathUnquoteSpaces( lpsz : PChar)
6301:  Function PathMakeSystemFolder( pszPath : PChar) : BOOL
6302:  Function PathUnmakeSystemFolder( pszPath : PChar) : BOOL
6303:  Function PathIsSystemFolder( pszPath : PChar; dwAttrb : DWORD) : BOOL
6304:  Procedure PathUndecorate( pszPath : PChar)
6305:  Function PathUnExpandEnvStrings( pszPath : PChar; pszBuf : PChar; cchBuf : UINT) : BOOL
6306:  URL_SCHEME_INVALID','LongInt'( - 1);
6307:  URL_SCHEME_UNKNOWN','LongInt'( 0);
6308:  URL_SCHEME_FTP','LongInt'( 1);
6309:  URL_SCHEME_HTTP','LongInt'( 2);
6310:  URL_SCHEME_GOPHER','LongInt'( 3);
6311:  URL_SCHEME_MAILTO','LongInt'( 4);
6312:  URL_SCHEME_NEWS','LongInt'( 5);
6313:  URL_SCHEME_NNTP','LongInt'( 6);
6314:  URL_SCHEME_TELNET','LongInt'( 7);
6315:  URL_SCHEME_WAIS','LongInt'( 8);
6316:  URL_SCHEME_FILE','LongInt'( 9);
6317:  URL_SCHEME_MK','LongInt'( 10);
6318:  URL_SCHEME_HTTPS','LongInt'( 11);
6319:  URL_SCHEME_SHELL','LongInt'( 12);
6320:  URL_SCHEME_SNEWS','LongInt'( 13);
6321:  URL_SCHEME_LOCAL','LongInt'( 14);
6322:  URL_SCHEME_JAVASCRIPT','LongInt'( 15);
6323:  URL_SCHEME_VBSCRIPT','LongInt'( 16);
6324:  URL_SCHEME_ABOUT','LongInt'( 17);
6325:  URL_SCHEME_RES','LongInt'( 18);
6326:  URL_SCHEME_MAXVALUE','LongInt'( 19);
6327:  URL_SCHEME', 'Integer
6328:  URL_PART_NONE','LongInt'( 0);
6329:  URL_PART_SCHEME','LongInt'( 1);
6330:  URL_PART_HOSTNAME','LongInt'( 2);
6331:  URL_PART_USERNAME','LongInt'( 3);
6332:  URL_PART_PASSWORD','LongInt'( 4);
6333:  URL_PART_PORT','LongInt'( 5);
6334:  URL_PART_QUERY','LongInt'( 6);
6335:  URL_PART', 'DWORD
6336:  URLIS_URL','LongInt'( 0);
6337:  URLIS_OPAQUE','LongInt'( 1);
6338:  URLIS_NOHISTORY','LongInt'( 2);
```

```
6339:  URLIS_FILEURL','LongInt'( 3);
6340:  URLIS_APPLIABLE','LongInt'( 4);
6341:  URLIS_DIRECTORY','LongInt'( 5);
6342:  URLIS_HASQUERY','LongInt'( 6);
6343:  TUrlIs', 'DWORD
6344:  URL_UNESCAPE','LongWord( $10000000);
6345:  URL_ESCAPE_UNSAFE','LongWord( $20000000);
6346:  URL_PLUGGABLE_PROTOCOL','LongWord( $40000000);
6347:  URL_WININET_COMPATIBILITY','LongWord( DWORD ( $80000000 ));
6348:  URL_DONT_ESCAPE_EXTRA_INFO','LongWord( $02000000);
6349:  URL_ESCAPE_SPACES_ONLY','LongWord( $04000000);
6350:  URL_DONT_SIMPLIFY','LongWord( $08000000);
6351:  URL_NO_META','longword( URL_DONT_SIMPLIFY);
6352:  URL_UNESCAPE_INPLACE','LongWord( $00100000);
6353:  URL_CONVERT_IF_DOSPATH','LongWord( $00200000);
6354:  URL_UNESCAPE_HIGH_ANSI_ONLY','LongWord( $00400000);
6355:  URL_INTERNAL_PATH','LongWord( $00800000);
6356:  URL_FILE_USE_PATHURL','LongWord( $00010000);
6357:  URL_ESCAPE_PERCENT','LongWord( $00001000);
6358:  URL_ESCAPE_SEGMENT_ONLY','LongWord( $00002000);
6359:  URL_PARTFLAG_KEEPSCHEME','LongWord( $00000001);
6360:  URL_APPLY_DEFAULT','LongWord( $00000001);
6361:  URL_APPLY_GUESSSCHEME','LongWord( $00000002);
6362:  URL_APPLY_GUESSFILE','LongWord( $00000004);
6363:  URL_APPLY_FORCEAPPLY','LongWord( $00000008);
6364:  Function UrlCompare( psz1, psz2 : PChar; fIgnoreSlash : BOOL) : Integer
6365:  Function UrlCombine(pszBase,pszRelative:PChar;pszCombin:PChar;out pcchCombin:DWORD;dwFlags:DWORD):HRESULT;
6366:  Function UrlCanonicalize(pszUrl:PChar;pszCanonicalized:PChar;pcchCanonic:DWORD;dwFlags:DWORD):HRESULT;
6367:  Function UrlIsOpaque( pszURL : PChar) : BOOL
6368:  Function UrlIsNoHistory( pszURL : PChar) : BOOL
6369:  Function UrlIsFileUrl( pszURL : PChar) : BOOL
6370:  Function UrlIs( pszUrl : PChar; UrlIs : TUrlIs) : BOOL
6371:  Function UrlGetLocation( psz1 : PChar) : PChar
6372:  Function UrlUnescape( pszUrl, pszUnescaped : PChar;pcchUnescaped:DWORD; dwFlags : DWORD) : HRESULT
6373:  Function UrlEscape(pszUrl: PChar; pszEscaped: PChar; pcchEscaped:DWORD; dwFlags : DWORD) : HRESULT
6374:  Function UrlCreateFromPath(pszPath:PChar; pszUrl: PChar;pcchUrl: DWORD; dwFlags : DWORD) : HRESULT
6375:  Function PathCreateFromUrl(pszUrl:PChar; pszPath:PChar; pcchPath:DWORD; dwFlags : DWORD) : HRESULT
6376:  Function UrlHash( pszUrl : PChar; pbHash : BYTE; cbHash : DWORD) : HRESULT
6377:  Function UrlGetPart(pszIn: PChar; pszOut: PChar; pcchOut: DWORD; dwPart,dwFlags: DWORD) : HRESULT
6378:  Function UrlApplyScheme( pszIn : PChar; pszOut : PChar; pcchOut : DWORD; dwFlags : DWORD) : HRESULT
6379:  Function HashData( pbData : BYTE; cbData : DWORD; pbHash : BYTE; cbHash : DWORD) : HRESULT
6380:  Function UrlEscapeSpaces( pszUrl : PChar; pszEscaped : PChar; pcchEscaped : DWORD) : HRESULT
6381:  Function UrlUnescapeInPlace( pszUrl : PChar; dwFlags : DWORD) : HRESULT
6382:  Function SHDeleteEmptyKey( hKey : HKEY; pszSubKey : PChar) : DWORD
6383:  Function SHDeleteKey( hKey : HKEY; pszSubKey : PChar) : DWORD
6384:  Function SHDeleteValue( hKey : HKEY; pszSubKey, pszValue : PChar) : DWORD
6385:  Function SHEnumKeyEx( hKey : HKEY; dwIndex : DWORD; pszName : PChar; var pcchName : DWORD) : Longint
6386:  Function SHEnumValue( hKey : HKEY; dwIndex : DWORD; pszValueName:PChar; var
      pcchValueName:DWORD;pdwType:DWORD; pvData : ___Pointer; pcbData : DWORD) : Longint
6387:  Function SHQueryInfoKey(hKey:HKEY;pcSubKeys,pcchMaxSubKeyLen,pcVal,pcchMaxValueNameLen:DWORD):Longint;
6388:  Function SHCopyKey( hkeySrc : HKEY; szSrcSubKey : PChar; hkeyDest : HKEY; fReserved : DWORD) : DWORD
6389:  Function SHRegGetPath(hKey:HKEY; pcszSubKey,pcszValue: PChar; pszPath: PChar; dwFlags: DWORD): DWORD
6390:  Function SHRegSetPath( hKey:HKEY; pcszSubKey, pcszValue, pcszPath : PChar; dwFlags : DWORD): DWORD
6391:  SHREGDEL_DEFAULT','LongWord( $00000000);
6392:  SHREGDEL_HKCU','LongWord( $00000001);
6393:  SHREGDEL_HKLM','LongWord( $00000010);
6394:  SHREGDEL_BOTH','LongWord( $00000011);
6395:  SHREGENUM_DEFAULT','LongWord( $00000000);
6396:  SHREGENUM_HKCU','LongWord( $00000001);
6397:  SHREGENUM_HKLM','LongWord( $00000010);
6398:  SHREGENUM_BOTH','LongWord( $00000011);
6399:  SHREGSET_HKCU','LongWord( $00000001);
6400:  SHREGSET_FORCE_HKCU','LongWord( $00000002);
6401:  SHREGSET_HKLM','LongWord( $00000004);
6402:  SHREGSET_FORCE_HKLM','LongWord( $00000008);
6403:  TSHRegDelFlags', 'DWORD
6404:  TSHRegEnumFlags', 'DWORD
6405:  HUSKEY', 'THandle
6406:  ASSOCF_INIT_NOREMAPCLSID','LongWord( $00000001);
6407:  ASSOCF_INIT_BYEXENAME','LongWord( $00000002);
6408:  ASSOCF_OPEN_BYEXENAME','LongWord( $00000002);
6409:  ASSOCF_INIT_DEFAULTTOSTAR','LongWord( $00000004);
6410:  ASSOCF_INIT_DEFAULTTOFOLDER','LongWord( $00000008);
6411:  ASSOCF_NOUSERSETTINGS','LongWord( $00000010);
6412:  ASSOCF_NOTRUNCATE','LongWord( $00000020);
6413:  ASSOCF_VERIFY','LongWord( $00000040);
6414:  ASSOCF_REMAPRUNDLL','LongWord( $00000080);
6415:  ASSOCF_NOFIXUPS','LongWord( $00000100);
6416:  ASSOCF_IGNOREBASECLASS','LongWord( $00000200);
6417:  ASSOCF', 'DWORD
6418:  ASSOCSTR_COMMAND','LongInt'( 1);
6419:  ASSOCSTR_EXECUTABLE','LongInt'( 2);
6420:  ASSOCSTR_FRIENDLYDOCNAME','LongInt'( 3);
6421:  ASSOCSTR_FRIENDLYAPPNAME','LongInt'( 4);
6422:  ASSOCSTR_NOOPEN','LongInt'( 5);
6423:  ASSOCSTR_SHELLNEWVALUE','LongInt'( 6);
6424:  ASSOCSTR_DDECOMMAND','LongInt'( 7);
6425:  ASSOCSTR_DDEIFEXEC','LongInt'( 8);
6426:  ASSOCSTR_DDEAPPLICATION','LongInt'( 9);
```

```
6427:  ASSOCSTR_DDETOPIC','LongInt'( 10);
6428:  ASSOCSTR_INFOTIP','LongInt'( 11);
6429:  ASSOCSTR_MAX','LongInt'( 12);
6430:  ASSOCSTR', 'DWORD
6431:  ASSOCKEY_SHELLEXECCLASS','LongInt'( 1);
6432:  ASSOCKEY_APP','LongInt'( 2);
6433:  ASSOCKEY_CLASS','LongInt'( 3);
6434:  ASSOCKEY_BASECLASS','LongInt'( 4);
6435:  ASSOCKEY_MAX','LongInt'( 5);
6436:  ASSOCKEY', 'DWORD
6437:  ASSOCDATA_MSIDESCRIPTOR','LongInt'( 1);
6438:  ASSOCDATA_NOACTIVATEHANDLER','LongInt'( 2);
6439:  ASSOCDATA_QUERYCLASSSTORE','LongInt'( 3);
6440:  ASSOCDATA_HASPERUSERASSOC','LongInt'( 4);
6441:  ASSOCDATA_MAX','LongInt'( 5);
6442:  ASSOCDATA', 'DWORD
6443:  ASSOCENUM_NONE','LongInt'( 0);
6444:  ASSOCENUM', 'DWORD
6445:  SID_IQueryAssociations','String '{c46ca590-3c3f-11d2-bee6-0000f805ca57}
6446:  SHACF_DEFAULT $00000000);
6447:  SHACF_FILESYSTEM','LongWord( $00000001);
6448:  SHACF_URLHISTORY','LongWord( $00000002);
6449:  SHACF_URLMRU','LongWord( $00000004);
6450:  SHACF_USETAB','LongWord( $00000008);
6451:  SHACF_FILESYS_ONLY','LongWord( $00000010);
6452:  SHACF_AUTOSUGGEST_FORCE_ON','LongWord( $10000000);
6453:  SHACF_AUTOSUGGEST_FORCE_OFF','LongWord( $20000000);
6454:  SHACF_AUTOAPPEND_FORCE_ON','LongWord( $40000000);
6455:  SHACF_AUTOAPPEND_FORCE_OFF','LongWord( DWORD ( $80000000 ));
6456:  Function SHAutoComplete( hwndEdit : HWND; dwFlags : DWORD) : HRESULT
6457:  Procedure SHSetThreadRef( punk : IUnknown)
6458:  Procedure SHGetThreadRef( out ppunk : IUnknown)
6459:  CTF_INSIST','LongWord( $00000001);
6460:  CTF_THREAD_REF','LongWord( $00000002);
6461:  CTF_PROCESS_REF','LongWord( $00000004);
6462:  CTF_COINIT','LongWord( $00000008);
6463:  Function SHCreateShellPalette( hdc : HDC) : HPALETTE
6464:  Procedure ColorRGBToHLS( clrRGB : TColorRef; out pwHue, pwLuminance, pwSaturation : WORD)
6465:  Function ColorHLSToRGB( wHue, wLuminance, wSaturation : WORD) : TColorRef
6466:  Function ColorAdjustLuma( clrRGB : TColorRef; n : Integer; fScale : Boolean) : TColorRef
6467:  Function GetSysColorBrush( nIndex : Integer) : HBRUSH
6468:  Function DrawFocusRect( hDC : HDC; const lprc : TRect) : BOOL
6469:  Function FillRect( hDC : HDC; const lprc : TRect; hbr : HBRUSH) : Integer
6470:  Function FrameRect( hDC : HDC; const lprc : TRect; hbr : HBRUSH) : Integer
6471:  Function InvertRect( hDC : HDC; const lprc : TRect) : BOOL
6472:  Function SetRect( var lprc : TRect; xLeft, yTop, xRight, yBottom : Integer) : BOOL
6473:  Function SetRectEmpty( var lprc : TRect) : BOOL
6474:  Function CopyRect( var lprcDst : TRect; const lprcSrc : TRect) : BOOL
6475:  Function InflateRect( var lprc : TRect; dx, dy : Integer) : BOOL
6476:  Function IntersectRect2( var lprcDst : TRect; const lprcSrc1, lprcSrc2 : TRect) : BOOL
6477:  Function SubtractRect( var lprcDst : TRect; const lprcSrc1, lprcSrc2 : TRect) : BOOL
6478:
6479:  Function InitializeFlatSB( hWnd : HWND) : Bool
6480:  Procedure UninitializeFlatSB( hWnd : HWND)
6481:  Function FlatSB_GetScrollProp( p1 : HWND; propIndex : Integer; p3 : PInteger) : Bool
6482:  Function FlatSB_SetScrollProp( p1 : HWND; index : Integer; newValue : Integer; p4 : Bool) : Bool
6483:  Function GET_APPCOMMAND_LPARAM( lParam : Integer) : Word  //of JvWin32
6484:  Function GET_DEVICE_LPARAM( lParam : Integer) : Word
6485:  Function GET_MOUSEORKEY_LPARAM( lParam : Integer) : Integer
6486:  Function GET_FLAGS_LPARAM( lParam : Integer) : Word
6487:  Function GET_KEYSTATE_LPARAM( lParam : Integer) : Word
6488:
6489:
6490: //  ****************************************** 204 unit uPSI_ShellAPI;
6491: Function DragQueryFile( Drop : HDROP; FileIndex : UINT; FileName : PChar; cb : UINT) : UINT
6492: Function DragQueryPoint( Drop : HDROP; var Point : TPoint) : BOOL
6493: Procedure DragFinish( Drop : HDROP)
6494: Procedure DragAcceptFiles( Wnd : HWND; Accept : BOOL)
6495: Function ShellExecute(hWnd:HWND;Operation,FileName,Parameters,Directory:PChar;ShowCmd:Integer):HINST
6496: Function FindExecutable( FileName, Directory : PChar; Result : PChar) : HINST
6497: Function ShellAbout( Wnd : HWND; szApp, szOtherStuff : PChar; Icon : HICON) : Integer
6498: Function DuplicateIcon( hInst : HINST; Icon : HICON) : HICON
6499: Function ExtractAssociatedIcon( hInst : HINST; lpIconPath : PChar; var lpiIcon : Word) : HICON
6500: Function ExtractIcon( hInst : HINST; lpszExeFileName : PChar; nIconIndex : UINT) : HICON
6501: Function SHAppBarMessage( dwMessage : DWORD; var pData : TAppBarData) : UINT
6502: Function DoEnvironmentSubst( szString : PChar; cbString : UINT) : DWORD
6503: Function ExtractIconEx(lpszFile:PChar;nIconIndex:Int;var phiconLarge,phiconSmall:HICON;nIcons:UINT):UINT;
6504: Procedure SHFreeNameMappings( hNameMappings : THandle)
6505:
6506:  DLLVER_PLATFORM_WINDOWS','LongWord( $00000001);
6507:  DLLVER_PLATFORM_NT','LongWord( $00000002);
6508:  DLLVER_MAJOR_MASK','LongWord( Int64 ( $FFFF000000000000 ));
6509:  DLLVER_MINOR_MASK','LongWord( Int64 ( $0000FFFF00000000 ));
6510:  DLLVER_BUILD_MASK','LongWord( Int64 ( $00000000FFFF0000 ));
6511:  DLLVER_QFE_MASK','LongWord( Int64 ( $000000000000FFFF ));
6512:  Function MAKEDLLVERULL( Major, Minor, Build, Qfe : Word) : Int64
6513:  Function SimpleXMLEncode( const S : string) : string
6514:  Procedure SimpleXMLDecode( var S : string; TrimBlanks : Boolean)
6515:  Function XMLEncode( const S : string) : string
```

```
6516:  Function XMLDecode( const S : string) : string
6517:  Function EntityEncode( const S : string) : string
6518:  Function EntityDecode( const S : string) : string
6519:
6520: procedure RIRegister_CPort_Routines(S: TPSExec);
6521:  Procedure EnumComPorts( Ports : TStrings)
6522:  Procedure ListComPorts( Ports : TStrings)
6523:  Procedure ComPorts( Ports : TStrings)  //Alias to Arduino
6524:  Function GetComPorts: TStringlist;
6525:  Function StrToBaudRate( Str : string) : TBaudRate
6526:  Function StrToStopBits( Str : string) : TStopBits
6527:  Function StrToDataBits( Str : string) : TDataBits
6528:  Function StrToParity( Str : string) : TParityBits
6529:  Function StrToFlowControl( Str : string) : TFlowControl
6530:  Function BaudRateToStr( BaudRate : TBaudRate) : string
6531:  Function StopBitsToStr( StopBits : TStopBits) : string
6532:  Function DataBitsToStr( DataBits : TDataBits) : string
6533:  Function ParityToStr( Parity : TParityBits) : string
6534:  Function FlowControlToStr( FlowControl : TFlowControl) : string
6535:  Function ComErrorsToStr( Errors : TComErrors) : String
6536:
6537:  Function GetMessage( var lpMsg : TMsg; hWnd : HWND; wMsgFilterMin, wMsgFilterMax : UINT) : BOOL
6538:  Function DispatchMessage( const lpMsg : TMsg) : Longint
6539:  Function TranslateMessage( const lpMsg : TMsg) : BOOL
6540:  Function SetMessageQueue( cMessagesMax : Integer) : BOOL
6541:  Function PeekMessage(var lpMsg:TMsg; hWnd:HWND;wMsgFilterMin,wMsgFilterMax,wRemoveMsg:UINT):BOOL
6542:  Function GetMessagePos : DWORD
6543:  Function GetMessageTime : Longint
6544:  Function GetMessageExtraInfo : Longint
6545:  Function GetSpecialFolderPath( const FolderName : string; CanCreate : Boolean) : string
6546:  Procedure JAddToRecentDocs( const Filename : string)
6547:  Procedure ClearRecentDocs
6548:  Function ExtractIconFromFile( FileName : string; Index : Integer) : HICON
6549:  Function CreateShellLink( const AppName, Desc : string; Dest : string) : string
6550:  Procedure GetShellLinkInfo( const LinkFile : WideString; var SLI : TShellLinkInfo)
6551:  Procedure SetShellLinkInfo( const LinkFile : WideString; const SLI : TShellLinkInfo)
6552:  Function RecycleFile( FileToRecycle : string) : Boolean
6553:  Function JCopyFile( FromFile, ToDir : string) : Boolean
6554:  Function ShellObjectTypeEnumToConst( ShellObjectType : TShellObjectType) : UINT
6555:  Function ShellObjectTypeConstToEnum( ShellObjectType : UINT) : TShellObjectType
6556:  Function QueryServiceConfig2A( hService : SC_HANDLE; dwInfoLevel : DWORD; lpBuffer : LPBYTE; cbBufSize :
      DWORD; var pcbBytesNeeded : DWORD) : BOOL
6557:  Function QueryServiceConfig2W( hService : SC_HANDLE; dwInfoLevel : DWORD; lpBuffer : LPBYTE; cbBufSize :
      DWORD; var pcbBytesNeeded : DWORD) : BOOL
6558:  Function QueryServiceConfig2( hService : SC_HANDLE; dwInfoLevel : DWORD; lpBuffer : LPBYTE; cbBufSize :
      DWORD; var pcbBytesNeeded : DWORD) : BOOL
6559:  Function EnumServicesStatusExA(hSCManager: SC_HANDLE; InfoLevel: SC_ENUM_TYPE; dwServiceType: DWORD;
      dwServiceState: DWORD;lpServices:LPBYTE;cbBufSize:DWORD;var pcbBytesNeeded,lpServicesReturned,
      lpResumeHandle:DWORD;pszGroupName: LP
6560:  Function EnumServicesStatusExW( hSCManager : SC_HANDLE; InfoLevel : SC_ENUM_TYPE; dwServiceType : DWORD;
      dwServiceState : DWORD; lpServices:LPBYTE; cbBufSize:DWORD; var pcbBytesNeeded,lpServicesReturned,
      lpResumeHandle:DWORD; pszGroupNam
6561:  Function EnumServicesStatusEx( hSCManager : SC_HANDLE; InfoLevel : SC_ENUM_TYPE; dwServiceType : DWORD;
      dwServiceState : DWORD;lpServices :LPBYTE;cbBufSize:DWORD; var pcbBytesNeeded,lpServicesReturned,
      lpResumeHandle:DWORD; pszGroupName
6562:  Function ConvertSidToStringSid( sid : PSID; var stringSid : LPWSTR) : BOOL
6563:
6564: ****************************************** unit uPSI_JclPeImage;
6565:
6566:  Function IsValidPeFile( const FileName : TFileName) : Boolean
6567: // Function PeGetNtHeaders( const FileName : TFileName; var NtHeaders : TImageNtHeaders) : Boolean
6568:  Function PeCreateNameHintTable( const FileName : TFileName) : Boolean
6569:  Function PeRebaseImage(const ImageName: TFileName; NewBase : DWORD; TimeStamp : DWORD; MaxNewSize :
      DWORD) : TJclRebaseImageInfo
6570:  Function PeVerifyCheckSum( const FileName : TFileName) : Boolean
6571:  Function PeClearCheckSum( const FileName : TFileName) : Boolean
6572:  Function PeUpdateCheckSum( const FileName : TFileName) : Boolean
6573:  Function PeDoesExportFunction(const FileName:TFileName;const
      FuncName:string;Options:TJclSmartCompOptions):Bool;
6574:  Function PeIsExportFunctionForwardedEx( const FileName : TFileName; const FunctionName : string; var
      ForwardedName : string; Options : TJclSmartCompOptions) : Boolean
6575:  Function PeIsExportFunctionForwarded(const FileName:TFileName;const
      FunctionName:string;Options:TJclSmartCompOptions):Bool
6576:  Function PeDoesImportFunction( const FileName : TFileName; const FunctionName : string; const LibraryName
      : string; Options : TJclSmartCompOptions) : Boolean
6577:  Function PeDoesImportLibrary(const FileName:TFileName;const
      LibraryName:string;Recursive:Boolean):Boolean);
6578:  Function PeImportedLibraries( const FileName : TFileName; const LibrariesList : TStrings; Recursive :
      Boolean; FullPathName : Boolean) : Boolean
6579:  Function PeImportedFunctions(const FileName:TFileName;const FunctionsList:TStrings;const
      LibraryName:string; IncludeLibNames : Boolean): Boolean
6580:  Function PeExportedFunctions( const FileName : TFileName; const FunctionsList : TStrings) : Boolean
6581:  Function PeExportedNames( const FileName : TFileName; const FunctionsList : TStrings) : Boolean
6582:  Function PeExportedVariables( const FileName : TFileName; const FunctionsList : TStrings) : Boolean
6583:  Function PeResourceKindNames(const FileN:TFileName;ResourceType:TJclPeResourceKind;const
      NamesList:TStrings):Bool
6584:  Function PeBorFormNames( const FileName : TFileName; const NamesList : TStrings) : Boolean
6585:  Function PeBorDependedPackages(const FileName:TFileName;PackagesList:TStrings;FullPathName,
      Descript:Bool):Bool;
```

```
6586:  Function PeFindMissingImports( const FileName : TFileName; MissingImportsList : TStrings) : Boolean;
6587:  Function PeFindMissingImports1( RequiredImportsList, MissingImportsList : TStrings) : Boolean;
6588:  Function PeCreateRequiredImportList(const FileName: TFileName; RequiredImportsList: TStrings): Boolean;
6589:  //Function PeMapImgNtHeaders( const BaseAddress : Pointer) : PImageNtHeaders
6590:  //Function PeMapImgLibraryName( const BaseAddress : Pointer) : string
6591:  //Function PeMapImgSections( const NtHeaders : PImageNtHeaders) : PImageSectionHeader
6592:  //Function PeMapImgFindSection( const NtHeaders : PImageNtHeaders; const SectionName : string) :
      PImageSectionHeader
6593:  //Function PeMapImgExportedVariables(const Module: HMODULE; const VariablesList:TStrings):Boolean
6594:  //Function PeMapImgResolvePackageThunk( Address : Pointer) : Pointer
6595:  Function PeMapFindResource(const Module:HMODULE;const ResourceType:PChar;const ResourceName:string):
      ___Pointer;
6596:    SIRegister_TJclPeSectionStream(CL);
6597:    SIRegister_TJclPeMapImgHookItem(CL);
6598:    SIRegister_TJclPeMapImgHooks(CL);
6599:  //Function PeDbgImgNtHeaders(ProcessHandle:THandle;BaseAddress:Pointer;var
      NtHeaders:TImageNtHeaders):Boolean
6600:  //Function PeDbgImgLibraryName(ProcessHandle:THandle; BaseAddress:Pointer; var Name:string):Boolean
6601:    Type TJclBorUmSymbolKind','(skData,skFunction,skConstructor,skDestructor,skRTTI,skVTable)
6602:    TJclBorUmSymbolModifier', '( smQualified, smLinkProc )
6603:    TJclBorUmSymbolModifiers', 'set of TJclBorUmSymbolModifier
6604:    TJclBorUmDescription', 'record Kind : TJclBorUmSymbolKind; Modifiers : TJclBorUmSymbolModifiers; end
6605:    TJclBorUmResult', '( urOk, urNotMangled, urMicrosoft, urError )
6606:    TJclPeUmResult', '( umNotMangled, umBorland, umMicrosoft )
6607:  Function PeBorUnmangleName( const Name : string; var Unmangled : string; var Description :
      TJclBorUmDescription; var BasePos : Integer) : TJclBorUmResult;
6608:  Function PeBorUnmangleName1(const Name:string;var Unmangled:string;var
      Descript:TJclBorUmDescription):TJclBorUmResult;
6609:  Function PeBorUnmangleName2( const Name : string; var Unmangled : string) : TJclBorUmResult;
6610:  Function PeBorUnmangleName3( const Name : string) : string;
6611:  Function PeIsNameMangled( const Name : string) : TJclPeUmResult
6612:  Function PeUnmangleName( const Name : string; var Unmangled : string) : TJclPeUmResult
6613:
6614:
6615: //***************** SysTools uPSI_StSystem; ************************************
6616:  Function StCopyFile( const SrcPath, DestPath : AnsiString) : Cardinal
6617:  Function CreateTempFile( const aFolder : AnsiString; const aPrefix : AnsiString) : AnsiString
6618:  Function DeleteVolumeLabel( Drive : Char) : Cardinal
6619:  //Procedure EnumerateDirectories(const
      StartDir:AnsiStr;FL:TStrings;SubDirs:Bool;IncludeItem:TIncludeItemFunc);
6620:  //Procedure EnumerateFiles(const StartDir:AnsiString;FL:TStrings;SubDirs:Bool
      IncludeItem:TIncludeItemFunc);
6621:  Function FileHandlesLeft( MaxHandles : Cardinal) : Cardinal
6622:  Function FileMatchesMask( const FileName, FileMask : AnsiString) : Boolean
6623:  Function FileTimeToStDateTime( FileTime : LongInt) : TStDateTimeRec
6624:  Function FindNthSlash( const Path : AnsiString; n : Integer) : Integer
6625:  Function FlushOsBuffers( Handle : Integer) : Boolean
6626:  Function GetCurrentUser : AnsiString
6627:  Function GetDiskClass( Drive : Char) : DiskClass
6628:  Function GetDiskInfo(Drive:Char;var ClustersAvail,TotalClusters,BytesPerSector,
      SectorsPerCluster:Cardinal):Bool;
6629:  Function GetDiskSpace(Drive:Char;var UserSpaceAvail:Double;var TotalSpaceAvail:Double;var
      DiskSize:Double):Bool;
6630:  Function GetDiskSpace(Drive:Char;var UserSpaceAvail:Comp;var TotalSpaceAvail:Comp;var
      DiskSize:Comp):Boolean;
6631:    { index 0 - FreeBytesAvailable, 1 - TotalNumberOfBytes, 2 - TotalNumberOfFreeBytes  }
6632:  Function getDiskSpace2(const path: String; index: integer): int64;
6633:  Function GetFileCreateDate( const FileName : AnsiString) : TDateTime
6634:  Function StGetFileLastAccess( const FileName : AnsiString) : TDateTime
6635:  Function GetFileLastModify( const FileName : AnsiString) : TDateTime
6636:  Function GetHomeFolder( aForceSlash : Boolean) : AnsiString
6637:  Function GetLongPath( const APath : AnsiString) : AnsiString
6638:  Function GetMachineName : AnsiString
6639:  Function GetMediaID( Drive : Char; var MediaIDRec : MediaIDType) : Cardinal
6640:  Function GetParentFolder( const APath : AnsiString; aForceSlash : Boolean) : AnsiString
6641:  Function GetShortPath( const APath : AnsiString) : AnsiString
6642:  Function GetSystemFolder( aForceSlash : Boolean) : AnsiString
6643:  Function GetTempFolder( aForceSlash : boolean) : AnsiString
6644:  Function StGetWindowsFolder( aForceSlash : boolean) : AnsiString
6645:  Function GetWorkingFolder( aForceSlash : boolean) : AnsiString
6646:  Function GlobalDateTimeToLocal( const UTC : TStDateTimeRec; MinOffset : Integer) : TStDateTimeRec
6647:  Function StIsDirectory( const DirName : AnsiString) : Boolean
6648:  Function IsDirectoryEmpty( const S : AnsiString) : Integer
6649:  Function IsDriveReady( Drive : Char) : Boolean
6650:  Function IsFile( const FileName : AnsiString) : Boolean
6651:  Function IsFileArchive( const S : AnsiString) : Integer
6652:  Function IsFileHidden( const S : AnsiString) : Integer
6653:  Function IsFileReadOnly( const S : AnsiString) : Integer
6654:  Function IsFileSystem( const S : AnsiString) : Integer
6655:  Function LocalDateTimeToGlobal( const DT1 : TStDateTimeRec; MinOffset : Integer) : TStDateTimeRec
6656:  Function ReadVolumeLabel( var VolName : AnsiString; Drive : Char) : Cardinal
6657:  Function SameFile( const FilePath1, FilePath2 : AnsiString; var ErrorCode : Integer) : Boolean
6658:  Function SetMediaID( Drive : Char; var MediaIDRec : MediaIDType) : Cardinal
6659:  Procedure SplitPath( const APath : AnsiString; Parts : TStrings)
6660:  Function StDateTimeToFileTime( const FileTime : TStDateTimeRec) : LongInt
6661:  Function StDateTimeToUnixTime( const DT1 : TStDateTimeRec) : Longint
6662:  Function UnixTimeToStDateTime( UnixTime : Longint) : TStDateTimeRec
6663:  Function ValidDrive( Drive : Char) : Boolean
6664:  Function WriteVolumeLabel( const VolName : AnsiString; Drive : Char) : Cardinal
```

```
6665:
6666: //****************************unit uPSI_JclLANMan;****************************************
6667: Function CreateAccount( const Server, Username, Fullname, Password, Description, Homedir, Script : string;
      const PasswordNeverExpires : Boolean) : Boolean
6668:  Function CreateLocalAccount( const Username, Fullname, Password, Description, Homedir, Script : string;
      const PasswordNeverExpires : Boolean) : Boolean
6669:  Function DeleteAccount( const Servername, Username : string) : Boolean
6670:  Function DeleteLocalAccount( Username : string) : Boolean
6671:  Function CreateLocalGroup( const Server, Groupname, Description : string) : Boolean
6672:  Function CreateGlobalGroup( const Server, Groupname, Description : string) : Boolean
6673:  Function DeleteLocalGroup( const Server, Groupname : string) : Boolean
6674:  Function GetLocalGroups( const Server : string; const Groups : TStrings) : Boolean
6675:  Function GetGlobalGroups( const Server : string; const Groups : TStrings) : Boolean
6676:  Function LocalGroupExists( const Group : string) : Boolean
6677:  Function GlobalGroupExists( const Server, Group : string) : Boolean
6678:  Function AddAccountToLocalGroup( const Accountname, Groupname : string) : Boolean
6679:  Function LookupGroupName( const Server : string; const RID : TNetWellKnownRID) : string
6680:  Procedure ParseAccountName( const QualifiedName : string; var Domain, UserName : string)
6681:  Function IsLocalAccount( const AccountName : string) : Boolean
6682:  Function TimeStampInterval( StartStamp, EndStamp : TDateTime) : integer
6683:  Function GetRandomString( NumChar : cardinal) : string
6684:
6685: //****************************unit uPSI_cUtils;****************************************
6686: TypeS('TUnitType', '( utSrc, utHead, utRes, utPrj, utOther )
6687: Function cIsWinNT : boolean
6688:  Procedure cFilesFromWildcard(Directory,Mask: string;var Files:TStringList;Subdirs,ShowDirs,
      Multitasking:Boolean;
6689:  Function cExecuteFile( const FileName, Params, DefaultDir : string; ShowCmd : Integer) : THandle
6690:  Function cRunAndGetOutput(Cmd,WorkDir:string; ErrFunc:TErrFunc; LineOutputFunc:TLineOutputFunc;
      CheckAbortFunc : TCheckAbortFunc; ShowReturnValue : Boolean) : string
6691:  Function cGetShortName( FileName : string) : string
6692:  Procedure cShowError( Msg : String)
6693:  Function cCommaStrToStr( s : string; formatstr : string) : string
6694:  Function cIncludeQuoteIfSpaces( s : string) : string
6695:  Function cIncludeQuoteIfNeeded( s : string) : string
6696:  Procedure cLoadFilefromResource( const FileName : string; ms : TMemoryStream)
6697:  Function cValidateFile(const FileName:string; const WorkPath:string;const CheckDirs:boolean):string;
6698:  Function cBuildFilter( var value : string; const FLTStyle : TFILTERSET) : boolean;
6699:  Function cBuildFilter1( var value : string; const _filters : array of string) : boolean;
6700:  Function cCodeInstoStr( s : string) : string
6701:  Function cStrtoCodeIns( s : string) : string
6702:  Procedure cStrtoAttr( var Attr : TSynHighlighterAttributes; Value : string)
6703:  Function cAttrtoStr( const Attr : TSynHighlighterAttributes) : string
6704:  Procedure cStrtoPoint( var pt : TPoint; value : string)
6705:  Function cPointtoStr( const pt : TPoint) : string
6706:  Function cListtoStr( const List : TStrings) : string
6707:  Function ListtoStr( const List : TStrings) : string
6708:  Procedure StrtoList( s : string; const List : TStrings; const delimiter : char)
6709:  Procedure cStrtoList( s : string; const List : TStrings; const delimiter : char)
6710:  Function cGetFileTyp( const FileName : string) : TUnitType
6711:  Function cGetExTyp( const FileName : string) : TExUnitType
6712:  Procedure cSetPath( Add : string; const UseOriginal : boolean)
6713:  Function cExpandFileto( const FileName : string; const BasePath : string) : string
6714:  Function cFileSamePath( const FileName : string; const TestPath : string) : boolean
6715:  Procedure cCloneMenu( const FromMenu : TMenuItem; ToMenu : TMenuItem)
6716:  Function cGetLastPos( const SubStr : string; const S : string) : integer
6717:  Function cGenMakePath( FileName : String) : String;
6718:  Function cGenMakePath2( FileName : String) : String
6719:  Function cGenMakePath1( FileName : String; EscapeSpaces, EncloseInQuotes : Boolean) : String;
6720:  Function cGetRealPath( BrokenFileName : String; Directory : String) : String
6721:  Function cCalcMod( Count : Integer) : Integer
6722:  Function cGetVersionString( FileName : string) : string
6723:  Function cCheckChangeDir( var Dir : string) : boolean
6724:  Function cGetAssociatedProgram(const Extension:string; var Filename,Description: string):boolean
6725:  Function cIsNumeric( s : string) : boolean
6726:  Procedure StrtoAttr( var Attr : TSynHighlighterAttributes; Value : string)
6727:  Function AttrtoStr( const Attr : TSynHighlighterAttributes) : string
6728:  Function GetFileTyp( const FileName : string) : TUnitType
6729:  Function Atoi(const aStr: string): integer
6730:  Function Itoa(const aint: integer): string
6731:  Function Atof(const aStr: string): double');
6732:  Function Atol(const aStr: string): longint');
6733:
6734:
6735: procedure SIRegister_cHTTPUtils(CL: TPSPascalCompiler);
6736: begin
6737:   FindClass('TOBJECT'),'EHTTP
6738:   FindClass('TOBJECT'),'EHTTPParser
6739:   //AnsiCharSet', 'set of AnsiChar
6740:   AnsiStringArray', 'array of AnsiString
6741:   THTTPProtocolEnum', '( hpNone, hpCustom, hpHTTP, hpHTTPS )
6742:   THTTPVersionEnum', '( hvNone, hvCustom, hvHTTP10, hvHTTP11 )
6743:   THTTPVersion', 'record Version : THTTPVersionEnum; Protocol : TH'
6744:    +'TTPProtocolEnum; CustomProtocol : AnsiString; CustomMajVersion : Integer; '
6745:    +'CustomMinVersion : Integer; end
6746:   THTTPHeaderNameEnum', '( hntCustom, hntHost, hntContentType, hnt'
6747:    +'ContentLength, hntContentTransferEncoding, hntContentLocation, hntContentL'
6748:    +'anguage, hntContentEncoding, hntTransferEncoding, hntDate, hntServer, hntU'
6749:    +'serAgent, hntLocation, hntConnection, hntExpires, hntCacheControl, hntSetC'
```

```
6750:    +'ookie, hntCookie, hntAuthorization, hntVia, hntWarning, hntContentRange, h'
6751:    +'ntXForwardedFor, hntPragma, hntXPoweredBy, hntWWWAuthenticate, hntLastModi'
6752:    +'fied, hntETag, hntProxyAuthorization, hntReferer, hntAge, hntAcceptRanges,'
6753:    +' hntAcceptEncoding, hntAcceptLanguage, hntAcceptCharset, hntIfModifiedSinc'
6754:    +'e, hntIfUnmodifiedSince, hntRetryAfter, hntUpgrade, hntStatus, hntProxyCon'
6755:    +'nection, hntOrigin, hntKeepAlive )
6756:   THTTPHeaderName', 'record Value : THTTPHeaderNameEnum; Custom: AnsiString; end
6757:   THTTPCustomHeader', 'record FieldName : AnsiString; FieldValue :'
6758:    +' AnsiString; end
6759:   //PHTTPCustomHeader', '^THTTPCustomHeader // will not work
6760:   THTTPContentLengthEnum', '( hcltNone, hcltByteCount )
6761:   THTTPContentLength', 'record Value : THTTPContentLengthEnum; ByteCount:Int64; end
6762:   //PHTTPContentLength', '^THTTPContentLength // will not work
6763:   THTTPContentTypeMajor', '( hctmCustom, hctmText, hctmImage )
6764:   THTTPContentTypeEnum', '( hctNone, hctCustomParts, hctCustomStri'
6765:    +'ng, hctTextHtml, hctTextAscii, hctTextCss, hctTextPlain, hctTextXml, hctTe'
6766:    +'xtCustom, hctImageJpeg, hctImagePng, hctImageGif, hctImageCustom, hctAppli'
6767:    +'cationJSON, hctApplicationOctetStream, hctApplicationJavaScript, hctApplic'
6768:    +'ationCustom, hctAudioCustom, hctVideoCustom )
6769:   THTTPContentType', 'record Value : THTTPContentTypeEnum; CustomM'
6770:    +'ajor : AnsiString; CustomMinor : AnsiString; Parameters : AnsiStringArray;'
6771:    +' CustomStr : AnsiString; end
6772:   THTTPDateFieldEnum', '( hdNone, hdCustom, hdParts, hdDateTime )
6773:   THTTPDateField', 'record Value : THTTPDateFieldEnum; DayOfWeek :'
6774:    +' Integer; Day : integer; Month : integer; Year : Integer; Hour : integer; '
6775:    +'Min : integer; Sec : Integer; TimeZoneGMT : Boolean; CustomTimeZone : Ansi'
6776:    +'String; DateTime : TDateTime; Custom : AnsiString; end
6777:   THTTPTransferEncodingEnum', '( hteNone, hteCustom, hteChunked )
6778:   THTTPTransferEncoding', 'record Value : THTTPTransferEncodingEnu'
6779:    +'m; Custom : AnsiString; end
6780:   THTTPConnectionFieldEnum', '( hcfNone, hcfCustom, hcfClose, hcfKeepAlive )
6781:   THTTPConnectionField', 'record Value : THTTPConnectionFieldEnum;'
6782:    +' Custom : AnsiString; end
6783:   THTTPAgeFieldEnum', '( hafNone, hafCustom, hafAge )
6784:   THTTPAgeField', 'record Value: THTTPAgeFieldEnum; Age : Int64;Custom:AnsiString; end
6785:   THTTPCacheControlFieldEnum', '( hccfNone, hccfDecoded, hccfCustom )
6786:   THTTPCacheControlRequestSubField', '( hccsfNoCache, hccsfNoStore'
6787:    +', hccsfMaxAge, hccsfMaxStale, hccsfMinFresh, hccsfNoTransform, hccsfOnlyIfCached )
6788:   THTTPCacheControlResponseSubField', '( hccrfPublic, hccrfPrivate'
6789:    +', hccrfNoCache, hccrfNoStore, hccrfNoTransform, hccrfMustRevalidate, hccrf'
6790:    +'ProxyRevalidate, hccrfMaxAge, hccrfSMaxAge )
6791:   THTTPCacheControlField', 'record Value : THTTPCacheControlFieldEnum; end
6792:   THTTPContentEncodingEnum', '( hceNone, hceCustom, hceIdentity, h'
6793:    +'ceCompress, hceDeflate, hceExi, hceGzip, hcePack200Gzip )
6794:   THTTPContentEncoding', 'record Value:THTTPContentEncodingEnum;Custom:AnsiString; end;
6795:   THTTPContentEncodingFieldEnum', '( hcefNone, hcefList )
6796:   THTTPContentEncodingField', 'record Value : THTTPContentEncoding'
6797:    +'FieldEnum; List : array of THTTPContentEncoding; end
6798:   THTTPRetryAfterFieldEnum', '( hrafNone, hrafCustom, harfDate, harfSeconds )
6799:   THTTPRetryAfterField', 'record Value : THTTPRetryAfterFieldEnum;'
6800:    +' Custom : AnsiString; Date : TDateTime; Seconds : Int64; end
6801:   THTTPContentRangeFieldEnum', '( hcrfNone, hcrfCustom, hcrfByteRange )
6802:   THTTPContentRangeField', 'record Value : THTTPContentRangeFieldE'
6803:    +'num; ByteFirst : Int64; ByteLast : Int64; ByteSize : Int64; Custom : AnsiString; end
6804:   THTTPSetCookieFieldEnum', '( hscoNone, hscoDecoded, hscoCustom )
6805:   THTTPSetCookieCustomField', 'record Name : AnsiString; Value : AnsiString; end
6806:   THTTPSetCookieCustomFieldArray', 'array of THTTPSetCookieCustomField
6807:   THTTPSetCookieField', 'record Value : THTTPSetCookieFieldEnum; D'
6808:    +'omain : AnsiString; Path : AnsiString; Expires : THTTPDateField; MaxAge : '
6809:    +'Int64; HttpOnly : Boolean; Secure : Boolean; CustomFields : THTTPSetCookie'
6810:    +'CustomFieldArray; Custom : AnsiString; end
6811:   //PHTTPSetCookieField', '^THTTPSetCookieField // will not work
6812:   THTTPSetCookieFieldArray', 'array of THTTPSetCookieField
6813:   THTTPCookieFieldEnum', '( hcoNone, hcoDecoded, hcoCustom )
6814:   THTTPCookieFieldEntry', 'record Name : AnsiString; Value : AnsiString; end
6815:   //PHTTPCookieFieldEntry', '^THTTPCookieFieldEntry // will not work
6816:   THTTPCookieFieldEntryArray', 'array of THTTPCookieFieldEntry
6817:   THTTPCookieField', 'record Value : THTTPCookieFieldEnum; Entries'
6818:    +' : THTTPCookieFieldEntryArray; Custom : AnsiString; end
6819:   THTTPCommonHeaders', 'record TransferEncoding : THTTPTransferEnc'
6820:    +'oding; ContentType : THTTPContentType; ContentLength : THTTPContentLength;'
6821:    +' Connection : THTTPConnectionField; ProxyConnection : THTTPConnectionField'
6822:    +'; Date : THTTPDateField; ContentEncoding : THTTPContentEncodingField; end
6823:   THTTPCustomHeaders', 'array of THTTPCustomHeader
6824:    //THTTPFixedHeaders','array[THTTPHeaderNameEnum] of AnsiString
6825:   THTTPFixedHeaders','array[0..42] of AnsiString
6826:    THTTPMethodEnum', '( hmNone, hmCustom, hmGET, hmPUT, hmPOST, hmC'
6827:    +'ONNECT, hmHEAD, hmDELETE, hmOPTIONS, hmTRACE )
6828:   THTTPMethod', 'record Value : THTTPMethodEnum; Custom : AnsiString; end
6829:   THTTPRequestStartLine','record Method: THTTPMethod;URI: AnsiString;Version:THTTPVersion; end
6830:   THTTPRequestHeader', 'record CommonHeaders : THTTPCommonHeaders;'
6831:    +' FixedHeaders : THTTPFixedHeaders; CustomHeaders : THTTPCustomHeaders; Coo'
6832:    +'kie : THTTPCookieField; IfModifiedSince:THTTPDateField;IfUnmodifiedSince:THTTPDateField;end
6833:   //PHTTPRequestHeader', '^THTTPRequestHeader // will not work
6834:   THTTPRequest', 'record StartLine : THTTPRequestStartLine; Header'
6835:    +' : THTTPRequestHeader; HeaderComplete : Boolean; HasContent : Boolean; end
6836:   THTTPResponseStartLineMessage', '( hslmNone, hslmCustom, hslmOK)
6837:   THTTPResponseStartLine', 'record Version : THTTPVersion; Code : '
6838:    +'Integer; Msg : THTTPResponseStartLineMessage; CustomMsg : AnsiString; end
```

```
6839:   THTTPResponseHeader', 'record CommonHeaders : THTTPCommonHeaders'
6840:    +'; FixedHeaders : THTTPFixedHeaders; CustomHeaders : THTTPCustomHeaders; Co'
6841:    +'okies : THTTPSetCookieFieldArray; Expires : THTTPDateField; LastModified :'
6842:    +' THTTPDateField; Age : THTTPAgeField; end
6843:   //PHTTPResponseHeader', '^THTTPResponseHeader // will not work
6844:   THTTPResponse', 'record StartLine : THTTPResponseStartLine; Head'
6845:    +'er : THTTPResponseHeader; HeaderComplete : Boolean; HasContent : Boolean; end
6846:  Function HTTPMessageHasContent( const H : THTTPCommonHeaders) : Boolean
6847:  Procedure InitHTTPRequest( var A : THTTPRequest)
6848:  Procedure InitHTTPResponse( var A : THTTPResponse)
6849:  Procedure ClearHTTPVersion( var A : THTTPVersion)
6850:  Procedure ClearHTTPContentLength( var A : THTTPContentLength)
6851:  Procedure ClearHTTPContentType( var A : THTTPContentType)
6852:  Procedure ClearHTTPDateField( var A : THTTPDateField)
6853:  Procedure ClearHTTPTransferEncoding( var A : THTTPTransferEncoding)
6854:  Procedure ClearHTTPConnectionField( var A : THTTPConnectionField)
6855:  Procedure ClearHTTPAgeField( var A : THTTPAgeField)
6856:  Procedure ClearHTTPContentEncoding( var A : THTTPContentEncoding)
6857:  Procedure ClearHTTPContentEncodingField( var A : THTTPContentEncodingField)
6858:  Procedure ClearHTTPContentRangeField( var A : THTTPContentRangeField)
6859:  Procedure ClearHTTPSetCookieField( var A : THTTPSetCookieField)
6860:  Procedure ClearHTTPCommonHeaders( var A : THTTPCommonHeaders)
6861:  //Procedure ClearHTTPFixedHeaders( var A : THTTPFixedHeaders)
6862:  Procedure ClearHTTPCustomHeaders( var A : THTTPCustomHeaders)
6863:  Procedure ClearHTTPCookieField( var A : THTTPCookieField)
6864:  Procedure ClearHTTPMethod( var A : THTTPMethod)
6865:  Procedure ClearHTTPRequestStartLine( var A : THTTPRequestStartLine)
6866:  Procedure ClearHTTPRequestHeader( var A : THTTPRequestHeader)
6867:  Procedure ClearHTTPRequest( var A : THTTPRequest)
6868:  Procedure ClearHTTPResponseStartLine( var A : THTTPResponseStartLine)
6869:  Procedure ClearHTTPResponseHeader( var A : THTTPResponseHeader)
6870:  Procedure ClearHTTPResponse( var A : THTTPResponse)
6871:   THTTPStringOption', '( hsoNone )
6872:   THTTPStringOptions', 'set of THTTPStringOption
6873:   FindClass('TOBJECT'),'TAnsiStringBuilder
6874:
6875:  Procedure BuildStrHTTPVersion(const A:THTTPVersion;const B:TAnsiStringBuilder; P:THTTPStringOptions;
6876:  Procedure BuildStrHTTPContentLengthValue(const
      A:THTTPContentLength;B:TAnsiStringBuilder;P:THTTPStringOptions)
6877:  Procedure BuildStrHTTPContentLength(const A : THTTPContentLength;
      B:TAnsiStringBuilder;P:THTTPStringOptions)
6878:  Procedure BuildStrHTTPContentTypeValue(const A:THTTPContentType;B:TAnsiStringBuilder;const
      P:THTTPStringOptions)
6879:  Procedure BuildStrHTTPContentType(const A:THTTPContType;const B:TAnsiStringBuilder; const
      P:THTTPStringOptions)
6880:  Procedure BuildStrRFCDateTime( const DOW, Da, Mo, Ye, Ho, Mi, Se : Integer; const TZ : AnsiString; const
      B : TAnsiStringBuilder; const P : THTTPStringOptions)
6881:  Procedure BuildStrHTTPDateFieldValue( const A : THTTPDateField; const B : TAnsiStringBuilder; const P :
      THTTPStringOptions)
6882:  Procedure BuildStrHTTPDateField(const A:THTTPDateField;const B:TAnsiStringBuilder;const
      P:THTTPStringOptions);
6883:  Procedure BuildStrHTTPTransferEncodingValue( const A : THTTPTransferEncoding; const B :
      TAnsiStringBuilder; const P : THTTPStringOptions)
6884:  Procedure BuildStrHTTPTransferEncoding( const A : THTTPTransferEncoding; const B : TAnsiStringBuilder;
      const P : THTTPStringOptions)
6885:  Procedure BuildStrHTTPContentRangeField( const A : THTTPContentRangeField; const B : TAnsiStringBuilder;
      const P : THTTPStringOptions)
6886:  Procedure BuildStrHTTPConnectionFieldValue( const A : THTTPConnectionField; const B : TAnsiStringBuilder;
      const P : THTTPStringOptions)
6887:  Procedure BuildStrHTTPConnectionField( const A : THTTPConnectionField; const B : TAnsiStringBuilder;
      const P : THTTPStringOptions)
6888:  Procedure BuildStrHTTPAgeField(const A:THTTPAgeField;const B:TAnsiStringBuilder;const
      P:THTTPStringOptions);
6889:  Procedure BuildStrHTTPContentEncoding( const A : THTTPContentEncoding; const B : TAnsiStringBuilder;
      const P : THTTPStringOptions)
6890:  Procedure BuildStrHTTPContentEncodingField(const A:THTTPContentEncodingField;const
      B:TAnsiStringBuilder;const P:THTTPStringOptions)
6891:  Procedure BuildStrHTTPProxyConnectionField(const A : THTTPConnectionField; const B : TAnsiStringBuilder;
      const P : THTTPStringOptions)
6892:  Procedure BuildStrHTTPCommonHeaders( const A : THTTPCommonHeaders; const B : TAnsiStringBuilder; const P
      : THTTPStringOptions)
6893:  Procedure BuildStrHTTPFixedHeaders(const A:THTTPFixedHeaders;const B:TAnsiStrBuilder;const
      P:THTTPStringOptions)
6894:  Procedure BuildStrHTTPCustomHeaders( const A : THTTPCustomHeaders; const B : TAnsiStringBuilder; const P
      : THTTPStringOptions)
6895:  Procedure BuildStrHTTPSetCookieFieldValue( const A : THTTPSetCookieField; const B : TAnsiStringBuilder;
      const P : THTTPStringOptions)
6896:  Procedure BuildStrHTTPCookieFieldValue( const A : THTTPCookieField; const B : TAnsiStringBuilder; const P
      : THTTPStringOptions)
6897:  Procedure BuildStrHTTPCookieField(const A:THTTPCookieField;const B:TAnsiStrBuilder;const
      P:THTTPStringOptions);
6898:  Procedure BuildStrHTTPMethod( const A : THTTPMethod; const B : TAnsiStringBuilder; const P :
      THTTPStringOptions)
6899:  Procedure BuildStrHTTPRequestStartLine( const A : THTTPRequestStartLine; const B : TAnsiStringBuilder;
      const P : THTTPStringOptions)
6900:  Procedure BuildStrHTTPRequestHeader(const A:THTTPRequestHeader;const B:TAnsiStringBuilder;const
      P:THTTPStringOptions);
6901:  Procedure BuildStrHTTPRequest(const A : THTTPRequest; const B : TAnsiStringBuilder; const P :
      THTTPStringOptions)
```

```
6902:  Procedure BuildStrHTTPResponseCookieFieldArray( const A : THTTPSetCookieFieldArray; const B :
      TAnsiStringBuilder; const P : THTTPStringOptions)
6903:  Procedure BuildStrHTTPResponseStartLine(const A:THTTPResponseStartLine;const B:TAnsiStrBldr;const P
      THTTPStrOptions);
6904:  Procedure BuildStrHTTPResponseHeader(const A:THTTPRespHeader;const B:TAnsiStrBuilder;const
      P:THTTPStringOptions);
6905:  Procedure BuildStrHTTPResponse(const A:THTTPResponse; const B:TAnsiStringBuilder; const
      P:THTTPStringOptions);
6906:  Function HTTPContentTypeValueToStr( const A : THTTPContentType) : AnsiString
6907:  Function HTTPSetCookieFieldValueToStr( const A : THTTPSetCookieField) : AnsiString
6908:  Function HTTPCookieFieldValueToStr( const A : THTTPCookieField) : AnsiString
6909:  Function HTTPMethodToStr( const A : THTTPMethod) : AnsiString
6910:  Function HTTPRequestToStr( const A : THTTPRequest) : AnsiString
6911:  Function HTTPResponseToStr( const A : THTTPResponse) : AnsiString
6912:  Procedure PrepareCookie(var A:THTTPCookieField;const B:THTTPSetCookieFieldArray;const
      Domain:AnsiString;const Secure:Bool; THTTPParserHeaderParseFunc', 'Function ( const HeaderName : THTT'
6913:    +PHeaderNameEnum; const HeaderPtr : ___Pointer) : Boolean
6914:   SIRegister_THTTPParser(CL);
6915:   FindClass('TOBJECT'),'THTTPContentDecoder
6916:   THTTPContentDecoderProc', 'Procedure ( const Sender : THTTPContentDecoder)
6917:   THTTPContentDecoderContentType', '( crctFixedSize, crctChunked, crctUnsized )
6918:   THTTPContentDecoderChunkState', '( crcsChunkHeader, crcsContent,'
6919:    +' crcsContentCRLF, crcsTrailer, crcsFinished )
6920:   THTTPContentDecoderLogEvent', 'Procedure ( const Sender : THTTPContentDecoder; const LogMsg : String)
6921:   SIRegister_THTTPContentDecoder(CL);
6922:   THTTPContentReaderMechanism', '( hcrmEvent, hcrmString, hcrmStream, hcrmFile )
6923:   FindClass('TOBJECT'),'THTTPContentReader
6924:   THTTPContentReaderProc', 'Procedure ( const Sender : THTTPContentReader)
6925:   THTTPContentReaderLogEvent','Procedure(const Sender:THTTPContentReader;const LogMsg:String;const
      LogLevel:Int;
6926:   SIRegister_THTTPContentReader(CL);
6927:   THTTPContentWriterMechanism','(hctmEvent, hctmString, hctmStream, hctmFile )
6928:   FindClass('TOBJECT'),'THTTPContentWriter
6929:   THTTPContentWriterLogEvent', 'Procedure (const Sender : THTTPContentWriter;const LogMsg:AnsiString);
6930:   SIRegister_THTTPContentWriter(CL);
6931:  Procedure SelfTestcHTTPUtils
6932: end;
6933:
6934: (*----------------------------------------------------------------------------*)
6935: procedure SIRegister_cTLSUtils(CL: TPSPascalCompiler);
6936: begin
6937:  'TLSLibraryVersion','String '1.00
6938:  'TLSError_None','LongInt'( 0);
6939:  'TLSError_InvalidBuffer','LongInt'( 1);
6940:  'TLSError_InvalidParameter','LongInt'( 2);
6941:  'TLSError_InvalidCertificate','LongInt'( 3);
6942:  'TLSError_InvalidState','LongInt'( 4);
6943:  'TLSError_DecodeError','LongInt'( 5);
6944:  'TLSError_BadProtocol','LongInt'( 6);
6945:  Function TLSErrorMessage( const TLSError : Integer) : String
6946:   SIRegister_ETLSError(CL);
6947:   TTLSProtocolVersion', 'record major : Byte; minor : Byte; end
6948:   PTLSProtocolVersion', '^TTLSProtocolVersion // will not work
6949:  Procedure InitSSLProtocolVersion30( var A : TTLSProtocolVersion)
6950:  Procedure InitTLSProtocolVersion10( var A : TTLSProtocolVersion)
6951:  Procedure InitTLSProtocolVersion11( var A : TTLSProtocolVersion)
6952:  Procedure InitTLSProtocolVersion12( var A : TTLSProtocolVersion)
6953:  Function IsTLSProtocolVersion( const A, B : TTLSProtocolVersion) : Boolean
6954:  Function IsSSL2( const A : TTLSProtocolVersion) : Boolean
6955:  Function IsSSL3( const A : TTLSProtocolVersion) : Boolean
6956:  Function IsTLS10( const A : TTLSProtocolVersion) : Boolean
6957:  Function IsTLS11( const A : TTLSProtocolVersion) : Boolean
6958:  Function IsTLS12( const A : TTLSProtocolVersion) : Boolean
6959:  Function IsTLS10OrLater( const A : TTLSProtocolVersion) : Boolean
6960:  Function IsTLS11OrLater( const A : TTLSProtocolVersion) : Boolean
6961:  Function IsTLS12OrLater( const A : TTLSProtocolVersion) : Boolean
6962:  Function IsFutureTLSVersion( const A : TTLSProtocolVersion) : Boolean
6963:  Function IsKnownTLSVersion( const A : TTLSProtocolVersion) : Boolean
6964:  Function TLSProtocolVersionToStr( const A : TTLSProtocolVersion) : String
6965:  Function TLSProtocolVersionName( const A : TTLSProtocolVersion) : String
6966:   PTLSRandom', '^TTLSRandom // will not work
6967:  Procedure InitTLSRandom( var Random : TTLSRandom)
6968:  Function TLSRandomToStr( const Random : TTLSRandom) : AnsiString
6969:  'TLSSessionIDMaxLen','LongInt'( 32);
6970:  Procedure InitTLSSessionID( var SessionID : TTLSSessionID; const A : AnsiString)
6971:  Function EncodeTLSSessionID(var Buffer:string;const Size:Int;const SessionID:TTLSSessionID):Int;
6972:  Function DecodeTLSSessionID(const Buffer:string;const Size:Int;var SessionID:TTLSSessionID):Int;
6973:   TTLSSignatureAndHashAlgorithm', 'record Hash : TTLSHashAlgorithm'
6974:    +'; Signature : TTLSSignatureAlgorithm; end
6975:  // PTLSSignatureAndHashAlgorithm', '^TTLSSignatureAndHashAlgorithm +'// will not work
6976:   TTLSSignatureAndHashAlgorithmArray', 'array of TTLSSignatureAndHashAlgorithm
6977:   TTLSKeyExchangeAlgorithm', '( tlskeaNone, tlskeaNULL, tlskeaDHE_'
6978:    +'DSS, tlskeaDHE_RSA, tlskeaDH_Anon, tlskeaRSA, tlskeaDH_DSS, tlskeaDH_RSA )
6979:   TTLSMACAlgorithm', '( tlsmaNone, tlsmaNULL, tlsmaHMAC_MD5, tlsma'
6980:    +'HMAC_SHA1, tlsmaHMAC_SHA256, tlsmaHMAC_SHA384, tlsmaHMAC_SHA512 )
6981:   TTLSMacAlgorithmInfo', 'record Name : AnsiString; DigestSize : I'
6982:    +'nteger; Supported : Boolean; end
6983:   PTLSMacAlgorithmInfo', '^TTLSMacAlgorithmInfo // will not work
6984:  'TLS_MAC_MAXDIGESTSIZE','LongInt'( 64);
```

```
6985:   TTLSPRFAlgorithm', '( tlspaSHA256 )
6986:  Function tlsP_MD5( const Secret, Seed : AnsiString; const Size : Integer) : AnsiString
6987:  Function tlsP_SHA1( const Secret, Seed : AnsiString; const Size : Integer) : AnsiString
6988:  Function tlsP_SHA256( const Secret, Seed : AnsiString; const Size : Integer) : AnsiString
6989:  Function tlsP_SHA512( const Secret, Seed : AnsiString; const Size : Integer) : AnsiString
6990:  Function tls10PRF( const Secret, ALabel, Seed : AnsiString; const Size : Integer) : AnsiString
6991:  Function tls12PRF_SHA256( const Secret, ALabel, Seed : AnsiString; const Size : Integer) : AnsiString
6992:  Function tls12PRF_SHA512( const Secret, ALabel, Seed : AnsiString; const Size : Integer) : AnsiString
6993:  Function TLSPRF(const ProtoVersion:TTLSProtocolVersion;const Secret,ALabel,Seed:AString;const
      Size:Int):AString;
6994:  Function tls10KeyBlock(const MasterSecret, ServerRandom,ClientRandom:AnsiString; const
      Size:Integer):AnsiString
6995:  Function tls12SHA256KeyBlock(const MasterSecret,ServerRandom,ClientRandom: AnsiString;const
      Size:Int):AnsiString;
6996:  Function tls12SHA512KeyBlock(const MasterSecret,ServerRandom,ClientRandom: AnsiString;const
      Size:Int):AnsiString;
6997:  Function TLSKeyBlock(const ProtocolVersion:TTLSProtocolVersion; const MasterSecret, ServerRandom,
      ClientRandom : AnsiString; const Size : Integer) : AnsiString
6998:  Function tls10MasterSecret(const PreMasterSecret,ClientRandom, ServerRandom:AnsiString) :AnsiString;
6999:  Function tls12SHA256MasterSecret(const PreMasterSecret,ClientRandom,ServerRandom:AnsiString):AnsiString;
7000:  Function tls12SHA512MasterSecret(const PreMasterSecret,ClientRandom,ServerRandom:AnsiString): AnsiString;
7001:  Function TLSMasterSecret( const ProtocolVersion: TTLSProtocolVersion;const PreMasterSecret,ClientRandom,
      ServerRandom:AnsiString) : AnsiString
7002:   TTLSKeys', 'record KeyBlock : AnsiString; ClientMACKey : AnsiStr'
7003:    +'ing; ServerMACKey : AnsiString; ClientEncKey : AnsiString; ServerEncKey : '
7004:    +'AnsiString; ClientIV : AnsiString; ServerIV : AnsiString; end
7005:  Procedure GenerateTLSKeys( const ProtocolVersion : TTLSProtocolVersion; const MACKeyBits, CipherKeyBits,
      IVBits : Integer; const MasterSecret, ServerRandom, ClientRandom : AnsiString; var TLSKeys : TTLSKeys)
7006:  Procedure GenerateFinalTLSKeys(const ProtocolVersion:TTLSProtocolVersion;const IsExportable:Boolean;const
      ExpandedKeyBits:Integer;const ServerRandom,ClientRandom:AnsiString;var TLSKeys:TTLSKeys)
7007:  'TLS_PLAINTEXT_FRAGMENT_MAXSIZE','LongInt'( 16384 - 1);
7008:  'TLS_COMPRESSED_FRAGMENT_MAXSIZE','LongInt'( 16384 + 1024);
7009:  Procedure SelfTestcTLSUtils
7010: end;
7011:
7012: (*----------------------------------------------------------------------------*)
7013: procedure SIRegister_Reversi(CL: TPSPascalCompiler);
7014: begin
7015:   sPosData','record corner : boolean; square2x2 : boolean; edge:boolean; stable : integer; internal :
      integer; disks : integer; mx : integer; my : integer; end
7016:  // pBoard', '^tBoard // will not work
7017:  Function rCalculateData( cc : byte; cx, cy : integer) : sPosData
7018:  Function rCheckMove( color : byte; cx, cy : integer) : integer
7019:  //Function rDoStep( data : pBoard) : word
7020:  Function winExecAndWait( const sAppPath : string; wVisible : word) : boolean
7021: end;
7022:
7023: procedure SIRegister_IWDBCommon(CL: TPSPascalCompiler);
7024: begin
7025: Function InEditMode( ADataset : TDataset) : Boolean
7026: Function CheckDataSource( ADataSource : TDataSource) : Boolean;
7027: Function CheckDataSource1(ADataSource:TDataSource;const AFieldName:string;var VField:TField):boolean;
7028: Function GetFieldText( AField : TField) : String
7029: end;
7030:
7031: procedure SIRegister_SortGrid(CL: TPSPascalCompiler);
7032: begin
7033:   TPrintMode', '( pmPrint, pmPreview, pmPageCount )
7034:   TMyPrintRange', '( prAll, prSelected )
7035:   TSortStyle', '( ssAutomatic, ssNormal, ssNumeric, ssNumericExten'
7036:    +'ded, ssDateTime, ssTime, ssCustom )
7037:   TSortDirection', '( sdAscending, sdDescending )
7038:   TSetChecked', 'Procedure ( Sender : TObject; ACol, ARow : integer; State : Boolean)
7039:   TGetCombobox', 'Procedure ( Sender : TObject; ACol, ARow : integ'
7040:    +'er; var Strs : TStringList; var Width, Height : integer; var Sorted : Boolean)
7041:   TSetCombobox', 'Procedure ( Sender : TObject; ACol, ARow : integer; Str : String)
7042:   TSetEllipsis', 'Procedure ( Sender : TObject; ACol, ARow : integer)
7043:   SIRegister_TSortOptions(CL);
7044:   SIRegister_TPrintOptions(CL);
7045:   TSortedListEntry', 'record Str : String; RowNum : integer; SortOption : TSortOptions; end
7046:   SIRegister_TSortedList(CL);
7047:   TCellBevelStyle', '( cbNone, cbRaised, cbLowered )
7048:   TCellBevel', 'record Style: TCellBevelStyle; UpperLeftColor: TColor; LowerRightColor : TColor; end
7049:   TVertAlignment', '( taTopJustify, taBottomJustify, taMiddle )
7050:   TFormatOptions', 'record Brush : TBrush; Font : TFont; Alignment'
7051:    +'Horz : TAlignment; AlignmentVert : TVertAlignment; Bevel : TCellBevel; HideText : Boolean; end
7052:   SIRegister_TFontSetting(CL);
7053:   SIRegister_TFontList(CL);
7054:   AddTypeS(TFormatDrawCellEvent', 'Procedure ( Sender : TObject; Col, Row :'
7055:    + integer;State:TGridDrawState;var FormatOptions:TFormatOptions;var CheckBox,Combobox,Ellipsis:Bool);
7056:   TSetFilterEvent', 'Procedure ( ARows : TStrings; var Accept : Boolean)
7057:   TSearchEvent', 'Procedure ( ARows : TStrings; var Accept : Boolean)
7058:   TUpdateGridEvent', 'Procedure ( Sender : TObject; ARow : integer)
7059:   TSizeChangedEvent', 'Procedure ( Sender : TObject; OldColCount, OldRowCount : integer)
7060:   TBeginSortEvent', 'Procedure ( Sender : TObject; var Col : integer)
7061:   TEndSortEvent', 'Procedure ( Sender : TObject; Col : integer)
7062:   TGetSortStyleEvent', 'Procedure ( Sender : TObject; Col : intege'
7063:    +'r; var SortStyle : TSortStyle)
7064:   TCellValidateEvent', 'Procedure ( Sender : TObject; ACol, ARow :'
```

```
7065:    +' integer; const OldValue : string; var NewValue : String; var Valid : Boolean)
7066:   SIRegister_TSortGrid(CL);
7067:  Function ExtendedCompare( const Str1, Str2 : String) : Integer
7068:  Function NormalCompare( const Str1, Str2 : String) : Integer
7069:  Function DateTimeCompare( const Str1, Str2 : String) : Integer
7070:  Function NumericCompare( const Str1, Str2 : String) : Integer
7071:  Function TimeCompare( const Str1, Str2 : String) : Integer
7072:  //Function Compare( Item1, Item2 : Pointer) : Integer
7073: end;
7074:
7075: ********************************** procedure Register_IB(CL: TPSPascalCompiler);
7076:  Procedure IBAlloc( var P, OldSize, NewSize : Integer)
7077:  Procedure IBError( ErrMess : TIBClientError; const Args : array of const)
7078:  Procedure IBDataBaseError
7079:  Function StatusVector : PISC_STATUS
7080:  Function StatusVectorArray : PStatusVector
7081:  Function CheckStatusVector( ErrorCodes : array of ISC_STATUS) : Boolean
7082:  Function StatusVectorAsText : string
7083:  Procedure SetIBDataBaseErrorMessages( Value : TIBDataBaseErrorMessages)
7084:  Function GetIBDataBaseErrorMessages : TIBDataBaseErrorMessages
7085:
7086:
7087: //****************************unit uPSI_BoldUtils;****************************************
7088:  Function CharCount( c : char; const s : string) : integer
7089:  Function BoldNamesEqual( const name1, name2 : string) : Boolean
7090:  Procedure BoldAppendToStrings(strings: TStrings; const aString: string; const ForceNewLine:Boolean)
7091:  Function BoldSeparateStringList(strings:TStringList;const Separator,PreString,PostString:String):String
7092:  Function BoldSeparatedAppend( const S1, S2 : string; const Separator : string) : string
7093:  Function BoldTrim( const S : string) : string
7094:  Function BoldIsPrefix( const S, Prefix : string) : Boolean
7095:  Function BoldStrEqual( P1, P2 : PChar; Len : integer) : Boolean
7096:  Function BoldStrAnsiEqual( P1, P2 : PChar; Len : integer) : Boolean
7097:  Function BoldAnsiEqual( const S1, S2 : string) : Boolean
7098:  Function BoldStrStringEqual( const S1 : string; P2 : PChar; Len : integer) : Boolean
7099:  Function BoldCaseIndependentPos( const Substr, S : string) : Integer
7100:  //Procedure EnumToStrings( aTypeInfo : pTypeInfo; Strings : TStrings)
7101:  Function CapitalisedToSpaced( Capitalised : String) : String
7102:  Function SpacedToCapitalised( Spaced : String) : String
7103:  Function BooleanToString( BoolValue : Boolean) : String
7104:  Function StringToBoolean( StrValue : String) : Boolean
7105:  Function GetUpperLimitForMultiplicity( const Multiplicity : String) : Integer
7106:  Function GetLowerLimitForMultiplicity( const Multiplicity : String) : Integer
7107:  Function StringListToVarArray( List : TStringList) : variant
7108:  Function IsLocalMachine( const Machinename : WideString) : Boolean
7109:  Function GetComputerNameStr : string
7110:  Function TimeStampComp( const Time1, Time2 : TTimeStamp) : Integer
7111:  Function BoldStrToDateFmt(const S:string;const DateFormat:string;const DateSeparatorChar:char):TDateTime
7112:  Function BoldDateToStrFmt(const aDate:TDateTime;DateFormat:string;const DateSeparatorChar:char):String;
7113:  Function BoldParseFormattedDateList(const value:String;const formats:TStrings;var Date:TDateTime):Boolean;
7114:  Function BoldParseFormattedDate(const value:String;const formats:array of string; var
      Date:TDateTime):Boolean;
7115:  Procedure EnsureTrailing( var Str : String; ch : char)
7116:  Function BoldDirectoryExists( const Name : string) : Boolean
7117:  Function BoldForceDirectories( Dir : string) : Boolean
7118:  Function BoldRootRegistryKey : string
7119:  Function GetModuleFileNameAsString( IncludePath : Boolean) : string
7120:  Function BoldVariantToStrings( V : OleVariant; Strings : TStrings) : Integer
7121:  Function LogicalAnd( A, B : Integer) : Boolean
7122:  record TByHandleFileInformation dwFileAttributes : DWORD; '
7123:    +'ftCreationTime : TFileTime; ftLastAccessTime : TFileTime; ftLastWriteTime '
7124:    +': TFileTime; dwVolumeSerialNumber : DWORD; nFileSizeHigh : DWORD; nFileSiz'
7125:    +'eLow : DWORD; nNumberOfLinks : DWORD; nFileIndexHigh : DWORD; nFileIndexLow : DWORD; end
7126:  Function GetFileInformationByHandle(hFile:THandle;var lpFileInformation:TByHandleFileInformation):BOOL;
7127:  Function IsFirstInstance : Boolean
7128:  Procedure ActivateFirst( AString : PChar)
7129:  Procedure ActivateFirstCommandLine
7130:  function MakeAckPkt(const BlockNumber: Word): string;
7131:  procedure SendError(UDPBase:TIdUDPBase;APeerIP:string;const APort:Int;const ErrNumber:Word;ErrStr:string;
7132:  procedure SendError(UDPClient: TIdUDPClient; const ErrNumber: Word; ErrorString: string); overload;
7133:  procedure SendError(UDPBase: TIdUDPBase; APeerIP: string; const APort: Integer;  E: Exception); overload;
7134:  procedure SendError(UDPClient: TIdUDPClient; E: Exception); overload;
7135:  function IdStrToWord(const Value: String): Word;
7136:  function IdWordToStr(const Value: Word): WordStr;
7137:  Function HasInstructionSet( const InstructionSet : TCPUInstructionSet) : Boolean
7138:  Function CPUFeatures : TCPUFeatures
7139:
7140: procedure SIRegister_xrtl_util_CPUUtils(CL: TPSPascalCompiler);
7141: begin
7142:   AddTypeS('TXRTLBitIndex', 'Integer
7143:  Function XRTLSwapBits( Data : Cardinal; Bit1Index, Bit2Index : TXRTLBitIndex) : Cardinal
7144:  Function XRTLBitTest( Data : Cardinal; BitIndex : TXRTLBitIndex) : Boolean
7145:  Function XRTLBitSet( Data : Cardinal; BitIndex : TXRTLBitIndex) : Cardinal
7146:  Function XRTLBitReset( Data : Cardinal; BitIndex : TXRTLBitIndex) : Cardinal
7147:  Function XRTLBitComplement( Data : Cardinal; BitIndex : TXRTLBitIndex) : Cardinal
7148:  Function XRTLSwapHiLo16( X : Word) : Word
7149:  Function XRTLSwapHiLo32( X : Cardinal) : Cardinal
7150:  Function XRTLSwapHiLo64( X : Int64) : Int64
7151:  Function XRTLROL32( A, S : Cardinal) : Cardinal
7152:  Function XRTLROR32( A, S : Cardinal) : Cardinal
```

```
7153:  Function XRTLROL16( A : Word; S : Cardinal) : Word
7154:  Function XRTLROR16( A : Word; S : Cardinal) : Word
7155:  Function XRTLROL8( A : Byte; S : Cardinal) : Byte
7156:  Function XRTLROR8( A : Byte; S : Cardinal) : Byte
7157:  //Procedure XRTLXorBlock( I1, I2, O1 : PByteArray; Len : integer)
7158:  //Procedure XRTLIncBlock( P : PByteArray; Len : integer)
7159:  Procedure XRTLUMul64( const A, B : Integer; var MulL, MulH : Integer)
7160:  Function XRTLPopulation( A : Cardinal) : Cardinal
7161: end;
7162:
7163: Function XRTLURLDecode( const ASrc : WideString) : WideString
7164: Function XRTLURLEncode( const ASrc : WideString) : WideString
7165: Function XRTLURINormalize( const AURI : WideString) : WideString
7166: Procedure XRTLURIParse(const AURI:WideString;var VProtocol,VHost,VPath,VDocument,VPort,VBookmark,VUserName,
     VPassword : WideString)
7167: Function XRTLExtractLongPathName(APath: string): string;
7168:
7169: procedure SIRegister_cFundamentUtils(CL: TPSPascalCompiler);
7170: begin
7171:   AddTypeS('Int8', 'ShortInt
7172:   AddTypeS('Int16', 'SmallInt
7173:   AddTypeS('Int32', 'LongInt
7174:   AddTypeS('UInt8', 'Byte
7175:   AddTypeS('UInt16', 'Word
7176:   AddTypeS('UInt32', 'LongWord
7177:   AddTypeS('UInt64', 'Int64
7178:   AddTypeS('Word8', 'UInt8
7179:   AddTypeS('Word16', 'UInt16
7180:   AddTypeS('Word32', 'UInt32
7181:   AddTypeS('Word64', 'UInt64
7182:   AddTypeS('LargeInt', 'Int64
7183:   AddTypeS('NativeInt', 'Integer
7184:   AddTypeS('NativeUInt', 'Cardinal
7185:   Const('BitsPerByte','LongInt'( 8);
7186:   Const('BitsPerWord','LongInt'( 16);
7187:   Const('BitsPerLongWord','LongInt'( 32);
7188:  //Const('BitsPerCardinal','LongInt'( BytesPerCardinal * 8);
7189:  //Const('BitsPerNativeWord','LongInt'( BytesPerNativeWord * 8);
7190:  Function MinI( const A, B : Integer) : Integer
7191:  Function MaxI( const A, B : Integer) : Integer
7192:  Function MinC( const A, B : Cardinal) : Cardinal
7193:  Function MaxC( const A, B : Cardinal) : Cardinal
7194:  Function SumClipI( const A, I : Integer) : Integer
7195:  Function SumClipC( const A : Cardinal; const I : Integer) : Cardinal
7196:  Function InByteRange( const A : Int64) : Boolean
7197:  Function InWordRange( const A : Int64) : Boolean
7198:  Function InLongWordRange( const A : Int64) : Boolean
7199:  Function InShortIntRange( const A : Int64) : Boolean
7200:  Function InSmallIntRange( const A : Int64) : Boolean
7201:  Function InLongIntRange( const A : Int64) : Boolean
7202:   AddTypeS('Bool8', 'ByteBool
7203:   AddTypeS('Bool16', 'WordBool
7204:   AddTypeS('Bool32', 'LongBool
7205:   AddTypeS('TCompareResult', '( crLess, crEqual, crGreater, crUndefined )
7206:   AddTypeS('TCompareResultSet', 'set of TCompareResult
7207:  Function ReverseCompareResult( const C : TCompareResult) : TCompareResult
7208:  Const('MinSingle','Single').setExtended( 1.5E-45);
7209:  Const('MaxSingle','Single').setExtended( 3.4E+38);
7210:  Const('MinDouble','Double').setExtended( 5.0E-324);
7211:  Const('MaxDouble','Double').setExtended( 1.7E+308);
7212:  Const('MinExtended','Extended').setExtended(3.4E-4932);
7213:  Const('MaxExtended','Extended').setExtended(1.1E+4932);
7214:  Const('MinCurrency','Currency').SetExtended( - 922337203685477.5807);
7215:  Const('MaxCurrency','Currency').SetExtended( 922337203685477.5807);
7216:  Function MinF( const A, B : Float) : Float
7217:  Function MaxF( const A, B : Float) : Float
7218:  Function ClipF( const Value : Float; const Low, High : Float) : Float
7219:  Function InSingleRange( const A : Float) : Boolean
7220:  Function InDoubleRange( const A : Float) : Boolean
7221:  Function InCurrencyRange( const A : Float) : Boolean;
7222:  Function InCurrencyRange1( const A : Int64) : Boolean;
7223:  Function FloatExponentBase2( const A : Extended; var Exponent : Integer) : Boolean
7224:  Function FloatExponentBase10( const A : Extended; var Exponent : Integer) : Boolean
7225:  Function FloatIsInfinity( const A : Extended) : Boolean
7226:  Function FloatIsNaN( const A : Extended) : Boolean
7227:  Const('SingleCompareDelta','Extended').setExtended( 1.0E-34);
7228:  Const('DoubleCompareDelta','Extended').setExtended( 1.0E-280);
7229:  Const('ExtendedCompareDelta','Extended').setExtended( 1.0E-4400);
7230:  Const('DefaultCompareDelta','Extended').SetExtended( 1.0E-34);
7231:  Function FloatZero( const A : Float; const CompareDelta : Float) : Boolean
7232:  Function FloatOne( const A : Float; const CompareDelta : Float) : Boolean
7233:  Function FloatsEqual( const A, B : Float; const CompareDelta : Float) : Boolean
7234:  Function FloatsCompare( const A, B : Float; const CompareDelta : Float) : TCompareResult
7235:  Const('SingleCompareEpsilon','Extended').setExtended( 1.0E-5);
7236:  Const('DoubleCompareEpsilon','Extended').setExtended( 1.0E-13);
7237:  Const('ExtendedCompareEpsilon','Extended').setExtended( 1.0E-17);
7238:  Const('DefaultCompareEpsilon','Extended').setExtended( 1.0E-10);
7239:  Function ApproxEqual( const A, B : Extended; const CompareEpsilon : Double) : Boolean
7240:  Function ApproxCompare( const A, B : Extended; const CompareEpsilon : Double): TCompareResult
```

```
7241:  Function cClearBit( const Value, BitIndex : LongWord) : LongWord
7242:  Function cSetBit( const Value, BitIndex : LongWord) : LongWord
7243:  Function cIsBitSet( const Value, BitIndex : LongWord) : Boolean
7244:  Function cToggleBit( const Value, BitIndex : LongWord) : LongWord
7245:  Function cIsHighBitSet( const Value : LongWord) : Boolean
7246:  Function SetBitScanForward( const Value : LongWord) : Integer;
7247:  Function SetBitScanForward1( const Value, BitIndex : LongWord) : Integer;
7248:  Function SetBitScanReverse( const Value : LongWord) : Integer;
7249:  Function SetBitScanReverse1( const Value, BitIndex : LongWord) : Integer;
7250:  Function ClearBitScanForward( const Value : LongWord) : Integer;
7251:  Function ClearBitScanForward1( const Value, BitIndex : LongWord) : Integer;
7252:  Function ClearBitScanReverse( const Value : LongWord) : Integer;
7253:  Function ClearBitScanReverse1( const Value, BitIndex : LongWord) : Integer;
7254:  Function cReverseBits( const Value : LongWord) : LongWord;
7255:  Function cReverseBits1( const Value : LongWord; const BitCount : Integer) : LongWord;
7256:  Function cSwapEndian( const Value : LongWord) : LongWord
7257:  Function cTwosComplement( const Value : LongWord) : LongWord
7258:  Function RotateLeftBits16( const Value : Word; const Bits : Byte) : Word
7259:  Function RotateLeftBits32( const Value : LongWord; const Bits : Byte) : LongWord
7260:  Function RotateRightBits16( const Value : Word; const Bits : Byte) : Word
7261:  Function RotateRightBits32( const Value : LongWord; const Bits : Byte) : LongWord
7262:  Function cBitCount( const Value : LongWord) : LongWord
7263:  Function cIsPowerOfTwo( const Value : LongWord) : Boolean
7264:  Function LowBitMask( const HighBitIndex : LongWord) : LongWord
7265:  Function HighBitMask( const LowBitIndex : LongWord) : LongWord
7266:  Function RangeBitMask( const LowBitIndex, HighBitIndex : LongWord) : LongWord
7267:  Function SetBitRange( const Value: LongWord; const LowBitIndex, HighBitIndex: LongWord) : LongWord
7268:  Function ClearBitRange(const Value: LongWord; const LowBitIndex,HighBitIndex: LongWord) : LongWord
7269:  Function ToggleBitRange(const Value:LongWord; const LowBitIndex,HighBitIndex: LongWord) : LongWord
7270:  Function IsBitRangeSet(const Value: LongWord; const LowBitIndex,HighBitIndex : LongWord) : Boolean
7271:  Function IsBitRangeClear(const Value: LongWord; const LowBitIndex,HighBitIndex: LongWord): Boolean
7272: //  AddTypeS('CharSet', 'set of AnsiChar
7273:   AddTypeS('CharSet', 'set of Char       //!!!
7274:   AddTypeS('AnsiCharSet', 'TCharSet
7275:   AddTypeS('ByteSet', 'set of Byte
7276:   AddTypeS('AnsiChar', 'Char
7277:    // Function AsCharSet( const C : array of AnsiChar) : CharSet
7278:  Function AsByteSet( const C : array of Byte) : ByteSet
7279:  Procedure ComplementChar( var C : CharSet; const Ch : Char)
7280:  Procedure ClearCharSet( var C : CharSet)
7281:  Procedure FillCharSet( var C : CharSet)
7282:  procedure FillCharSearchRec;  // with 0
7283:  Procedure ComplementCharSet( var C : CharSet)
7284:  Procedure AssignCharSet( var DestSet : CharSet; const SourceSet : CharSet)
7285:  Procedure Union( var DestSet : CharSet; const SourceSet : CharSet)
7286:  Procedure Difference( var DestSet : CharSet; const SourceSet : CharSet)
7287:  Procedure Intersection( var DestSet : CharSet; const SourceSet : CharSet)
7288:  Procedure XORCharSet( var DestSet : CharSet; const SourceSet : CharSet)
7289:  Function IsSubSet( const A, B : CharSet) : Boolean
7290:  Function IsEqual( const A, B : CharSet) : Boolean
7291:  Function IsEmpty( const C : CharSet) : Boolean
7292:  Function IsComplete( const C : CharSet) : Boolean
7293:  Function cCharCount( const C : CharSet) : Integer
7294:  Procedure ConvertCaseInsensitive( var C : CharSet)
7295:  Function CaseInsensitiveCharSet( const C : CharSet) : CharSet
7296:  Function IntRangeLength( const Low, High : Integer) : Int64
7297:  Function IntRangeAdjacent( const Low1, High1, Low2, High2 : Integer) : Boolean
7298:  Function IntRangeOverlap( const Low1, High1, Low2, High2 : Integer) : Boolean
7299:  Function IntRangeHasElement( const Low, High, Element : Integer) : Boolean
7300:  Function IntRangeIncludeElement( var Low, High : Integer; const Element : Integer) : Boolean
7301:  Function IntRangeIncludeElementRange(var Low,High:Integer;const LowElement,HighElement:Integer):Boolean
7302:  Function CardRangeLength( const Low, High : Cardinal) : Int64
7303:  Function CardRangeAdjacent( const Low1, High1, Low2, High2 : Cardinal) : Boolean
7304:  Function CardRangeOverlap( const Low1, High1, Low2, High2 : Cardinal) : Boolean
7305:  Function CardRangeHasElement( const Low, High, Element : Cardinal) : Boolean
7306:  Function CardRangeIncludeElement( var Low, High : Cardinal; const Element : Cardinal) : Boolean
7307:  Function CardRangeIncludeElementRange(var Low,High:Card;const LowElement,HighElement:Card):Boolean;
7308:   AddTypeS('UnicodeChar', 'WideChar
7309:  Function Compare( const I1, I2 : Boolean) : TCompareResult;
7310:  Function Compare1( const I1, I2 : Integer) : TCompareResult;
7311:  Function Compare2( const I1, I2 : Int64) : TCompareResult;
7312:  Function Compare3( const I1, I2 : Extended) : TCompareResult;
7313:  Function CompareA( const I1, I2 : AnsiString) : TCompareResult
7314:  Function CompareW( const I1, I2 : WideString) : TCompareResult
7315:  Function cSgn( const A : LongInt) : Integer;
7316:  Function cSgn1( const A : Int64) : Integer;
7317:  Function cSgn2( const A : Extended) : Integer;
7318:  AddTypeS('TConvertResult', '( convertOK, convertFormatError, convertOverflow )
7319:  Function AnsiCharToInt( const A : AnsiChar) : Integer
7320:  Function WideCharToInt( const A : WideChar) : Integer
7321:  Function CharToInt( const A : Char) : Integer
7322:  Function IntToAnsiChar( const A : Integer) : AnsiChar
7323:  Function IntToWideChar( const A : Integer) : WideChar
7324:  Function IntToChar( const A : Integer) : Char
7325:  Function IsHexAnsiChar( const Ch : AnsiChar) : Boolean
7326:  Function IsHexWideChar( const Ch : WideChar) : Boolean
7327:  Function IsHexChar( const Ch : Char) : Boolean
7328:  Function HexAnsiCharToInt( const A : AnsiChar) : Integer
7329:  Function HexWideCharToInt( const A : WideChar) : Integer
```

```
7330:  Function HexCharToInt( const A : Char) : Integer
7331:  Function IntToUpperHexAnsiChar( const A : Integer) : AnsiChar
7332:  Function IntToUpperHexWideChar( const A : Integer) : WideChar
7333:  Function IntToUpperHexChar( const A : Integer) : Char
7334:  Function IntToLowerHexAnsiChar( const A : Integer) : AnsiChar
7335:  Function IntToLowerHexWideChar( const A : Integer) : WideChar
7336:  Function IntToLowerHexChar( const A : Integer) : Char
7337:  Function IntToStringA( const A : Int64) : AnsiString
7338:  Function IntToStringW( const A : Int64) : WideString
7339:  Function IntToString( const A : Int64) : String
7340:  Function UIntToStringA( const A : NativeUInt) : AnsiString
7341:  Function UIntToStringW( const A : NativeUInt) : WideString
7342:  Function UIntToString( const A : NativeUInt) : String
7343:  Function LongWordToStrA( const A : LongWord; const Digits : Integer) : AnsiString
7344:  Function LongWordToStrW( const A : LongWord; const Digits : Integer) : WideString
7345:  Function LongWordToStrU( const A : LongWord; const Digits : Integer) : UnicodeString
7346:  Function LongWordToStr( const A : LongWord; const Digits : Integer) : String
7347:  Function LongWordToHexA(const A:LongWord;const Digits:Integer;const UpperCase:Boolean):AnsiString;
7348:  Function LongWordToHexW(const A:LongWord;const Digits:Integer;const UpperCase:Boolean):WideString;
7349:  Function LongWordToHex( const A : LongWord; const Digits : Integer;const UpperCase:Boolean):String
7350:  Function LongWordToOctA( const A : LongWord; const Digits : Integer) : AnsiString
7351:  Function LongWordToOctW( const A : LongWord; const Digits : Integer) : WideString
7352:  Function LongWordToOct( const A : LongWord; const Digits : Integer) : String
7353:  Function LongWordToBinA( const A : LongWord; const Digits : Integer) : AnsiString
7354:  Function LongWordToBinW( const A : LongWord; const Digits : Integer) : WideString
7355:  Function LongWordToBin( const A : LongWord; const Digits : Integer) : String
7356:  Function TryStringToInt64A( const S : AnsiString; out A : Int64) : Boolean
7357:  Function TryStringToInt64W( const S : WideString; out A : Int64) : Boolean
7358:  Function TryStringToInt64( const S : String; out A : Int64) : Boolean
7359:  Function StringToInt64DefA( const S : AnsiString; const Default : Int64) : Int64
7360:  Function StringToInt64DefW( const S : WideString; const Default : Int64) : Int64
7361:  Function StringToInt64Def( const S : String; const Default : Int64) : Int64
7362:  Function StringToInt64A( const S : AnsiString) : Int64
7363:  Function StringToInt64W( const S : WideString) : Int64
7364:  Function StringToInt64( const S : String) : Int64
7365:  Function TryStringToIntA( const S : AnsiString; out A : Integer) : Boolean
7366:  Function TryStringToIntW( const S : WideString; out A : Integer) : Boolean
7367:  Function TryStringToInt( const S : String; out A : Integer) : Boolean
7368:  Function StringToIntDefA( const S : AnsiString; const Default : Integer) : Integer
7369:  Function StringToIntDefW( const S : WideString; const Default : Integer) : Integer
7370:  Function StringToIntDef( const S : String; const Default : Integer) : Integer
7371:  Function StringToIntA( const S : AnsiString) : Integer
7372:  Function StringToIntW( const S : WideString) : Integer
7373:  Function StringToInt( const S : String) : Integer
7374:  Function TryStringToLongWordA( const S : AnsiString; out A : LongWord) : Boolean
7375:  Function TryStringToLongWordW( const S : WideString; out A : LongWord) : Boolean
7376:  Function TryStringToLongWord( const S : String; out A : LongWord) : Boolean
7377:  Function StringToLongWordA( const S : AnsiString) : LongWord
7378:  Function StringToLongWordW( const S : WideString) : LongWord
7379:  Function StringToLongWord( const S : String) : LongWord
7380:  Function HexToUIntA( const S : AnsiString) : NativeUInt
7381:  Function HexToUIntW( const S : WideString) : NativeUInt
7382:  Function HexToUInt( const S : String) : NativeUInt
7383:  Function TryHexToLongWordA( const S : AnsiString; out A : LongWord) : Boolean
7384:  Function TryHexToLongWordW( const S : WideString; out A : LongWord) : Boolean
7385:  Function TryHexToLongWord( const S : String; out A : LongWord) : Boolean
7386:  Function HexToLongWordA( const S : AnsiString) : LongWord
7387:  Function HexToLongWordW( const S : WideString) : LongWord
7388:  Function HexToLongWord( const S : String) : LongWord
7389:  Function TryOctToLongWordA( const S : AnsiString; out A : LongWord) : Boolean
7390:  Function TryOctToLongWordW( const S : WideString; out A : LongWord) : Boolean
7391:  Function TryOctToLongWord( const S : String; out A : LongWord) : Boolean
7392:  Function OctToLongWordA( const S : AnsiString) : LongWord
7393:  Function OctToLongWordW( const S : WideString) : LongWord
7394:  Function OctToLongWord( const S : String) : LongWord
7395:  Function TryBinToLongWordA( const S : AnsiString; out A : LongWord) : Boolean
7396:  Function TryBinToLongWordW( const S : WideString; out A : LongWord) : Boolean
7397:  Function TryBinToLongWord( const S : String; out A : LongWord) : Boolean
7398:  Function BinToLongWordA( const S : AnsiString) : LongWord
7399:  Function BinToLongWordW( const S : WideString) : LongWord
7400:  Function BinToLongWord( const S : String) : LongWord
7401:  Function FloatToStringA( const A : Extended) : AnsiString
7402:  Function FloatToStringW( const A : Extended) : WideString
7403:  Function FloatToString( const A : Extended) : String
7404:  Function TryStringToFloatA( const A : AnsiString; out B : Extended) : Boolean
7405:  Function TryStringToFloatW( const A : WideString; out B : Extended) : Boolean
7406:  Function TryStringToFloat( const A : String; out B : Extended) : Boolean
7407:  Function StringToFloatA( const A : AnsiString) : Extended
7408:  Function StringToFloatW( const A : WideString) : Extended
7409:  Function StringToFloat( const A : String) : Extended
7410:  Function StringToFloatDefA( const A : AnsiString; const Default : Extended) : Extended
7411:  Function StringToFloatDefW( const A : WideString; const Default : Extended) : Extended
7412:  Function StringToFloatDef( const A : String; const Default : Extended) : Extended
7413:  Function EncodeBase64(const S,Alphabet:AnsiString; const Pad:Boolean;const PadMultiple:Integer;const
      PadChar: AnsiChar) : AnsiString
7414:  Function DecodeBase64( const S, Alphabet : AnsiString; const PadSet : CharSet) : AnsiString
7415:  unit uPSI_cFundamentUtils;
7416:  Const('b64_MIMEBase64','Str').String('ABCDEFGHIJKLMNOPQRSTUVWXYZabcdefghijklmnopqrstuvwxyz0123456789+/
7417:  Const('b64_UUEncode','String').String('!"#$%&''()*+,-./0123456789:;<=>?@ABCDEFGHIJKLMNOPQRSTUVWXYZ[\]^_';
```

```
7418:  Const('b64_XXEncode','String').String('+-0123456789ABCDEFGHIJKLMNOPQRSTUVWXYZabcdefghijklmnopqrstuvwxyz';
7419:  Const('CCHARSET','Stringb64_XXEncode);
7420:  Const('CHEXSET','String'0123456789ABCDEF
7421:  Const('HEXDIGITS','String'0123456789ABCDEF
7422:  StHexDigits  : array[0..$F] of Char = '0123456789ABCDEF';
7423:  Const('DIGISET','String'0123456789
7424:  Const('LETTERSET','String'ABCDEFGHIJKLMNOPQRSTUVWXYZ'
7425:  Const('DIGISET2','TCharset').SetSet('0123456789'
7426:  Const('LETTERSET2','TCharset').SetSet('ABCDEFGHIJKLMNOPQRSTUVWXYZ'
7427:  Const('HEXSET2','TCharset').SetSET('0123456789ABCDEF');
7428:  Const('NUMBERSET','TCharset').SetSet('0123456789');
7429:  Const('NUMBERS','String'0123456789');
7430:  Const('LETTERS','String'ABCDEFGHIJKLMNOPQRSTUVWXYZ');
7431:  Function CharSetToStr( const C : CharSet) : AnsiString
7432:  Function StrToCharSet( const S : AnsiString) : CharSet
7433:  Function MIMEBase64Decode( const S : AnsiString) : AnsiString
7434:  Function MIMEBase64Encode( const S : AnsiString) : AnsiString
7435:  Function UUDecode( const S : AnsiString) : AnsiString
7436:  Function XXDecode( const S : AnsiString) : AnsiString
7437:  Function BytesToHex( const P : array of Byte; const UpperCase : Boolean) : AnsiString
7438:  Function InterfaceToStrA( const I : IInterface) : AnsiString
7439:  Function InterfaceToStrW( const I : IInterface) : WideString
7440:  Function InterfaceToStr( const I : IInterface) : String
7441:  Function ObjectClassName( const O : TObject) : String
7442:  Function ClassClassName( const C : TClass) : String
7443:  Function ObjectToStr( const O : TObject) : String
7444:  Function ObjectToString( const O : TObject) : String
7445:  Function CharSetToStr( const C : CharSet) : AnsiString
7446:  Function StrToCharSet( const S : AnsiString) : CharSet
7447:  Function HashStrA(const S : AnsiString; const Index : Integer; const Count: Integer;const
      AsciiCaseSensitive : Boolean; const Slots : LongWord) : LongWord
7448:  Function HashStrW(const S:WideString;const Index:Integer;const Count:Integer;const
      AsciiCaseSensitive:Boolean; const Slots:LongWord) : LongWord
7449:  Function HashStr(const S : String; const Index : Integer; const Count : Integer; const AsciiCaseSensitive
      : Boolean; const Slots : LongWord) : LongWord
7450:  Function HashInteger( const I : Integer; const Slots : LongWord) : LongWord
7451:  Function HashLongWord( const I : LongWord; const Slots : LongWord) : LongWord
7452:  Const('Bytes1KB','LongInt'( 1024);
7453:   SIRegister_IInterface(CL);
7454:  Procedure SelfTestCFundamentUtils
7455:
7456: Function CreateSchedule : IJclSchedule
7457: Function NullStamp : TTimeStamp
7458: Function CompareTimeStamps( const Stamp1, Stamp2 : TTimeStamp) : Int64
7459: Function EqualTimeStamps( const Stamp1, Stamp2 : TTimeStamp) : Boolean
7460: Function IsNullTimeStamp( const Stamp : TTimeStamp) : Boolean
7461:
7462: procedure SIRegister_uwinplot(CL: TPSPascalCompiler);
7463: begin
7464:  AddTypeS('TFunc', 'function(X : Float) : Float;
7465: Function InitGraphics( Width, Height : Integer) : Boolean
7466: Procedure SetWindow( Canvas : TCanvas; X1, X2, Y1, Y2 : Integer; GraphBorder : Boolean)
7467: Procedure SetOxScale( Scale : TScale; OxMin, OxMax, OxStep : Float)
7468: Procedure SetOyScale( Scale : TScale; OyMin, OyMax, OyStep : Float)
7469: Procedure GetOxScale( var Scale : TScale; var OxMin, OxMax, OxStep : Float)
7470: Procedure GetOyScale( var Scale : TScale; var OyMin, OyMax, OyStep : Float)
7471: Procedure SetGraphTitle( Title : String)
7472: Procedure SetOxTitle( Title : String)
7473: Procedure SetOyTitle( Title : String)
7474: Function GetGraphTitle : String
7475: Function GetOxTitle : String
7476: Function GetOyTitle : String
7477: Procedure PlotOxAxis( Canvas : TCanvas)
7478: Procedure PlotOyAxis( Canvas : TCanvas)
7479: Procedure PlotGrid( Canvas : TCanvas; Grid : TGrid)
7480: Procedure WriteGraphTitle( Canvas : TCanvas)
7481: Function SetMaxCurv( NCurv : Byte) : Boolean
7482: Procedure SetPointParam( CurvIndex, Symbol, Size : Integer; Color : TColor)
7483: Procedure SetLineParam( CurvIndex : Integer; Style : TPenStyle; Width : Integer; Color : TColor)
7484: Procedure SetCurvLegend( CurvIndex : Integer; Legend : String)
7485: Procedure SetCurvStep( CurvIndex, Step : Integer)
7486: Function GetMaxCurv : Byte
7487: Procedure GetPointParam( CurvIndex : Integer; var Symbol, Size : Integer; var Color : TColor)
7488: Procedure GetLineParam(CurvIndex:Integer;var Style:TPenStyle;var Width:Integer; var Color:TColor);
7489: Function GetCurvLegend( CurvIndex : Integer) : String
7490: Function GetCurvStep( CurvIndex : Integer) : Integer
7491: Procedure PlotPoint( Canvas : TCanvas; X, Y : Float; CurvIndex : Integer)
7492: Procedure PlotCurve( Canvas : TCanvas; X, Y : TVector; Lb, Ub, CurvIndex : Integer)
7493: Procedure PlotCurveWithErrorBars(Canvas : TCanvas; X,Y,S: TVector; Ns,Lb,Ub,CurvIndex:Integer)
7494: Procedure PlotFunc(Canvas: TCanvas; Func: TFunc; Xmin,Xmax: Float; Npt,CurvIndex: Integer)
7495: Procedure WriteLegend( Canvas : TCanvas; NCurv : Integer; ShowPoints, ShowLines : Boolean)
7496: Procedure ConRec( Canvas : TCanvas; Nx, Ny, Nc : Integer; X, Y, Z : TVector; F : TMatrix)
7497: Function Xpixel( X : Float) : Integer
7498: Function Ypixel( Y : Float) : Integer
7499: Function Xuser( X : Integer) : Float
7500: Function Yuser( Y : Integer) : Float
7501: end;
7502:
7503: Procedure FFT( NumSamples : Integer; InArray, OutArray : TCompVector)
```

```
7504: Procedure IFFT( NumSamples : Integer; InArray, OutArray : TCompVector)
7505: Procedure FFT_Integer( NumSamples : Integer; RealIn, ImagIn : TIntVector; OutArray : TCompVector)
7506: Procedure FFT_Integer_Cleanup
7507: Procedure CalcFrequency(NumSamples,FrequencyIndex: Integer;InArray: TCompVector;var FT : Complex)
7508: //unit uPSI_JclStreams;
7509: Function StreamSeek( Stream : TStream; const Offset : Int64; const Origin : TSeekOrigin) : Int64
7510: Function StreamCopy( Source : TStream; Dest : TStream; BufferSize : Integer) : Int64
7511: Function CompareStreams( A, B : TStream; BufferSize : Integer) : Boolean
7512: Function JCompareFiles( const FileA, FileB : TFileName; BufferSize : Integer) : Boolean
7513:
7514: procedure SIRegister_FmxUtils(CL: TPSPascalCompiler);
7515: begin
7516:  FindClass('TOBJECT'),'EInvalidDest
7517:  FindClass('TOBJECT'),'EFCantMove
7518:  Procedure fmxCopyFile( const FileName, DestName : string)
7519:  Procedure fmxMoveFile( const FileName, DestName : string)
7520:  Function fmxGetFileSize( const FileName : string) : LongInt
7521:  Function fmxFileDateTime( const FileName : string) : TDateTime
7522:  Function fmxHasAttr( const FileName : string; Attr : Word) : Boolean
7523:  Function fmxExecuteFile( const FileName, Params, DefaultDir : string; ShowCmd : Integer):THandle;
7524: end;
7525:
7526: procedure SIRegister_FindFileIter(CL: TPSPascalCompiler);
7527: begin
7528:  SIRegister_IFindFileIterator(CL);
7529:  Function CreateFindFile(const Path:string; IncludeAttr:Integer;out iffi:IFindFileIterator):Bool;
7530: end;
7531:
7532: procedure SIRegister_PCharUtils(CL: TPSPascalCompiler);
7533: begin
7534:  Function SkipWhite( cp : PChar) : PChar
7535:  Function ReadStringDoubleQuotedMaybe( cp : PChar; var AStr : string) : PChar
7536:  Function ReadStringSingleQuotedMaybe( cp : PChar; var AStr : string) : PChar
7537:  Function ReadIdent( cp : PChar; var ident : string) : PChar
7538: end;
7539:
7540: procedure SIRegister_JclStrHashMap(CL: TPSPascalCompiler);
7541: begin
7542:   SIRegister_TStringHashMapTraits(CL);
7543:  Function CaseSensitiveTraits : TStringHashMapTraits
7544:  Function CaseInsensitiveTraits : TStringHashMapTraits
7545:   THashNode', 'record Str : string; Ptr : Pointer; Left : PHashNod'
7546:    +'e; Right : PHashNode; end
7547:   //PHashArray', '^THashArray // will not work
7548:   SIRegister_TStringHashMap(CL);
7549:  THashValue', 'Cardinal
7550:  Function StrHash( const s : string) : THashValue
7551:  Function TextHash( const s : string) : THashValue
7552:  Function DataHash( var AValue, ASize : Cardinal) : THashValue
7553:  Function Iterate_FreeObjects( AUserData : Pointer; const AStr : string; var AData : Pointer) : Boolean
7554:  Function Iterate_Dispose( AUserData : Pointer; const AStr : string; var AData : Pointer) : Boolean
7555:  Function Iterate_FreeMem( AUserData : Pointer; const AStr : string; var AData : Pointer) : Boolean
7556:   SIRegister_TCaseSensitiveTraits(CL);
7557:   SIRegister_TCaseInsensitiveTraits(CL);
7558:
7559:
7560: //************************************************************************unit uPSI_umath;
7561:  Function uExpo( X : Float) : Float
7562:  Function uExp2( X : Float) : Float
7563:  Function uExp10( X : Float) : Float
7564:  Function uLog( X : Float) : Float
7565:  Function uLog2( X : Float) : Float
7566:  Function uLog10( X : Float) : Float
7567:  Function uLogA( X, A : Float) : Float
7568:  Function uIntPower( X : Float; N : Integer): Float
7569:  Function uPower( X, Y : Float) : Float
7570:  Function SgnGamma( X : Float) : Integer
7571:  Function Stirling( X : Float) : Float
7572:  Function StirLog( X : Float) : Float
7573:  Function Gamma( X : Float) : Float
7574:  Function LnGamma( X : Float) : Float
7575:  Function DiGamma( X : Float) : Float
7576:  Function TriGamma( X : Float) : Float
7577:  Function IGamma( X : Float) : Float
7578:  Function JGamma( X : Float) : Float
7579:  Function InvGamma( X : Float) : Float
7580:  Function Erf( X : Float) : Float
7581:  Function Erfc( X : Float) : Float
7582: Function Correl(X, Y : TVector; Lb, Ub : Integer) : Float;
7583: { Correlation coefficient between samples X and Y }
7584: function DBeta(A, B, X : Float) : Float;
7585: { Density of Beta distribution with parameters A and B }
7586: Function LambertW( X : Float; UBranch, Offset : Boolean) : Float
7587: Function Beta(X, Y : Float) : Float
7588: Function Binomial( N, K : Integer) : Float
7589: Function PBinom( N : Integer; P : Float; K : Integer) : Float
7590: Procedure Cholesky( A, L : TMatrix; Lb, Ub : Integer)
7591: Procedure LU_Decomp( A : TMatrix; Lb, Ub : Integer)
7592: Procedure LU_Solve( A : TMatrix; B : TVector; Lb, Ub : Integer; X : TVector)
```

```
7593: Function DNorm( X : Float) : Float
7594:
7595: function DGamma(A, B, X : Float) : Float;
7596: { Density of Gamma distribution with parameters A and B }
7597: function DKhi2(Nu : Integer; X : Float) : Float;
7598: { Density of Khi-2 distribution with Nu d.o.f. }
7599: function DStudent(Nu : Integer; X : Float) : Float;
7600: { Density of Student distribution with Nu d.o.f. }
7601: function DSnedecor(Nu1, Nu2 : Integer; X : Float) : Float;
7602: { Density of Fisher-Snedecor distribution with Nu1 and Nu2 d.o.f. }
7603: function IBeta(A, B, X : Float) : Float;
7604: { Incomplete Beta function}
7605: function Correl(X, Y : TVector; Lb, Ub : Integer) : Float;
7606:
7607: procedure SIRegister_unlfit(CL: TPSPascalCompiler);
7608: begin
7609:  Procedure SetOptAlgo( Algo : TOptAlgo)
7610: procedure SetOptAlgo(Algo : TOptAlgo);
7611: { ----------------------------------------------------------------
7612:   Sets the optimization algorithm according to Algo, which must be
7613:   NL_MARQ, NL_SIMP, NL_BFGS, NL_SA, NL_GA. Default is NL_MARQ   }
7614:
7615:  Function GetOptAlgo : TOptAlgo
7616:  Procedure SetMaxParam( N : Byte)
7617:  Function GetMaxParam : Byte
7618:  Procedure SetParamBounds( I : Byte; ParamMin, ParamMax : Float)
7619:  Procedure GetParamBounds( I : Byte; var ParamMin, ParamMax : Float)
7620:  Function NullParam( B : TVector; Lb, Ub : Integer) : Boolean
7621:  Procedure NLFit( RegFunc : TRegFunc; DerivProc : TDerivProc; X, Y : TVector; Lb, Ub : Integer; MaxIter :
     Integer; Tol : Float; B : TVector; FirstPar, LastPar : Integer; V : TMatrix)
7622:  Procedure WNLFit( RegFunc : TRegFunc; DerivProc : TDerivProc; X, Y, S : TVector; Lb, Ub:Integer;
     MaxIter:Integer;Tol : Float; B : TVector; FirstPar, LastPar : Integer; V : TMatrix)
7623:  Procedure SetMCFile( FileName : String)
7624:  Procedure SimFit(RegFunc:TRegFunc;X,Y:TVector;Lb,Ub:Integer;B:TVector;FirstPar,LastPar:Integer;V:TMatrix;
7625:  Procedure WSimFit(RegFunc:TRegFunc; X,Y,S:TVector;Lb,Ub:Integer;B:TVector;FirstPar,
     LastPar:Integer;V:TMatrix);
7626: end;
7627:
7628: (*----------------------------------------------------------------------------*)
7629: procedure SIRegister_usimplex(CL: TPSPascalCompiler);
7630: begin
7631:  Procedure SaveSimplex( FileName : string)
7632:  Procedure Simplex(Func:TFuncNVar; X:TVector;Lb,Ub:Integer; MaxIter:Integer;Tol:Float; var F_min:Float);
7633: end;
7634: (*----------------------------------------------------------------------------*)
7635: procedure SIRegister_uregtest(CL: TPSPascalCompiler);
7636: begin
7637:  Procedure RegTest(Y,Ycalc: TVector;LbY,UbY:Integer;V:TMatrix;LbV,UbV:Integer;var Test:TRegTest)
7638:  Procedure WRegTest(Y,Ycalc,S:TVector;LbY,UbY:Integer;V:TMatrix;LbV,UbV:Integer;var Test:TRegTest);
7639: end;
7640:
7641: procedure SIRegister_ustrings(CL: TPSPascalCompiler);
7642: begin
7643:  Function LTrim( S : String) : String
7644:  Function RTrim( S : String) : String
7645:  Function uTrim( S : String) : String
7646:  Function StrChar( N : Byte; C : Char) : String
7647:  Function RFill( S : String; L : Byte) : String
7648:  Function LFill( S : String; L : Byte) : String
7649:  Function CFill( S : String; L : Byte) : String
7650:  Function Replace( S : String; C1, C2 : Char) : String
7651:  Function Extract( S : String; var Index : Byte; Delim : Char) : String
7652:  Procedure Parse( S : String; Delim : Char; Field : TStrVector; var N : Byte)
7653:  Procedure SetFormat( NumLength, MaxDec : Integer; FloatPoint, NSZero : Boolean)
7654:  Function FloatStr( X : Float) : String
7655:  Function IntStr( N : LongInt) : String
7656:  Function uCompStr( Z : Complex) : String
7657: end;
7658:
7659: procedure SIRegister_uhyper(CL: TPSPascalCompiler);
7660: begin
7661:  Function uSinh( X : Float) : Float
7662:  Function uCosh( X : Float) : Float
7663:  Function uTanh( X : Float) : Float
7664:  Function uArcSinh( X : Float) : Float
7665:  Function uArcCosh( X : Float) : Float
7666:  Function ArcTanh( X : Float) : Float
7667:  Procedure SinhCosh( X : Float; var SinhX, CoshX : Float)
7668: end;
7669:
7670: procedure SIRegister_urandom(CL: TPSPascalCompiler);
7671: begin
7672: type RNG_Type =
7673:   (RNG_MWC,      { Multiply-With-Carry }
7674:    RNG_MT,       { Mersenne Twister }
7675:    RNG_UVAG);    { Universal Virtual Array Generator }
7676:  Procedure SetRNG( RNG : RNG_Type)
7677:  Procedure InitGen( Seed : RNG_IntType)
7678:  Procedure SRand( Seed : RNG_IntType)
```

```
7679:  Function IRanGen : RNG_IntType
7680:  Function IRanGen31 : RNG_IntType
7681:  Function RanGen1 : Float
7682:  Function RanGen2 : Float
7683:  Function RanGen3 : Float
7684:  Function RanGen53 : Float
7685: end;
7686:
7687: //  Optimization by Simulated Annealing
7688: procedure SIRegister_usimann(CL: TPSPascalCompiler);
7689: begin
7690:  Procedure InitSAParams( NT, NS, NCycles : Integer; RT : Float)
7691:  Procedure SA_CreateLogFile( FileName : String)
7692:  Procedure SimAnn(Func: TFuncNVar; X, Xmin, Xmax : TVector; Lb, Ub : Integer; var F_min : Float);
7693: end;
7694:
7695: procedure SIRegister_uranuvag(CL: TPSPascalCompiler);
7696: begin
7697:  Procedure InitUVAGbyString( KeyPhrase : string)
7698:  Procedure InitUVAG( Seed : RNG_IntType)
7699:  Function IRanUVAG : RNG_IntType
7700: end;
7701:
7702: procedure SIRegister_ugenalg(CL: TPSPascalCompiler);
7703: begin
7704:  Procedure InitGAParams( NP, NG : Integer; SR, MR, HR : Float)
7705:  Procedure GA_CreateLogFile( LogFileName : String)
7706:  Procedure GenAlg(Func: TFuncNVar; X, Xmin, Xmax : TVector; Lb, Ub : Integer; var F_min : Float);
7707: end;
7708:
7709:  TVector', 'array of Float
7710: procedure SIRegister_uqsort(CL: TPSPascalCompiler);
7711: begin
7712:  Procedure QSort( X : TVector; Lb, Ub : Integer)
7713:  Procedure DQSort( X : TVector; Lb, Ub : Integer)
7714: end;
7715:
7716: procedure SIRegister_uinterv(CL: TPSPascalCompiler);
7717: begin
7718:  Procedure Interval( X1, X2 : Float; MinDiv, MaxDiv : Integer; var Min, Max, Step : Float)
7719:  Procedure AutoScale(X: TVector; Lb, Ub : Integer; Scale : TScale; var XMin, XMax, XStep:Float)
7720: end;
7721:
7722: procedure SIRegister_D2XXUnit(CL: TPSPascalCompiler);
7723: begin
7724:   FT_Result', 'Integer
7725:   //TDWordptr', '^DWord // will not work
7726:   TFT_Program_Data', 'record Signature1 : DWord; Signature2 : DWor'
7727:    d; Version : DWord; VendorID : Word; ProductID : Word; Manufacturer : PCha'
7728:    r; ManufacturerID : PChar; Description : PChar; SerialNumber : PChar; MaxP'
7729:    ower : Word; PnP : Word; SelfPowered : Word; RemoteWakeup : Word; Rev4 : B'
7730:    yte; IsoIn : Byte; IsoOut : Byte; PullDownEnable : Byte; SerNumEnable : By'
7731:    te; USBVersionEnable : Byte; USBVersion : Word; Rev5 : Byte; IsoInA : Byte'
7732:    ; IsoInB : Byte; IsoOutA : Byte; IsoOutB : Byte; PullDownEnable5 : Byte; S'
7733:    erNumEnable5 : Byte; USBVersionEnable5 : Byte; USBVersion5 : Word; AIsHigh'
7734:    Current : Byte; BIsHighCurrent : Byte; IFAIsFifo : Byte; IFAIsFifoTar : By'
7735:    te; IFAIsFastSer : Byte; AIsVCP : Byte; IFBIsFifo : Byte; IFBIsFifoTar : B'
7736:    yte; IFBIsFastSer : Byte; BIsVCP : Byte; UseExtOsc : Byte; HighDriveIOs : '
7737:    Byte; EndpointSize : Byte; PullDownEnableR : Byte; SerNumEnableR : Byte; I'
7738:    nvertTXD : Byte; InvertRXD : Byte; InvertRTS : Byte; InvertCTS : Byte; Inv'
7739:    ertDTR : Byte; InvertDSR : Byte; InvertDCD : Byte; InvertRI : Byte; Cbus0 '
7740:    : Byte; Cbus1 : Byte; Cbus2 : Byte; Cbus3 : Byte; Cbus4 : Byte; RIsVCP : B'
7741:    yte; end
7742: end;
7743:
7744:
7745: //************************************ PaintFX*****************************
7746: procedure SIRegister_TJvPaintFX(CL: TPSPascalCompiler);
7747: begin
7748:   //with RegClassS(CL,'TComponent', 'TJvPaintFX') do
7749:   with AddClassN(FindClass('TComponent'),'TJvPaintFX') do begin
7750:     Procedure Solarize( const Src : TBitmap; var Dst : TBitmap; Amount : Integer)
7751:     Procedure Posterize( const Src : TBitmap; var Dst : TBitmap; Amount : Integer)
7752:     Procedure Blend( const Src1, Src2 : TBitmap; var Dst : TBitmap; Amount : Single)
7753:     Procedure Blend2( const Src1, Src2 : TBitmap; var Dst : TBitmap; Amount : Single)
7754:     Procedure ExtractColor( const Dst : TBitmap; AColor : TColor)
7755:     Procedure ExcludeColor( const Dst : TBitmap; AColor : TColor)
7756:     Procedure Turn( Src, Dst : TBitmap)
7757:     Procedure TurnRight( Src, Dst : TBitmap)
7758:     Procedure HeightMap( const Dst : TBitmap; Amount : Integer)
7759:     Procedure TexturizeTile( const Dst : TBitmap; Amount : Integer)
7760:     Procedure TexturizeOverlap( const Dst : TBitmap; Amount : Integer)
7761:     Procedure RippleRandom( const Dst : TBitmap; Amount : Integer)
7762:     Procedure RippleTooth( const Dst : TBitmap; Amount : Integer)
7763:     Procedure RippleTriangle( const Dst : TBitmap; Amount : Integer)
7764:     Procedure Triangles( const Dst : TBitmap; Amount : Integer)
7765:     Procedure DrawMandelJulia(const Dst: TBitmap; x0,y0,x1,y1:Single; Niter:Integer; Mandel:Boolean)
7766:     Procedure FilterXBlue( const Dst : TBitmap; Min, Max : Integer)
7767:     Procedure FilterXGreen( const Dst : TBitmap; Min, Max : Integer)
```

```
7768:     Procedure FilterXRed( const Dst : TBitmap; Min, Max : Integer)
7769:     Procedure FilterBlue( const Dst : TBitmap; Min, Max : Integer)
7770:     Procedure FilterGreen( const Dst : TBitmap; Min, Max : Integer)
7771:     Procedure FilterRed( const Dst : TBitmap; Min, Max : Integer)
7772:     Procedure Emboss( var Bmp : TBitmap)
7773:     Procedure Plasma( Src1, Src2, Dst : TBitmap; Scale, Turbulence : Single)
7774:     Procedure Shake( Src, Dst : TBitmap; Factor : Single)
7775:     Procedure ShakeDown( Src, Dst : TBitmap; Factor : Single)
7776:     Procedure KeepBlue( const Dst : TBitmap; Factor : Single)
7777:     Procedure KeepGreen( const Dst : TBitmap; Factor : Single)
7778:     Procedure KeepRed( const Dst : TBitmap; Factor : Single)
7779:     Procedure Mandelbrot( const Dst : TBitmap; Factor : Integer)
7780:     Procedure MaskMandelbrot( const Dst : TBitmap; Factor : Integer)
7781:     Procedure FoldRight( Src1, Src2, Dst : TBitmap; Amount : Single)
7782:     Procedure QuartoOpaque( Src, Dst : TBitmap)
7783:     Procedure SemiOpaque( Src, Dst : TBitmap)
7784:     Procedure ShadowDownLeft( const Dst : TBitmap)
7785:     Procedure ShadowDownRight( const Dst : TBitmap)
7786:     Procedure ShadowUpLeft( const Dst : TBitmap)
7787:     Procedure ShadowUpRight( const Dst : TBitmap)
7788:     Procedure Darkness( const Dst : TBitmap; Amount : Integer)
7789:     Procedure Trace( const Dst : TBitmap; Intensity : Integer)
7790:     Procedure FlipRight( const Dst : TBitmap)
7791:     Procedure FlipDown( const Dst : TBitmap)
7792:     Procedure SpotLight( const Dst : TBitmap; Amount : Integer; Spot : TRect)
7793:     Procedure SplitLight( const Dst : TBitmap; Amount : Integer)
7794:     Procedure MakeSeamlessClip( var Dst : TBitmap; Seam : Integer)
7795:     Procedure Wave( const Dst : TBitmap; Amount, Inference, Style : Integer)
7796:     Procedure Mosaic( const Bm : TBitmap; Size : Integer)
7797:     Procedure SmoothRotate( var Src, Dst : TBitmap; CX, CY : Integer; Angle : Single)
7798:     Procedure SmoothResize( var Src, Dst : TBitmap)
7799:     Procedure Twist( var Bmp, Dst : TBitmap; Amount : Integer)
7800:     Procedure SplitBlur( const Dst : TBitmap; Amount : Integer)
7801:     Procedure GaussianBlur( const Dst : TBitmap; Amount : Integer)
7802:     Procedure Smooth( const Dst : TBitmap; Weight : Integer)
7803:     Procedure GrayScale( const Dst : TBitmap)
7804:     Procedure AddColorNoise( const Dst : TBitmap; Amount : Integer)
7805:     Procedure AddMonoNoise( const Dst : TBitmap; Amount : Integer)
7806:     Procedure Contrast( const Dst : TBitmap; Amount : Integer)
7807:     Procedure Lightness( const Dst : TBitmap; Amount : Integer)
7808:     Procedure Saturation( const Dst : TBitmap; Amount : Integer)
7809:     Procedure Spray( const Dst : TBitmap; Amount : Integer)
7810:     Procedure AntiAlias( const Dst : TBitmap)
7811:     Procedure AntiAliasRect( const Dst : TBitmap; XOrigin, YOrigin, XFinal, YFinal : Integer)
7812:     Procedure SmoothPoint( const Dst : TBitmap; XK, YK : Integer)
7813:     Procedure FishEye( var Bmp, Dst : TBitmap; Amount : Single)
7814:     Procedure Marble( const Src : TBitmap; var Dst : TBitmap; Scale : Single; Turbulence : Integer)
7815:     Procedure Marble2( const Src : TBitmap; var Dst : TBitmap; Scale : Single; Turbulence: Integer)
7816:     Procedure Marble3( const Src : TBitmap; var Dst : TBitmap; Scale : Single; Turbulence: Integer)
7817:     Procedure Marble4( const Src : TBitmap; var Dst : TBitmap; Scale : Single; Turbulence: Integer)
7818:     Procedure Marble5( const Src : TBitmap; var Dst : TBitmap; Scale : Single; Turbulence: Integer)
7819:     Procedure Marble6( const Src : TBitmap; var Dst : TBitmap; Scale : Single; Turbulence: Integer)
7820:     Procedure Marble7( const Src : TBitmap; var Dst : TBitmap; Scale : Single; Turbulence: Integer)
7821:     Procedure Marble8( const Src : TBitmap; var Dst : TBitmap; Scale : Single; Turbulence: Integer)
7822:     Procedure SqueezeHor( Src, Dst : TBitmap; Amount : Integer; Style : TLightBrush)
7823:     Procedure SplitRound( Src, Dst : TBitmap; Amount : Integer; Style : TLightBrush)
7824:     Procedure Tile( Src, Dst : TBitmap; Amount : Integer)
7825:     Procedure Stretch( Src, Dst : TBitmap; Filter : TFilterProc; AWidth : Single)
7826:     Procedure Grow( Src1, Src2, Dst : TBitmap; Amount : Single; X, Y : Integer)
7827:     Procedure Invert( Src : TBitmap)
7828:     Procedure MirrorRight( Src : TBitmap)
7829:     Procedure MirrorDown( Src : TBitmap)
7830:   end;
7831: end;
7832:
7833: (*----------------------------------------------------------------------------*)
7834: procedure SIRegister_JvPaintFX(CL: TPSPascalCompiler);
7835: begin
7836:   AddTypeS('TLightBrush', '( lbBrightness, lbContrast, lbSaturation, lbFishe'
7837:    +'ye, lbrotate, lbtwist, lbrimple, mbHor, mbTop, mbBottom, mbDiamond, mbWast'
7838:    +'e, mbRound, mbRound2, mbSplitRound, mbSplitWaste )
7839:   SIRegister_TJvPaintFX(CL);
7840:  Function SplineFilter( Value : Single) : Single
7841:  Function BellFilter( Value : Single) : Single
7842:  Function TriangleFilter( Value : Single) : Single
7843:  Function BoxFilter( Value : Single) : Single
7844:  Function HermiteFilter( Value : Single) : Single
7845:  Function Lanczos3Filter( Value : Single) : Single
7846:  Function MitchellFilter( Value : Single) : Single
7847: end;
7848:
7849:
7850: (*----------------------------------------------------------------------------*)
7851: procedure SIRegister_Chart(CL: TPSPascalCompiler);
7852: begin
7853:  'TeeMsg_DefaultFunctionName','String 'TeeFunction
7854:  TeeMsg_DefaultSeriesName','String 'Series
7855:  TeeMsg_DefaultToolName','String 'ChartTool
7856:  ChartComponentPalette','String 'TeeChart
```

```
7857:  TeeMaxLegendColumns',LongInt'( 2);
7858:  TeeDefaultLegendSymbolWidth','LongInt'( 20);
7859:  TeeTitleFootDistance,LongInt( 5);
7860:   SIRegister_TCustomChartWall(CL);
7861:   SIRegister_TChartWall(CL);
7862:   SIRegister_TChartLegendGradient(CL);
7863:   TLegendStyle', '( lsAuto, lsSeries, lsValues, lsLastValues, lsSeriesGroups )
7864:   TLegendAlignment', '( laLeft, laRight, laTop, laBottom )
7865:   FindClass('TOBJECT'),'LegendException
7866:   TOnGetLegendText', 'Procedure ( Sender : TCustomAxisPanel; Legen'
7867:    +'dStyle : TLegendStyle; Index : Integer; var LegendText : String)
7868:   FindClass('TOBJECT'),'TCustomChartLegend
7869:   TLegendSymbolSize', '( lcsPercent, lcsPixels )
7870:   TLegendSymbolPosition', '( spLeft, spRight )
7871:   TSymbolDrawEvent','Procedure(Sender:TObject;Series:TChartSeries;ValueIndex:Integer;R:TRect);
7872:   TSymbolCalcHeight', 'Function  : Integer
7873:   SIRegister_TLegendSymbol(CL);
7874:   SIRegister_TTeeCustomShapePosition(CL);
7875:   TCheckBoxesStyle', '( cbsCheck, cbsRadio )
7876:   SIRegister_TLegendTitle(CL);
7877:   SIRegister_TLegendItem(CL);
7878:   SIRegister_TLegendItems(CL);
7879:   TLegendCalcSize', 'Procedure ( Sender : TCustomChartLegend; var ASize : Integer)
7880:   FindClass('TOBJECT'),'TCustomChart
7881:   SIRegister_TCustomChartLegend(CL);
7882:   SIRegister_TChartLegend(CL);
7883:   SIRegister_TChartTitle(CL);
7884:   SIRegister_TChartFootTitle(CL);
7885:   TChartClick', 'Procedure ( Sender : TCustomChart; Button : TMous'
7886:    +'eButton; Shift : TShiftState; X, Y : Integer)
7887:   TChartClickAxis', 'Procedure ( Sender : TCustomChart; Axis : TCh'
7888:    +'artAxis; Button : TMouseButton; Shift : TShiftState; X, Y : Integer)
7889:   TChartClickSeries', 'Procedure ( Sender : TCustomChart; Series :'
7890:    +TChartSeries; ValueIndex : Integer; Button: TMouseButton; Shift:TShiftState;X,Y:Integer)
7891:   TChartClickTitle', 'Procedure ( Sender : TCustomChart; ATitle : '
7892:    +'TChartTitle; Button : TMouseButton; Shift : TShiftState; X, Y : Integer)
7893:   TOnGetLegendPos', 'Procedure (Sender: TCustomChart; Index: Integer; var X,Y,XColor:Integer)
7894:   TOnGetLegendRect', 'Procedure ( Sender : TCustomChart; var Rect : TRect)
7895:   TAxisSavedScales', 'record Auto : Boolean; AutoMin : Boolean; Au'
7896:    +'toMax : Boolean; Min : Double; Max : Double; end
7897:   TAllAxisSavedScales', 'array of TAxisSavedScales
7898:   SIRegister_TChartBackWall(CL);
7899:   SIRegister_TChartRightWall(CL);
7900:   SIRegister_TChartBottomWall(CL);
7901:   SIRegister_TChartLeftWall(CL);
7902:   SIRegister_TChartWalls(CL);
7903:   TChartAllowScrollEvent','Procedure(Sender:TChartAxis;var AMin,AMax:Double;var AllowScroll:Boolean);
7904:   SIRegister_TCustomChart(CL);
7905:   SIRegister_TChart(CL);
7906:   SIRegister_TTeeSeriesTypes(CL);
7907:   SIRegister_TTeeToolTypes(CL);
7908:   SIRegister_TTeeDragObject(CL);
7909:   SIRegister_TColorPalettes(CL);
7910:  Procedure RegisterTeeSeries(ASeriesClass:TChartSeriesClass;ADescription,
      AGalleryPage:PString;ANumGallerySeries:Integer;
7911:  Procedure RegisterTeeSeries1( ASeriesClass : TChartSeriesClass; ADescription : PString);
7912:  Procedure RegisterTeeFunction(AFunctClass:TTeeFunctionClass;ADescription,
      AGalleryPage:PString;ANumGallerySeries: Int;
7913:  Procedure RegisterTeeBasicFunction( AFunctionClass : TTeeFunctionClass; ADescription : PString)
7914:  Procedure RegisterTeeSeriesFunction(ASeriesClass: TChartSeriesClass;AFunctionClass:TTeeFunctionClass;
      ADescription, AGalleryPage : PString; ANumGallerySeries : Integer; ASubIndex : Integer)
7915:  Procedure UnRegisterTeeSeries( const ASeriesList : array of TChartSeriesClass)
7916:  Procedure UnRegisterTeeFunctions( const AFunctionList : array of TTeeFunctionClass)
7917:  Procedure AssignSeries( var OldSeries, NewSeries : TChartSeries)
7918:  Function CreateNewTeeFunction( ASeries : TChartSeries; AClass : TTeeFunctionClass) : TTeeFunction
7919:  Function CreateNewSeries( AOwner : TComponent; AChart : TCustomAxisPanel; AClass : TChartSeriesClass;
      AFunctionClass : TTeeFunctionClass) : TChartSeries
7920:  Function CloneChartSeries( ASeries : TChartSeries) : TChartSeries;
7921:  Function CloneChartSeries1( ASeries : TChartSeries; AChart : TCustomAxisPanel) : TChartSeries;
7922:  Function CloneChartSeries2(ASeries:TChartSeries;AOwner:TComponent;AChart:TCustomAxisPanel):TChartSeries;;
7923:  Function CloneChartTool( ATool : TTeeCustomTool; AOwner : TComponent) : TTeeCustomTool
7924:  Function ChangeSeriesType( var ASeries : TChartSeries; NewType : TChartSeriesClass) : TChartSeries
7925:  Procedure ChangeAllSeriesType( AChart : TCustomChart; AClass : TChartSeriesClass)
7926:  Function GetNewSeriesName( AOwner : TComponent) : TComponentName
7927:  Procedure RegisterTeeTools( const ATools : array of TTeeCustomToolClass)
7928:  Procedure UnRegisterTeeTools( const ATools : array of TTeeCustomToolClass)
7929:  Function GetGallerySeriesName( ASeries : TChartSeries) : String
7930:  Procedure PaintSeriesLegend(ASeries:TChartSeries;ACanvas:TCanvas;const
      R:TRect;ReferenceChart:TCustomChart);
7931:   SIRegister_TChartTheme(CL);
7932:   //TChartThemeClass', 'class of TChartTheme
7933:   //TCanvasClass', 'class of TCanvas3D
7934:  Function SeriesNameOrIndex( ASeries : TCustomChartSeries) : String
7935:  Function SeriesTitleOrName( ASeries : TCustomChartSeries) : String
7936:  Procedure FillSeriesItems( AItems : TStrings; AList : TCustomSeriesList; UseTitles : Boolean)
7937:  Procedure ShowMessageUser( const S : String)
7938:  Function HasNoMandatoryValues( ASeries : TChartSeries) : Boolean
7939:  Function HasLabels( ASeries : TChartSeries) : Boolean
7940:  Function HasColors( ASeries : TChartSeries) : Boolean
```

```
7941:  Function SeriesGuessContents( ASeries : TChartSeries) : TeeFormatFlag
7942:  Procedure TeeDrawBitmapEditor( Canvas : TCanvas; Element : TCustomChartElement; Left, Top : Integer)
7943: end;
7944:
7945:
7946: procedure SIRegister_TeeProcs(CL: TPSPascalCompiler);
7947: begin
7948:  //'TeeFormBorderStyle',' bsNone);
7949:   SIRegister_TMetafile(CL);
7950:  'TeeDefVerticalMargin','LongInt'( 4);
7951:  'TeeDefHorizMargin','LongInt'( 3);
7952:  'crTeeHand','LongInt'( TCursor ( 2020 ));
7953:  'TeeMsg_TeeHand','String 'crTeeHand
7954:  'TeeNormalPrintDetail','LongInt'( 0);
7955:  'TeeHighPrintDetail','LongInt'( - 100);
7956:  'TeeDefault_PrintMargin','LongInt'( 15);
7957:  'MaxDefaultColors','LongInt'( 19);
7958:  'TeeTabDelimiter','Char #9);
7959:   TDateTimeStep', '( dtOneMicroSecond, dtOneMillisecond, dtOneSeco'
7960:    +'nd, dtFiveSeconds, dtTenSeconds, dtFifteenSeconds, dtThirtySeconds, dtOneM'
7961:    +'inute, dtFiveMinutes, dtTenMinutes, dtFifteenMinutes, dtThirtyMinutes, dtO'
7962:    +'neHour, dtTwoHours, dtSixHours, dtTwelveHours, dtOneDay, dtTwoDays, dtThre'
7963:    +'eDays, dtOneWeek, dtHalfMonth, dtOneMonth, dtTwoMonths, dtThreeMonths, dtF'
7964:    +'ourMonths, dtSixMonths, dtOneYear, dtNone )
7965:   SIRegister_TCustomPanelNoCaption(CL);
7966:   FindClass('TOBJECT'),'TCustomTeePanel
7967:   SIRegister_TZoomPanning(CL);
7968:   SIRegister_TTeeEvent(CL);
7969:   //SIRegister_TTeeEventListeners(CL);
7970:   TTeeMouseEventKind', '( meDown, meUp, meMove )
7971:   SIRegister_TTeeMouseEvent(CL);
7972:   SIRegister_TCustomTeePanel(CL);
7973:   //TChartGradient', 'TTeeGradient
7974:   //TChartGradientClass', 'class of TChartGradient
7975:   TPanningMode', '( pmNone, pmHorizontal, pmVertical, pmBoth )
7976:   SIRegister_TTeeZoomPen(CL);
7977:   SIRegister_TTeeZoomBrush(CL);
7978:   TTeeZoomDirection', '( tzdHorizontal, tzdVertical, tzdBoth )
7979:   SIRegister_TTeeZoom(CL);
7980:   FindClass('TOBJECT'),'TCustomTeePanelExtended
7981:   TTeeBackImageMode', '( pbmStretch, pbmTile, pbmCenter, pbmCustom )
7982:   SIRegister_TBackImage(CL);
7983:   SIRegister_TCustomTeePanelExtended(CL);
7984:   //TChartBrushClass', 'class of TChartBrush
7985:   SIRegister_TTeeCustomShapeBrushPen(CL);
7986:   TChartObjectShapeStyle', '( fosRectangle, fosRoundRectangle, fosEllipse )
7987:   TTextFormat', '( ttfNormal, ttfHtml )
7988:   SIRegister_TTeeCustomShape(CL);
7989:   SIRegister_TTeeShape(CL);
7990:   SIRegister_TTeeExportData(CL);
7991:  Function TeeStr( const Num : Integer) : String
7992:  Function DateTimeDefaultFormat( const AStep : Double) : String
7993:  Function TEEDaysInMonth( Year, Month : Word) : Word
7994:  Function FindDateTimeStep( const StepValue : Double) : TDateTimeStep
7995:  Function NextDateTimeStep( const AStep : Double) : Double
7996:  Function PointInLine( const P : TPoint; const px, py, qx, qy : Integer) : Boolean;
7997:  Function PointInLine1( const P, FromPoint, ToPoint : TPoint) : Boolean;
7998:  Function PointInLine2(const P,FromPoint,ToPoint:TPoint;const TolerancePixels:Integer):Boolean;
7999:  Function PointInLine3( const P : TPoint; const px, py, qx, qy, TolerancePixels:Integer):Boolean;
8000:  Function PointInLineTolerance(const P:TPoint;const px,py,qx,qy,TolerancePixels:Integer):Boolean;
8001:  Function PointInPolygon( const P : TPoint; const Poly : array of TPoint) : Boolean
8002:  Function PointInTriangle( const P, P0, P1, P2 : TPoint) : Boolean;
8003:  Function PointInTriangle1( const P : TPoint; X0, X1, Y0, Y1 : Integer) : Boolean;
8004:  Function PointInHorizTriangle( const P : TPoint; Y0, Y1, X0, X1 : Integer) : Boolean
8005:  Function PointInEllipse( const P : TPoint; const Rect : TRect) : Boolean;
8006:  Function PointInEllipse1( const P: TPoint;Left,Top,Right, Bottom : Integer) : Boolean;
8007:  Function DelphiToLocalFormat( const Format : String) : String
8008:  Function LocalToDelphiFormat( const Format : String) : String
8009:  Procedure TEEEnableControls(Enable: Boolean; const ControlArray : array of TControl)
8010:  Function TeeRoundDate(const ADate : TDateTime; AStep : TDateTimeStep) : TDateTime
8011:  Procedure TeeDateTimeIncrement(IsDateTime:Boolean;Increment:Boolean;var Value:Double;const
      AnIncrement:Double; tmpWhichDateTime:TDateTimeStep)
8012:   TTeeSortCompare', 'Function ( a, b : Integer) : Integer
8013:   TTeeSortSwap', 'Procedure ( a, b : Integer)
8014:  Procedure TeeSort(StartIndex,EndIndex:Integer;CompareFunc:TTeeSortCompare;SwapFunc:TTeeSortSwap);
8015:  Function TeeGetUniqueName( AOwner : TComponent; const AStartName : String) : string
8016:  Function TeeExtractField( St : String; Index : Integer) : String;
8017:  Function TeeExtractField1( St : String; Index : Integer; const Separator : String) : String;
8018:  Function TeeNumFields( St : String) : Integer;
8019:  Function TeeNumFields1( const St, Separator : String) : Integer;
8020:  Procedure TeeGetBitmapEditor( AObject : TObject; var Bitmap : TBitmap)
8021:  Procedure TeeLoadBitmap( Bitmap : TBitmap; const Name1, Name2 : String)
8022:  // TColorArray', 'array of TColor
8023:  Function GetDefaultColor( const Index : Integer) : TColor
8024:  Procedure SetDefaultColorPalette;
8025:  Procedure SetDefaultColorPalette1( const Palette : array of TColor);
8026:  'TeeCheckBoxSize','LongInt'( 11);
8027:  Procedure TeeDrawCheckBox(x,y:Integer;Canvas:TCanvas;Checked:Boolean;ABackColor:TColor;CheckBox:Boolean);
8028:  Function TEEStrToFloatDef( const S : string; const Default : Extended) : Extended
```

```
8029:  Function TryStrToFloat( const S : String; var Value : Double) : Boolean
8030:  Function CrossingLines( const X1, Y1, X2, Y2, X3, Y3, X4, Y4 : Double; out x, y : Double) : Boolean
8031:  Procedure TeeTranslateControl( AControl : TControl);
8032:  Procedure TeeTranslateControl1( AControl : TControl; const ExcludeChilds : array of TControl);
8033:  Function ReplaceChar( const AString : String; const Search : Char; const Replace : Char) : String
8034:  //Procedure RectToFourPoints( const ARect : TRect; const Angle : Double; var P : TFourPoints)
8035:  Function TeeAntiAlias( Panel : TCustomTeePanel; ChartRect : Boolean) : TBitmap
8036:  //Procedure DrawBevel(Canvas:TTeeCanvas;Bevel:TPanelBevel;var R:TRect;Width:Integer;Round:Integer);
8037:  //Function ScreenRatio( ACanvas : TCanvas3D) : Double
8038:  Function TeeReadBoolOption( const AKey : String; DefaultValue : Boolean) : Boolean
8039:  Procedure TeeSaveBoolOption( const AKey : String; Value : Boolean)
8040:  Function TeeReadIntegerOption( const AKey : String; DefaultValue : Integer) : Integer
8041:  Procedure TeeSaveIntegerOption( const AKey : String; Value : Integer)
8042:  Function TeeReadStringOption( const AKey, DefaultValue : String) : String
8043:  Procedure TeeSaveStringOption( const AKey, Value : String)
8044:  Function TeeDefaultXMLEncoding : String
8045:  Procedure ConvertTextToXML( Stream : TStream; XMLHeader : Boolean)
8046:   TeeWindowHandle', 'Integer
8047:  Procedure TeeGotoURL( Handle : TeeWindowHandle; const URL : String)
8048:  Procedure HtmlTextOut( ACanvas : TCanvas; x, y : Integer; Text : String)
8049:  Function HtmlTextExtent( ACanvas : TCanvas; const Text : String) : TSize
8050: end;
8051:
8052:
8053: using mXBDEUtils
8054: ********************************************************************************
8055:  Procedure SetAlias( aAlias, aDirectory : String)
8056:  Procedure CheckRegistryEntry(Reg:TRegistry;const Path,Value:String;const Default,
      Desired:Variant;Size:Byte);
8057:  Function GetFileVersionNumber( const FileName : String) : TVersionNo
8058:  Procedure SetBDE( aPath, aNode, aValue : String)
8059:  function RestartDialog(Wnd: HWnd; Reason: PChar; Flags: Integer): Integer; stdcall;
8060:  Function GetSystemDirectory( lpBuffer : string; uSize : UINT) : UINT
8061:  Function GetSystemDirectoryW( lpBuffer : pchar; uSize : UINT) : UINT
8062:  Function GetTempPath( nBufferLength : DWORD; lpBuffer : string) : DWORD
8063:  Function GetWindowsDirectoryW( nBufferLength : DWORD; lpBuffer : string) : DWORD
8064:  Function GetTempFileName(lpPathName,lpPrefixString:string;uUnique:UINT;lpTempFileName:string):UINT;
8065:
8066:
8067: procedure SIRegister_cDateTime(CL: TPSPascalCompiler);
8068: begin
8069: AddClassN(FindClass('TOBJECT'),'EDateTime
8070: Function DatePart( const D : TDateTime) : Integer
8071: Function TimePart( const D : TDateTime) : Double
8072: Function Century( const D : TDateTime) : Word
8073: Function Year( const D : TDateTime) : Word
8074: Function Month( const D : TDateTime) : Word
8075: Function Day( const D : TDateTime) : Word
8076: Function Hour( const D : TDateTime) : Word
8077: Function Minute( const D : TDateTime) : Word
8078: Function Second( const D : TDateTime) : Word
8079: Function Millisecond( const D : TDateTime) : Word
8080: ('OneDay','Extended').setExtended( 1.0);
8081: ('OneHour','Extended').SetExtended( OneDay / 24);
8082: ('OneMinute','Extended').SetExtended( OneHour / 60);
8083: ('OneSecond','Extended').SetExtended( OneMinute / 60);
8084: ('OneMillisecond','Extended').SetExtended( OneSecond / 1000);
8085: ('OneWeek','Extended').SetExtended( OneDay * 7);
8086: ('HoursPerDay','Extended').SetExtended( 24);
8087: ('MinutesPerHour','Extended').SetExtended( 60);
8088: ('SecondsPerMinute','Extended').SetExtended( 60);
8089: Procedure SetYear( var D : TDateTime; const Year : Word)
8090: Procedure SetMonth( var D : TDateTime; const Month : Word)
8091: Procedure SetDay( var D : TDateTime; const Day : Word)
8092: Procedure SetHour( var D : TDateTime; const Hour : Word)
8093: Procedure SetMinute( var D : TDateTime; const Minute : Word)
8094: Procedure SetSecond( var D : TDateTime; const Second : Word)
8095: Procedure SetMillisecond( var D : TDateTime; const Milliseconds : Word)
8096: Function IsEqual( const D1, D2 : TDateTime) : Boolean;
8097: Function IsEqual1( const D1 : TDateTime; const Ye, Mo, Da : Word):Boolean;
8098: Function IsEqual2( const D1 : TDateTime; const Ho, Mi, Se, ms : Word):Boolean;
8099: Function IsAM( const D : TDateTime) : Boolean
8100: Function IsPM( const D : TDateTime) : Boolean
8101: Function IsMidnight( const D : TDateTime) : Boolean
8102: Function IsNoon( const D : TDateTime) : Boolean
8103: Function IsSunday( const D : TDateTime) : Boolean
8104: Function IsMonday( const D : TDateTime) : Boolean
8105: Function IsTuesday( const D : TDateTime) : Boolean
8106: Function IsWedneday( const D : TDateTime) : Boolean
8107: Function IsThursday( const D : TDateTime) : Boolean
8108: Function IsFriday( const D : TDateTime) : Boolean
8109: Function IsSaturday( const D : TDateTime) : Boolean
8110: Function IsWeekend( const D : TDateTime) : Boolean
8111: Function Noon( const D : TDateTime) : TDateTime
8112: Function Midnight( const D : TDateTime) : TDateTime
8113: Function FirstDayOfMonth( const D : TDateTime) : TDateTime
8114: Function LastDayOfMonth( const D : TDateTime) : TDateTime
8115: Function NextWorkday( const D : TDateTime) : TDateTime
8116: Function PreviousWorkday( const D : TDateTime) : TDateTime
```

```
8117: Function FirstDayOfYear( const D : TDateTime) : TDateTime
8118: Function LastDayOfYear( const D : TDateTime) : TDateTime
8119: Function EasterSunday( const Year : Word) : TDateTime
8120: Function GoodFriday( const Year : Word) : TDateTime
8121: Function AddMilliseconds( const D : TDateTime; const N : Int64) : TDateTime
8122: Function AddSeconds( const D : TDateTime; const N : Int64) : TDateTime
8123: Function AddMinutes( const D : TDateTime; const N : Integer) : TDateTime
8124: Function AddHours( const D : TDateTime; const N : Integer) : TDateTime
8125: Function AddDays( const D : TDateTime; const N : Integer) : TDateTime
8126: Function AddWeeks( const D : TDateTime; const N : Integer) : TDateTime
8127: Function AddMonths( const D : TDateTime; const N : Integer) : TDateTime
8128: Function AddYears( const D : TDateTime; const N : Integer) : TDateTime
8129: Function DayOfYear( const Ye, Mo, Da : Word) : Integer
8130: Function DayOfYear( const D : TDateTime) : Integer
8131: Function DaysInMonth( const Ye, Mo : Word) : Integer
8132: Function DaysInMonth( const D : TDateTime) : Integer
8133: Function DaysInYear( const Ye : Word) : Integer
8134: Function DaysInYearDate( const D : TDateTime) : Integer
8135: Function WeekNumber( const D : TDateTime) : Integer
8136: Function ISOFirstWeekOfYear( const Ye : Word) : TDateTime
8137: Procedure ISOWeekNumber( const D : TDateTime; var WeekNumber, WeekYear : Word)
8138: Function DiffMilliseconds( const D1, D2 : TDateTime) : Int64
8139: Function DiffSeconds( const D1, D2 : TDateTime) : Integer
8140: Function DiffMinutes( const D1, D2 : TDateTime) : Integer
8141: Function DiffHours( const D1, D2 : TDateTime) : Integer
8142: Function DiffDays( const D1, D2 : TDateTime) : Integer
8143: Function DiffWeeks( const D1, D2 : TDateTime) : Integer
8144: Function DiffMonths( const D1, D2 : TDateTime) : Integer
8145: Function DiffYears( const D1, D2 : TDateTime) : Integer
8146: Function GMTBias : Integer
8147: Function GMTTimeToLocalTime( const D : TDateTime) : TDateTime
8148: Function LocalTimeToGMTTime( const D : TDateTime) : TDateTime
8149: Function NowAsGMTTime : TDateTime
8150: Function DateTimeToISO8601String( const D : TDateTime) : AnsiString
8151: Function ISO8601StringToTime( const D : AnsiString) : TDateTime
8152: Function ISO8601StringAsDateTime( const D : AnsiString) : TDateTime
8153: Function DateTimeToANSI( const D : TDateTime) : Integer
8154: Function ANSIToDateTime( const Julian : Integer) : TDateTime
8155: Function DateTimeToISOInteger( const D : TDateTime) : Integer
8156: Function DateTimeToISOString( const D : TDateTime) : AnsiString
8157: Function ISOIntegerToDateTime( const ISOInteger : Integer) : TDateTime
8158: Function TwoDigitRadix2000YearToYear( const Y : Integer) : Integer
8159: Function DateTimeAsElapsedTime(const D:TDateTime; const IncludeMilliseconds:Boolean):AnsiString
8160: Function UnixTimeToDateTime( const UnixTime : LongWord) : TDateTime
8161: Function DateTimeToUnixTime( const D : TDateTime) : LongWord
8162: Function EnglishShortDayOfWeekStrA( const DayOfWeek : Integer) : AnsiString
8163: Function EnglishShortDayOfWeekStrU( const DayOfWeek : Integer) : UnicodeString
8164: Function EnglishLongDayOfWeekStrA( const DayOfWeek : Integer) : AnsiString
8165: Function EnglishLongDayOfWeekStrU( const DayOfWeek : Integer) : UnicodeString
8166: Function EnglishShortMonthStrA( const Month : Integer) : AnsiString
8167: Function EnglishShortMonthStrU( const Month : Integer) : UnicodeString
8168: Function EnglishLongMonthStrA( const Month : Integer) : AnsiString
8169: Function EnglishLongMonthStrU( const Month : Integer) : UnicodeString
8170: Function EnglishShortDayOfWeekA( const S : AnsiString) : Integer
8171: Function EnglishShortDayOfWeekU( const S : UnicodeString) : Integer
8172: Function EnglishLongDayOfWeekA( const S : AnsiString) : Integer
8173: Function EnglishLongDayOfWeekU( const S : UnicodeString) : Integer
8174: Function EnglishShortMonthA( const S : AnsiString) : Integer
8175: Function EnglishShortMonthU( const S : UnicodeString) : Integer
8176: Function EnglishLongMonthA( const S : AnsiString) : Integer
8177: Function EnglishLongMonthU( const S : UnicodeString) : Integer
8178: Function RFC850DayOfWeekA( const S : AnsiString) : Integer
8179: Function RFC850DayOfWeekU( const S : UnicodeString) : Integer
8180: Function RFC1123DayOfWeekA( const S : AnsiString) : Integer
8181: Function RFC1123DayOfWeekU( const S : UnicodeString) : Integer
8182: Function RFCMonthA( const S : AnsiString) : Word
8183: Function RFCMonthU( const S : UnicodeString) : Word
8184: Function GMTTimeToRFC1123TimeA( const D : TDateTime; const IncludeSeconds:Boolean) : AnsiString
8185: Function GMTTimeToRFC1123TimeU( const D : TDateTime; const IncludeSeconds:Boolean) : UnicodeString
8186: Function GMTDateTimeToRFC1123DateTimeA(const D: TDateTime; const IncludeDayOfWeek:Bool):AnsiString;
8187: Function GMTDateTimeToRFC1123DateTimeU(const D:TDateTime;const IncludeDayOfWeek:Bool):UnicodeString;
8188: Function DateTimeToRFCDateTimeA( const D : TDateTime) : AnsiString
8189: Function DateTimeToRFCDateTimeU( const D : TDateTime) : UnicodeString
8190: Function NowAsRFCDateTimeA : AnsiString
8191: Function NowAsRFCDateTimeU : UnicodeString
8192: Function RFCDateTimeToGMTDateTime( const S : AnsiString) : TDateTime
8193: Function RFCDateTimeToDateTime( const S : AnsiString) : TDateTime
8194: Function RFCTimeZoneToGMTBias( const Zone : AnsiString) : Integer
8195: Function TimePeriodStr( const D : TDateTime) : AnsiString
8196: Procedure SelfTest
8197: end;
8198: //****************************************CFileUtils
8199: Function PathHasDriveLetterA( const Path : AnsiString) : Boolean
8200: Function PathHasDriveLetter( const Path : String) : Boolean
8201: Function PathIsDriveLetterA( const Path : AnsiString) : Boolean
8202: Function PathIsDriveLetter( const Path : String) : Boolean
8203: Function PathIsDriveRootA( const Path : AnsiString) : Boolean
8204: Function PathIsDriveRoot( const Path : String) : Boolean
8205: Function PathIsRootA( const Path : AnsiString) : Boolean
```

```
8206: Function PathIsRoot( const Path : String) : Boolean
8207: Function PathIsUNCPathA( const Path : AnsiString) : Boolean
8208: Function PathIsUNCPath( const Path : String) : Boolean
8209: Function PathIsAbsoluteA( const Path : AnsiString) : Boolean
8210: Function PathIsAbsolute( const Path : String) : Boolean
8211: Function PathIsDirectoryA( const Path : AnsiString) : Boolean
8212: Function PathIsDirectory( const Path : String) : Boolean
8213: Function PathInclSuffixA( const Path : AnsiString; const PathSep : Char) : AnsiString
8214: Function PathInclSuffix( const Path : String; const PathSep : Char) : String
8215: Function PathExclSuffixA( const Path : AnsiString; const PathSep : Char) : AnsiString
8216: Function PathExclSuffix( const Path : String; const PathSep : Char) : String
8217: Procedure PathEnsureSuffixA( var Path : AnsiString; const PathSep : Char)
8218: Procedure PathEnsureSuffix( var Path : String; const PathSep : Char)
8219: Procedure PathEnsureNoSuffixA( var Path : AnsiString; const PathSep : Char)
8220: Procedure PathEnsureNoSuffix( var Path : String; const PathSep : Char)
8221: //Function PathCanonicalA( const Path : AnsiString; const PathSep : Char) : AnsiString
8222: Function PathCanonical( const Path : String; const PathSep : Char) : String
8223: Function PathExpandA(const Path:AnsiString;const BasePath:AnsiString;const PathSep:Char):AnsiString
8224: Function PathExpand( const Path : String; const BasePath : String; const PathSep : Char) : String
8225: Function PathLeftElementA( const Path : AnsiString; const PathSep : Char) : AnsiString
8226: Function PathLeftElement( const Path : String; const PathSep : Char) : String
8227: Procedure PathSplitLeftElementA(const Path:AString;var LeftElement,RightPath:AString;const PathSep:Char);
8228: Procedure PathSplitLeftElement(const Path:String; var LeftElement,RightPath: String;const PathSep:Char);
8229: Procedure DecodeFilePathA(const FilePath:AnsiString; var Path,FileName:AnsiString;const PathSep:Char;
8230: Procedure DecodeFilePath( const FilePath : String; var Path, FileName : String; const PathSep : Char)
8231: Function FileNameValidA( const FileName : AnsiString) : AnsiString
8232: Function FileNameValid( const FileName : String) : String
8233: Function FilePathA(const FileName,Path:AnsiString;const BasePath:AnsiStr;const PathSep:Char):AnsiString;
8234: Function FilePath(const FileName, Path: String;const BasePath: String;const PathSep : Char) : String
8235: Function DirectoryExpandA(const Path:AnsiString;const BasePath:AnsiString;const PathSep:Char):AnsiString
8236: Function DirectoryExpand(const Path: String; const BasePath: String; const PathSep : Char) : String
8237: Function UnixPathToWinPath( const Path : AnsiString) : AnsiString
8238: Function WinPathToUnixPath( const Path : AnsiString) : AnsiString
8239: Procedure CCopyFile( const FileName, DestName : String)
8240: Procedure CMoveFile( const FileName, DestName : String)
8241: Function CDeleteFiles( const FileMask : String) : Boolean
8242: Function FileSeekEx(const FHandle:TFileHandle;const FileOffset:Int64; const FilePos:TFileSeekPos):Int64;
8243: Procedure FileCloseEx( const FileHandle : TFileHandle)
8244: Function FileExistsA( const FileName : AnsiString) : Boolean
8245:  Function CFileExists( const FileName : String) : Boolean
8246:  Function CFileGetSize( const FileName : String) : Int64
8247: Function FileGetDateTime( const FileName : String) : TDateTime
8248: Function FileGetDateTime2( const FileName : String) : TDateTime
8249: Function FileIsReadOnly( const FileName : String) : Boolean
8250: Procedure FileDeleteEx( const FileName : String)
8251: Procedure FileRenameEx( const OldFileName, NewFileName : String)
8252: Function ReadFileStrA( const FileName:AnsiString; const FileSharing : TFileSharing; const FileCreationMode
      : TFileCreationMode; const FileOpenWait : PFileOpenWait) : AnsiString
8253: Function DirectoryEntryExists( const Name : String) : Boolean
8254: Function DirectoryEntrySize( const Name : String) : Int64
8255:  Function CDirectoryExists( const DirectoryName : String) : Boolean
8256: Function DirectoryGetDateTime( const DirectoryName : String) : TDateTime
8257: Procedure CDirectoryCreate( const DirectoryName : String)
8258: Function GetFirstFileNameMatching( const FileMask : String) : String
8259: Function DirEntryGetAttr( const FileName : AnsiString) : Integer
8260: Function DirEntryIsDirectory( const FileName : AnsiString) : Boolean
8261: Function FileHasAttr( const FileName : String; const Attr : Word) : Boolean
8262:   AddTypeS('TLogicalDriveType', '( DriveRemovable, DriveFixed, DriveRemote, '
8263:    +'DriveCDRom, DriveRamDisk, DriveTypeUnknown )
8264: Function DriveIsValid( const Drive : Char) : Boolean
8265: Function DriveGetType( const Path : AnsiString) : TLogicalDriveType
8266: Function DriveFreeSpace( const Path : AnsiString) : Int64
8267:
8268: procedure SIRegister_cTimers(CL: TPSPascalCompiler);
8269: begin
8270:  AddClassN(FindClass('TOBJECT'),'ETimers
8271:  Const('TickFrequency','LongInt'( 1000);Function GetTick : LongWord
8272: Function TickDelta( const D1, D2 : LongWord) : Integer
8273: Function TickDeltaW( const D1, D2 : LongWord) : LongWord
8274:   AddTypeS('THPTimer', 'Int64
8275: Procedure StartTimer( var Timer : THPTimer)
8276: Procedure StopTimer( var Timer : THPTimer)
8277: Procedure ResumeTimer( var StoppedTimer : THPTimer)
8278: Procedure InitStoppedTimer( var Timer : THPTimer)
8279: Procedure InitElapsedTimer( var Timer : THPTimer; const Milliseconds : Integer)
8280: Function MillisecondsElapsed( const Timer: THPTimer; const TimerRunning : Boolean) : Integer
8281: Function MicrosecondsElapsed( const Timer: THPTimer; const TimerRunning : Boolean) : Int64
8282: Procedure WaitMicroseconds( const MicroSeconds : Integer)
8283: Function GetHighPrecisionFrequency : Int64
8284: Function GetHighPrecisionTimerOverhead : Int64
8285: Procedure AdjustTimerForOverhead( var StoppedTimer : THPTimer; const Overhead : Int64)
8286: Procedure SelfTestCTimer
8287: end;
8288:
8289: procedure SIRegister_cRandom(CL: TPSPascalCompiler);
8290: begin
8291:  Function RandomSeed : LongWord
8292:  Procedure AddEntropy( const Value : LongWord)
8293:  Function RandomUniform : LongWord;
```

```
8294:  Function RandomUniform1( const N : Integer) : Integer;
8295:  Function RandomBoolean : Boolean
8296:  Function RandomByte : Byte
8297:  Function RandomByteNonZero : Byte
8298:  Function RandomWord : Word
8299:  Function RandomInt64 : Int64;
8300:  Function RandomInt641( const N : Int64) : Int64;
8301:  Function RandomHex( const Digits : Integer) : String
8302:  Function RandomFloat : Extended
8303:  Function RandomAlphaStr( const Length : Integer) : AnsiString
8304:  Function RandomPseudoWord( const Length : Integer) : AnsiString
8305:  Function RandomPassword(const MinL,MaxLength:Int;const CaseSens,UseSymbols,UseNumbers:Bool):AnsiString;
8306:  Function mwcRandomLongWord : LongWord
8307:  Function urnRandomLongWord : LongWord
8308:  Function moaRandomFloat : Extended
8309:  Function mwcRandomFloat : Extended
8310:  Function RandomNormalF : Extended
8311:  Procedure SelfTestCRandom
8312: end;
8313:
8314: procedure SIRegister_SynEditMiscProcs(CL: TPSPascalCompiler);
8315: begin
8316:  // PIntArray', '^TIntArray // will not work
8317:  Addtypes('TConvertTabsProc','function(const Line:AnsiString; TabWidth: integer):AnsiString
8318:  TConvertTabsProcEx,function(const Line:AnsiString;TabWidth:integer;var HasTabs:boolean):AnsiString
8319:  Function synMax( x, y : integer) : integer
8320:  Function synMin( x, y : integer) : integer
8321:  Function synMinMax( x, mi, ma : integer) : integer
8322:  Procedure synSwapInt( var l, r : integer)
8323:  Function synMaxPoint( const P1, P2 : TPoint) : TPoint
8324:  Function synMinPoint( const P1, P2 : TPoint) : TPoint
8325:  //Function synGetIntArray( Count : Cardinal; InitialValue : integer) : PIntArray
8326:  Procedure synInternalFillRect( dc : HDC; const rcPaint : TRect)
8327:  Function synGetBestConvertTabsProc( TabWidth : integer) : TConvertTabsProc
8328:  Function synConvertTabs( const Line : AnsiString; TabWidth : integer) : AnsiString
8329:  Function synGetBestConvertTabsProcEx( TabWidth : integer) : TConvertTabsProcEx
8330:  Function synConvertTabsEx(const Line:AnsiString;TabWidth:integer; var HasTabs:boolean):AnsiString;
8331:  Function synGetExpandedLength( const aStr : string; aTabWidth : integer) : integer
8332:  Function synCharIndex2CaretPos( Index, TabWidth : integer; const Line : string) : integer
8333:  Function synCaretPos2CharIndex(Position,TabWidth:int;const Line:string;var InsideTabChar:boolean):int;
8334:  Function synStrScanForCharInSet(const Line:string;Start:integer;AChars:TSynIdentChars):integer;
8335:  Function synStrRScanForCharInSet(const Line:string;Start:integer;AChars:TSynIdentChars):integer;
8336:   TStringType', '( stNone, stHalfNumAlpha, stHalfSymbol, stHalfKat'
8337:    +'akana,stWideNumAlpha,stWideSymbol,stWideKatakana,stHiragana,stIdeograph,stControl,stKashida )
8338:  ('C3_NONSPACING','LongInt'( 1);
8339:  'C3_DIACRITIC','LongInt'( 2);
8340:  'C3_VOWELMARK','LongInt'( 4);
8341:  ('C3_SYMBOL','LongInt'( 8);
8342:  ('C3_KATAKANA','LongWord( $0010);
8343:  ('C3_HIRAGANA','LongWord( $0020);
8344:  ('C3_HALFWIDTH','LongWord( $0040);
8345:  ('C3_FULLWIDTH','LongWord( $0080);
8346:  ('C3_IDEOGRAPH','LongWord( $0100);
8347:  ('C3_KASHIDA','LongWord( $0200);
8348:  ('C3_LEXICAL','LongWord( $0400);
8349:  ('C3_ALPHA','LongWord( $8000);
8350:  ('C3_NOTAPPLICABLE','LongInt'( 0);
8351:  Function synStrScanForMultiByteChar( const Line : string; Start : Integer) : Integer
8352:  Function synStrRScanForMultiByteChar( const Line : string; Start : Integer) : Integer
8353:  Function synIsStringType( Value : Word) : TStringType
8354:  Function synGetEOL( Line : PChar) : PChar
8355:  Function synEncodeString( s : string) : string
8356:  Function synDecodeString( s : string) : string
8357:  Procedure synFreeAndNil( var Obj: TObject)
8358:  Procedure synAssert( Expr : Boolean)
8359:  Function synLastDelimiter( const Delimiters, S : string) : Integer
8360:   TReplaceFlag', '( rfReplaceAll, rfIgnoreCase )
8361:   TReplaceFlags', 'set of TReplaceFlag )
8362:  Function synStringReplace(const S, OldPattern, NewPattern : string; Flags: TReplaceFlags) : string
8363:  Function synGetRValue( RGBValue : TColor) : byte
8364:  Function synGetGValue( RGBValue : TColor) : byte
8365:  Function synGetBValue( RGBValue : TColor) : byte
8366:  Function synRGB( r, g, b : Byte) : Cardinal
8367: //  THighlighterAttriProc', 'Function ( Highlighter : TSynCustomHigh'
8368:   // +'lighter; Attri:TSynHighlighterAttributes;UniqueAttriName:string;Params array of Pointer):Boolean;
8369:  //Function synEnumHighlighterAttris( Highlighter : TSynCustomHighlighter; SkipDuplicates : Boolean;
      HighlighterAttriProc : THighlighterAttriProc; Params : array of Pointer) : Boolean
8370:  Function synCalcFCS( const ABuf, ABufSize : Cardinal) : Word
8371:  Procedure synSynDrawGradient(const ACanvas:TCanvas;const AStartColor,
      AEndColor:TColor;ASteps:integer;const ARect : TRect; const AHorizontal : boolean)
8372: end;
8373:
8374:  Function GET_APPCOMMAND_LPARAM( lParam : LPARAM) : WORD
8375:  Function GET_DEVICE_LPARAM( lParam : LPARAM) : WORD
8376:  Function GET_KEYSTATE_LPARAM( lParam : LPARAM) : WORD
8377:
8378: procedure SIRegister_synautil(CL: TPSPascalCompiler);
8379: begin
8380:  Function STimeZoneBias : integer
```

```
8381:  Function TimeZone : string
8382:  Function Rfc822DateTime( t : TDateTime) : string
8383:  Function CDateTime( t : TDateTime) : string
8384:  Function SimpleDateTime( t : TDateTime) : string
8385:  Function AnsiCDateTime( t : TDateTime) : string
8386:  Function GetMonthNumber( Value : String) : integer
8387:  Function GetTimeFromStr( Value : string) : TDateTime
8388:  Function GetDateMDYFromStr( Value : string) : TDateTime
8389:  Function DecodeRfcDateTime( Value : string) : TDateTime
8390:  Function GetUTTime : TDateTime
8391:  Function SetUTTime( Newdt : TDateTime) : Boolean
8392:  Function SGetTick : LongWord
8393:  Function STickDelta( TickOld, TickNew : LongWord) : LongWord
8394:  Function CodeInt( Value : Word) : Ansistring
8395:  Function DecodeInt( const Value : Ansistring; Index : Integer) : Word
8396:  Function CodeLongInt( Value : LongInt) : Ansistring
8397:  Function DecodeLongInt( const Value : Ansistring; Index : Integer) : LongInt
8398:  Function DumpStr( const Buffer : Ansistring) : string
8399:  Function DumpExStr( const Buffer : Ansistring) : string
8400:  Procedure Dump( const Buffer : AnsiString; DumpFile : string)
8401:  Procedure DumpEx( const Buffer : AnsiString; DumpFile : string)
8402:  Function TrimSPLeft( const S : string) : string
8403:  Function TrimSPRight( const S : string) : string
8404:  Function TrimSP( const S : string) : string
8405:  Function SeparateLeft( const Value, Delimiter : string) : string
8406:  Function SeparateRight( const Value, Delimiter : string) : string
8407:  Function SGetParameter( const Value, Parameter : string) : string
8408:  Procedure ParseParametersEx( Value, Delimiter : string; const Parameters : TStrings)
8409:  Procedure ParseParameters( Value : string; const Parameters : TStrings)
8410:  Function IndexByBegin( Value : string; const List : TStrings) : integer
8411:  Function GetEmailAddr( const Value : string) : string
8412:  Function GetEmailDesc( Value : string) : string
8413:  Function CStrToHex( const Value : Ansistring) : string
8414:  Function CIntToBin( Value : Integer; Digits : Byte) : string
8415:  Function CBinToInt( const Value : string) : Integer
8416:  Function ParseURL( URL : string; var Prot, User, Pass, Host, Port, Path, Para:string):string
8417:  Function CReplaceString( Value, Search, Replace : AnsiString) : AnsiString
8418:  Function CRPosEx( const Sub, Value : string; From : integer) : Integer
8419:  Function CRPos( const Sub, Value : String) : Integer
8420:  Function FetchBin( var Value : string; const Delimiter : string) : string
8421:  Function CFetch( var Value : string; const Delimiter : string) : string
8422:  Function FetchEx( var Value : string; const Delimiter, Quotation : string) : string
8423:  Function IsBinaryString( const Value : AnsiString) : Boolean
8424:  Function PosCRLF( const Value : AnsiString; var Terminator : AnsiString) : integer
8425:  Procedure StringsTrim( const value : TStrings)
8426:  Function PosFrom( const SubStr, Value : String; From : integer) : integer
8427:  Function IncPoint( const p : ___pointer; Value : integer) : ___pointer
8428:  Function GetBetween( const PairBegin, PairEnd, Value : string) : string
8429:  Function CCountOfChar( const Value : string; aChr : char) : integer
8430:  Function UnquoteStr( const Value : string; Quote : Char) : string
8431:  Function QuoteStr( const Value : string; Quote : Char) : string
8432:  Procedure HeadersToList( const Value : TStrings)
8433:  Procedure ListToHeaders( const Value : TStrings)
8434:  Function SwapBytes( Value : integer) : integer
8435:  Function ReadStrFromStream( const Stream : TStream; len : integer) : AnsiString
8436:  Procedure WriteStrToStream( const Stream : TStream; Value : AnsiString)
8437:  Function GetTempFile( const Dir, prefix : AnsiString) : AnsiString
8438:  Function CPadString( const Value : AnsiString; len : integer; Pad : AnsiChar): AnsiString
8439:  Function CXorString( Indata1, Indata2 : AnsiString) : AnsiString
8440:  Function NormalizeHeader( Value : TStrings; var Index : Integer) : string
8441: end;
8442:
8443: procedure SIRegister_StCRC(CL: TPSPascalCompiler);
8444: begin
8445:  ('CrcBufSize','LongInt'( 2048);
8446:  Function Adler32Prim( var Data, DataSize : Cardinal; CurCrc : LongInt) : LongInt
8447:  Function Adler32OfStream( Stream : TStream; CurCrc : LongInt) : LongInt
8448:  Function Adler32OfFile( FileName : AnsiString) : LongInt
8449:  Function Crc16Prim( var Data, DataSize, CurCrc : Cardinal) : Cardinal
8450:  Function Crc16OfStream( Stream : TStream; CurCrc : Cardinal) : Cardinal
8451:  Function Crc16OfFile( FileName : AnsiString) : Cardinal
8452:  Function Crc32Prim( var Data, DataSize : Cardinal; CurCrc : LongInt) : LongInt
8453:  Function Crc32OfStream( Stream : TStream; CurCrc : LongInt) : LongInt
8454:  Function Crc32OfFile( FileName : AnsiString) : LongInt
8455:  Function InternetSumPrim( var Data, DataSize, CurCrc : Cardinal) : Cardinal
8456:  Function InternetSumOfStream( Stream : TStream; CurCrc : Cardinal) : Cardinal
8457:  Function InternetSumOfFile( FileName : AnsiString) : Cardinal
8458:  Function Kermit16Prim( var Data, DataSize, CurCrc : Cardinal) : Cardinal
8459:  Function Kermit16OfStream( Stream : TStream; CurCrc : Cardinal) : Cardinal
8460:  Function Kermit16OfFile( FileName : AnsiString) : Cardinal
8461: end;
8462:
8463: procedure SIRegister_ComObj(cl: TPSPascalCompiler);
8464: begin
8465:  function CreateOleObject(const ClassName: String): IDispatch;
8466:  function GetActiveOleObject(const ClassName: String): IDispatch;
8467:  function ProgIDToClassID(const ProgID: string): TGUID;
8468:  function ClassIDToProgID(const ClassID: TGUID): string;
8469:  function CreateClassID: string;
```

```
8470:  function CreateGUIDString: string;
8471:  function CreateGUIDID: string;
8472:  procedure OleError(ErrorCode: longint)
8473:  procedure OleCheck(Result: HResult);
8474: end;
8475:
8476:  Function xCreateOleObject( const ClassName : string) : Variant //or IDispatch
8477:  Function xGetActiveOleObject( const ClassName : string) : Variant
8478:  //Function DllGetClassObject( const CLSID : TCLSID; const IID : TIID; var Obj) : HResult
8479:  Function DllCanUnloadNow : HResult
8480:  Function DllRegisterServer : HResult
8481:  Function DllUnregisterServer : HResult
8482:  Function VarFromInterface( Unknown : IUnknown) : Variant
8483:  Function VarToInterface( const V : Variant) : IDispatch
8484:  Function VarToAutoObject( const V : Variant) : TAutoObject
8485:  //Procedure
      DispInvoke(Dispatch:IDispatch;CallDesc:PCallDesc;DispIDs:PDispIDList;Params:Pointer;Res:PVariant);
8486:  //Procedure DispInvokeError( Status : HResult; const ExcepInfo : TExcepInfo)
8487:  Procedure OleError( ErrorCode : HResult)
8488:  Procedure OleCheck( Result : HResult)
8489:  Function StringToClassID( const S : string) : TCLSID
8490:  Function ClassIDToString( const ClassID : TCLSID) : string
8491:  Function xProgIDToClassID( const ProgID : string) : TCLSID
8492:  Function xClassIDToProgID( const ClassID : TCLSID) : string
8493:  Function xWideCompareStr( const S1, S2 : WideString) : Integer
8494:  Function xWideSameStr( const S1, S2 : WideString) : Boolean
8495:  Function xGUIDToString( const ClassID : TGUID) : string
8496:  Function xStringToGUID( const S : string) : TGUID
8497:  Function xGetModuleName( Module : HMODULE) : string
8498:  Function xAcquireExceptionObject : TObject
8499:  Function xIfThen( AValue : Boolean; const ATrue : Integer; const AFalse : Integer) : Integer
8500:  Function xUtf8Encode( const WS : WideString) : UTF8String
8501:  Function xUtf8Decode( const S : UTF8String) : WideString
8502:  Function xExcludeTrailingPathDelimiter( const S : string) : string
8503:  Function xIncludeTrailingPathDelimiter( const S : string) : string
8504:  Function XRTLHandleCOMException : HResult
8505:  Procedure XRTLCheckArgument( Flag : Boolean)
8506:  //Procedure XRTLCheckOutArgument( out Arg)
8507:  Procedure XRTLInterfaceConnect(const Source:IUnknown;const IID:TIID;const Sink:IUnknown;var
      Connection:Longint);
8508:  Procedure XRTLInterfaceDisconnect(const Source: IUnknown; const IID:TIID;var Connection : Longint)
8509:  Function XRTLRegisterActiveObject(const Unk:IUnknown;ClassID:TCLSID;Flags:DWORD;var
      RegisterCookie:Int):HResult
8510:  Function XRTLUnRegisterActiveObject( var RegisterCookie : Integer) : HResult
8511:  //Function XRTLGetActiveObject( ClassID : TCLSID; RIID : TIID; out Obj) : HResult
8512:  Procedure XRTLEnumActiveObjects( Strings : TStrings)
8513: function   XRTLDefaultCategoryManager: IUnknown;
8514: function   XRTLIsCategoryEmpty(CatID: TGUID; const CategoryManager: IUnknown = nil): Boolean;
8515: // ICatRegister helper functions
8516: function   XRTLCreateComponentCategory(CatID: TGUID; CatDescription: WideString;
8517:                                        LocaleID: TLCID = LOCALE_USER_DEFAULT;
8518:                                        const CategoryManager: IUnknown = nil): HResult;
8519: function   XRTLRemoveComponentCategory(CatID: TGUID; CatDescription: WideString;
8520:                                        LocaleID: TLCID = LOCALE_USER_DEFAULT;
8521:                                        const CategoryManager: IUnknown = nil): HResult;
8522: function   XRTLRegisterCLSIDInCategory(ClassID: TGUID; CatID: TGUID;
8523:                                        const CategoryManager: IUnknown = nil): HResult;
8524: function   XRTLUnRegisterCLSIDInCategory(ClassID: TGUID; CatID: TGUID;
8525:                                          const CategoryManager: IUnknown = nil): HResult;
8526: // ICatInformation helper functions
8527: function   XRTLGetCategoryDescription(CatID: TGUID; var CatDescription: WideString;
8528:                                       LocaleID: TLCID = LOCALE_USER_DEFAULT;
8529:                                       const CategoryManager: IUnknown = nil): HResult;
8530: function   XRTLGetCategoryList(Strings: TStrings; LocaleID: TLCID = LOCALE_USER_DEFAULT;
8531:                                const CategoryManager: IUnknown = nil): HResult;
8532: function   XRTLGetCategoryCLSIDList(CatID: TGUID; Strings: TStrings;
8533:                                     const CategoryManager: IUnknown = nil): HResult;
8534: function   XRTLGetCategoryProgIDList(CatID: TGUID; Strings: TStrings;
8535:                                       const CategoryManager: IUnknown = nil): HResult;
8536: function XRTLFetch(var AInput: WideString; const ADelim: WideString = ' ';
8537:                    const ADelete: Boolean = True): WideString;
8538: function XRTLRPos(const ASub, AIn: WideString; AStart: Integer = -1): Integer;
8539: Function XRTLGetVariantAsString( const Value : Variant) : string
8540: Function XRTLDateTimeToTimeZoneTime( DT : TDateTime; TimeZone : TXRTLTimeZone) : TDateTime
8541: Function XRTLGetTimeZones : TXRTLTimeZones
8542: Function XFileTimeToDateTime( FileTime : TFileTime) : TDateTime
8543: Function DateTimeToFileTime( DateTime : TDateTime) : TFileTime
8544: Function GMTNow : TDateTime
8545: Function GMTToLocalTime( GMT : TDateTime) : TDateTime
8546: Function LocalTimeToGMT( LocalTime : TDateTime) : TDateTime
8547: Procedure XRTLNotImplemented
8548: Procedure XRTLRaiseError( E : Exception)
8549: Procedure XRTLRaise( E : Exception)');
8550: Procedure XRaise( E : Exception)');
8551: Procedure XRTLInvalidOperation( ClassName:string; OperationName:string; Description: string)
8552:
8553:
8554: procedure SIRegister_xrtl_util_Value(CL: TPSPascalCompiler);
8555: begin
```

```
8556:   SIRegister_IXRTLValue(CL);
8557:   SIRegister_TXRTLValue(CL);
8558:   //AddTypeS('PXRTLValueArray', '^TXRTLValueArray // will not work
8559:   AddTypeS('TXRTLValueArray', 'array of IXRTLValue
8560: Function XRTLValue( const AValue : Cardinal) : IXRTLValue;
8561: Function XRTLSetValue( const IValue : IXRTLValue; const AValue : Cardinal) : Cardinal;
8562: Function XRTLGetAsCardinal( const IValue : IXRTLValue) : Cardinal
8563: Function XRTLGetAsCardinalDef( const IValue : IXRTLValue; const DefValue : Cardinal) : Cardinal
8564: Function XRTLValue1( const AValue : Integer) : IXRTLValue;
8565: Function XRTLSetValue1( const IValue : IXRTLValue; const AValue : Integer) : Integer;
8566: Function XRTLGetAsInteger( const IValue : IXRTLValue) : Integer
8567: Function XRTLGetAsIntegerDef( const IValue : IXRTLValue; const DefValue : Integer) : Integer
8568: Function XRTLValue2( const AValue : Int64) : IXRTLValue;
8569: Function XRTLSetValue2( const IValue : IXRTLValue; const AValue : Int64) : Int64;
8570: Function XRTLGetAsInt64( const IValue : IXRTLValue) : Int64
8571: Function XRTLGetAsInt64Def( const IValue : IXRTLValue; const DefValue : Int64) : Int64
8572: Function XRTLValue3( const AValue : Single) : IXRTLValue;
8573: Function XRTLSetValue3( const IValue : IXRTLValue; const AValue : Single) : Single;
8574: Function XRTLGetAsSingle( const IValue : IXRTLValue) : Single
8575: Function XRTLGetAsSingleDef( const IValue : IXRTLValue; const DefValue : Single) : Single
8576: Function XRTLValue4( const AValue : Double) : IXRTLValue;
8577: Function XRTLSetValue4( const IValue : IXRTLValue; const AValue : Double) : Double;
8578: Function XRTLGetAsDouble( const IValue : IXRTLValue) : Double
8579: Function XRTLGetAsDoubleDef( const IValue : IXRTLValue; const DefValue : Double) : Double
8580: Function XRTLValue5( const AValue : Extended) : IXRTLValue;
8581: Function XRTLSetValue5( const IValue : IXRTLValue; const AValue : Extended) : Extended;
8582: Function XRTLGetAsExtended( const IValue : IXRTLValue) : Extended
8583: Function XRTLGetAsExtendedDef( const IValue : IXRTLValue; const DefValue : Extended) : Extended
8584: Function XRTLValue6( const AValue : IInterface) : IXRTLValue;
8585: Function XRTLSetValue6( const IValue : IXRTLValue; const AValue : IInterface) : IInterface;
8586: Function XRTLGetAsInterface( const IValue : IXRTLValue) : IInterface;
8587:  //Function XRTLGetAsInterface1( const IValue : IXRTLValue; out Obj) : IInterface;
8588: Function XRTLGetAsInterfaceDef( const IValue : IXRTLValue; const DefValue : IInterface) : IInterface;
8589: Function XRTLValue7( const AValue : WideString) : IXRTLValue;
8590: Function XRTLSetValue7( const IValue : IXRTLValue; const AValue : WideString) : WideString;
8591: Function XRTLGetAsWideString( const IValue : IXRTLValue) : WideString
8592: Function XRTLGetAsWideStringDef( const IValue : IXRTLValue; const DefValue : WideString) : WideString
8593: Function XRTLValue8( const AValue : TObject; const AOwnValue : Boolean) : IXRTLValue;
8594: Function XRTLSetValue8( const IValue : IXRTLValue; const AValue : TObject) : TObject;
8595: Function XRTLGetAsObject( const IValue : IXRTLValue; const ADetachOwnership : Boolean) : TObject;
8596: Function XRTLGetAsObjectDef(const IValue:IXRTLValue;const DefValue:TObject;const
     ADetachOwnership:Boolean):TObject;
8597: //Function XRTLValue9( const AValue : __Pointer) : IXRTLValue;
8598: //Function XRTLSetValue9( const IValue : IXRTLValue; const AValue : __Pointer) : __Pointer;
8599: //Function XRTLGetAsPointer( const IValue : IXRTLValue) : __Pointer
8600: //Function XRTLGetAsPointerDef( const IValue : IXRTLValue; const DefValue : __Pointer) : __Pointer
8601: Function XRTLValueV( const AValue : Variant) : IXRTLValue;
8602: Function XRTLSetValueV( const IValue : IXRTLValue; const AValue : Variant) : Variant;
8603: Function XRTLGetAsVariant( const IValue : IXRTLValue) : Variant
8604: Function XRTLGetAsVariantDef( const IValue : IXRTLValue; const DefValue : Variant) : Variant
8605: Function XRTLValue10( const AValue : Currency) : IXRTLValue;
8606: Function XRTLSetValue10( const IValue : IXRTLValue; const AValue : Currency) : Currency;
8607: Function XRTLGetAsCurrency( const IValue : IXRTLValue) : Currency
8608: Function XRTLGetAsCurrencyDef( const IValue : IXRTLValue; const DefValue : Currency) : Currency
8609: Function XRTLValue11( const AValue : Comp) : IXRTLValue;
8610: Function XRTLSetValue11( const IValue : IXRTLValue; const AValue : Comp) : Comp;
8611: Function XRTLGetAsComp( const IValue : IXRTLValue) : Comp
8612: Function XRTLGetAsCompDef( const IValue : IXRTLValue; const DefValue : Comp) : Comp
8613: Function XRTLValue12( const AValue : TClass) : IXRTLValue;
8614: Function XRTLSetValue12( const IValue : IXRTLValue; const AValue : TClass) : TClass;
8615: Function XRTLGetAsClass( const IValue : IXRTLValue) : TClass
8616: Function XRTLGetAsClassDef( const IValue : IXRTLValue; const DefValue : TClass) : TClass
8617: Function XRTLValue13( const AValue : TGUID) : IXRTLValue;
8618: Function XRTLSetValue13( const IValue : IXRTLValue; const AValue : TGUID) : TGUID;
8619: Function XRTLGetAsGUID( const IValue : IXRTLValue) : TGUID
8620: Function XRTLGetAsGUIDDef( const IValue : IXRTLValue; const DefValue : TGUID) : TGUID
8621: Function XRTLValue14( const AValue : Boolean) : IXRTLValue;
8622: Function XRTLSetValue14( const IValue : IXRTLValue; const AValue : Boolean) : Boolean;
8623: Function XRTLGetAsBoolean( const IValue : IXRTLValue) : Boolean
8624: Function XRTLGetAsBooleanDef( const IValue : IXRTLValue; const DefValue : Boolean) : Boolean
8625: end;
8626:
8627: //****************************unit uPSI_GR32;****************************************
8628:
8629:  Function Color32( WinColor : TColor) : TColor32;
8630:  Function Color321( R, G, B : Byte; A : Byte) : TColor32;
8631:  Function Color322( Index : Byte; var Palette : TPalette32) : TColor32;
8632:  Function Gray32( Intensity : Byte; Alpha : Byte) : TColor32
8633:  Function WinColor( Color32 : TColor32) : TColor
8634:  Function ArrayOfColor32( Colors : array of TColor32) : TArrayOfColor32
8635:  Procedure Color32ToRGB( Color32 : TColor32; var R, G, B : Byte)
8636:  Procedure Color32ToRGBA( Color32 : TColor32; var R, G, B, A : Byte)
8637:  Function Color32Components( R, G, B, A : Boolean) : TColor32Components
8638:  Function RedComponent( Color32 : TColor32) : Integer
8639:  Function GreenComponent( Color32 : TColor32) : Integer
8640:  Function BlueComponent( Color32 : TColor32) : Integer
8641:  Function AlphaComponent( Color32 : TColor32) : Integer
8642:  Function Intensity( Color32 : TColor32) : Integer
8643:  Function SetAlpha( Color32 : TColor32; NewAlpha : Integer) : TColor32
```

```
8644:  Function HSLtoRGB( H, S, L : Single) : TColor32;
8645:  Procedure RGBtoHSL( RGB : TColor32; out H, S, L : Single);
8646:  Function HSLtoRGB1( H, S, L : Integer) : TColor32;
8647:  Procedure RGBtoHSL1( RGB : TColor32; out H, S, L : Byte);
8648:  Function WinPalette( const P : TPalette32) : HPALETTE
8649:  Function FloatPoint( X, Y : Single) : TFloatPoint;
8650:  Function FloatPoint1( const P : TPoint) : TFloatPoint;
8651:  Function FloatPoint2( const FXP : TFixedPoint) : TFloatPoint;
8652:  Function FixedPoint( X, Y : Integer) : TFixedPoint;
8653:  Function FixedPoint1( X, Y : Single) : TFixedPoint;
8654:  Function FixedPoint2( const P : TPoint) : TFixedPoint;
8655:  Function FixedPoint3( const FP : TFloatPoint) : TFixedPoint;
8656:   AddTypeS('TRectRounding', '( rrClosest, rrOutside, rrInside )
8657:  Function MakeRect( const L, T, R, B : Integer) : TRect;
8658:  Function MakeRect1( const FR : TFloatRect; Rounding : TRectRounding) : TRect;
8659:  Function MakeRect2( const FXR : TRect; Rounding : TRectRounding) : TRect;
8660:  Function GFixedRect( const L, T, R, B : TFixed) : TRect;
8661:  Function FixedRect1( const ARect : TRect) : TRect;
8662:  Function FixedRect2( const FR : TFloatRect) : TRect;
8663:  Function GFloatRect( const L, T, R, B : TFloat) : TFloatRect;
8664:  Function FloatRect1( const ARect : TRect) : TFloatRect;
8665:  Function FloatRect2( const FXR : TRect) : TFloatRect;
8666:  Function GIntersectRect( out Dst : TRect; const R1, R2 : TRect) : Boolean;
8667:  Function IntersectRect1( out Dst : TFloatRect; const FR1, FR2 : TFloatRect) : Boolean;
8668:  Function GUnionRect( out Rect : TRect; const R1, R2 : TRect) : Boolean;
8669:  Function UnionRect1( out Rect : TFloatRect; const R1, R2 : TFloatRect) : Boolean;
8670:  Function GEqualRect( const R1, R2 : TRect) : Boolean;
8671:  Function EqualRect1( const R1, R2 : TFloatRect) : Boolean;
8672:  Procedure GInflateRect( var R : TRect; Dx, Dy : Integer);
8673:  Procedure InflateRect1( var FR : TFloatRect; Dx, Dy : TFloat);
8674:  Procedure GOffsetRect( var R : TRect; Dx, Dy : Integer);
8675:  Procedure OffsetRect1( var FR : TFloatRect; Dx, Dy : TFloat);
8676:  Function IsRectEmpty( const R : TRect) : Boolean;
8677:  Function IsRectEmpty1( const FR : TFloatRect) : Boolean;
8678:  Function GPtInRect( const R : TRect; const P : TPoint) : Boolean;
8679:  Function PtInRect1( const R : TFloatRect; const P : TPoint) : Boolean;
8680:  Function PtInRect2( const R : TRect; const P : TFloatPoint) : Boolean;
8681:  Function PtInRect3( const R : TFloatRect; const P : TFloatPoint) : Boolean;
8682:  Function EqualRectSize( const R1, R2 : TRect) : Boolean;
8683:  Function EqualRectSize1( const R1, R2 : TFloatRect) : Boolean;
8684:  Function MessageBeep( uType : UINT) : BOOL
8685:  Function ShowCursor( bShow : BOOL) : Integer
8686:  Function SetCursorPos( X, Y : Integer) : BOOL
8687:  Function SetCursor( hCursor : HICON) : HCURSOR
8688:  Function GetCursorPos( var lpPoint : TPoint) : BOOL
8689:  //Function ClipCursor( lpRect : PRect) : BOOL
8690:  Function GetClipCursor( var lpRect : TRect) : BOOL
8691:  Function GetCursor : HCURSOR
8692:  Function CreateCaret( hWnd : HWND; hBitmap : HBITMAP; nWidth, nHeight : Integer) : BOOL
8693:  Function GetCaretBlinkTime : UINT
8694:  Function SetCaretBlinkTime( uMSeconds : UINT) : BOOL
8695:  Function DestroyCaret : BOOL
8696:  Function HideCaret( hWnd : HWND) : BOOL
8697:  Function ShowCaret( hWnd : HWND) : BOOL
8698:  Function SetCaretPos( X, Y : Integer) : BOOL
8699:  Function GetCaretPos( var lpPoint : TPoint) : BOOL
8700:  Function ClientToScreen( hWnd : HWND; var lpPoint : TPoint) : BOOL
8701:  Function ScreenToClient( hWnd : HWND; var lpPoint : TPoint) : BOOL
8702:  Function MapWindowPoints(hWndFrom,hWndTo:HWND; var lpPoints, cPoints : UINT) : Integer
8703:  Function WindowFromPoint( Point : TPoint) : HWND
8704:  Function ChildWindowFromPoint( hWndParent : HWND; Point : TPoint) : HWND
8705:
8706:
8707: procedure SIRegister_GR32_Math(CL: TPSPascalCompiler);
8708: begin
8709:  Function FixedFloor( A : TFixed) : Integer
8710:  Function FixedCeil( A : TFixed) : Integer
8711:  Function FixedMul( A, B : TFixed) : TFixed
8712:  Function FixedDiv( A, B : TFixed) : TFixed
8713:  Function OneOver( Value : TFixed) : TFixed
8714:  Function FixedRound( A : TFixed) : Integer
8715:  Function FixedSqr( Value : TFixed) : TFixed
8716:  Function FixedSqrtLP( Value : TFixed) : TFixed
8717:  Function FixedSqrtHP( Value : TFixed) : TFixed
8718:  Function FixedCombine( W, X, Y : TFixed) : TFixed
8719:  Procedure GRSinCos( const Theta : TFloat; out Sin, Cos : TFloat);
8720:  Procedure GRSinCos1( const Theta, Radius : Single; out Sin, Cos : Single);
8721:  Function GRHypot( const X, Y : TFloat) : TFloat;
8722:  Function Hypot1( const X, Y : Integer) : Integer;
8723:  Function FastSqrt( const Value : TFloat) : TFloat
8724:  Function FastSqrtBab1( const Value : TFloat) : TFloat
8725:  Function FastSqrtBab2( const Value : TFloat) : TFloat
8726:  Function FastInvSqrt( const Value : Single) : Single;
8727:  Function MulDiv( Multiplicand, Multiplier, Divisor : Integer) : Integer
8728:  Function GRIsPowerOf2( Value : Integer) : Boolean
8729:  Function PrevPowerOf2( Value : Integer) : Integer
8730:  Function NextPowerOf2( Value : Integer) : Integer
8731:  Function Average( A, B : Integer) : Integer
8732:  Function GRSign( Value : Integer) : Integer
```

```
8733:  Function FloatMod( x, y : Double) : Double
8734: end;
8735:
8736: procedure SIRegister_GR32_LowLevel(CL: TPSPascalCompiler);
8737: begin
8738:  Function Clamp( const Value : Integer) : Integer;
8739:  Procedure GRFillWord( var X, Count : Cardinal; Value : Longword)
8740:  Function StackAlloc( Size : Integer) : Pointer
8741:  Procedure StackFree( P : Pointer)
8742:  Procedure Swap( var A, B : Pointer);
8743:  Procedure Swap1( var A, B : Integer);
8744:  Procedure Swap2( var A, B : TFixed);
8745:  Procedure Swap3( var A, B : TColor32);
8746:  Procedure TestSwap( var A, B : Integer);
8747:  Procedure TestSwap1( var A, B : TFixed);
8748:  Function TestClip( var A, B : Integer; const Size : Integer) : Boolean;
8749:  Function TestClip1( var A, B : Integer; const Start, Stop : Integer) : Boolean;
8750:  Function GRConstrain( const Value, Lo, Hi : Integer) : Integer;
8751:  Function Constrain1( const Value, Lo, Hi : Single) : Single;
8752:  Function SwapConstrain( const Value:Integer; Constrain1,Constrain2:Integer) : Integer
8753:  Function GRMin( const A, B, C : Integer) : Integer;
8754:  Function GRMax( const A, B, C : Integer) : Integer;
8755:  Function Clamp( Value, Max : Integer) : Integer;
8756:  Function Clamp1( Value, Min, Max : Integer) : Integer;
8757:  Function Wrap( Value, Max : Integer) : Integer;
8758:  Function Wrap1( Value, Min, Max : Integer) : Integer;
8759:  Function Wrap3( Value, Max : Single) : Single;;
8760:  Function WrapPow2( Value, Max : Integer) : Integer;
8761:  Function WrapPow21( Value, Min, Max : Integer) : Integer;
8762:  Function Mirror( Value, Max : Integer) : Integer;
8763:  Function Mirror1( Value, Min, Max : Integer) : Integer;
8764:  Function MirrorPow2( Value, Max : Integer) : Integer;
8765:  Function MirrorPow21( Value, Min, Max : Integer) : Integer;
8766:  Function GetOptimalWrap( Max : Integer) : TWrapProc;
8767:  Function GetOptimalWrap1( Min, Max : Integer) : TWrapProcEx;
8768:  Function GetOptimalMirror( Max : Integer) : TWrapProc;
8769:  Function GetOptimalMirror1( Min, Max : Integer) : TWrapProcEx;
8770:  Function GetWrapProc( WrapMode : TWrapMode) : TWrapProc;
8771:  Function GetWrapProc1( WrapMode : TWrapMode; Max : Integer) : TWrapProc;
8772:  Function GetWrapProcEx( WrapMode : TWrapMode) : TWrapProcEx;
8773:  Function GetWrapProcEx1( WrapMode : TWrapMode; Min, Max : Integer):TWrapProcEx;
8774:  Function Div255( Value : Cardinal) : Cardinal
8775:  Function SAR_4( Value : Integer) : Integer
8776:  Function SAR_8( Value : Integer) : Integer
8777:  Function SAR_9( Value : Integer) : Integer
8778:  Function SAR_11( Value : Integer) : Integer
8779:  Function SAR_12( Value : Integer) : Integer
8780:  Function SAR_13( Value : Integer) : Integer
8781:  Function SAR_14( Value : Integer) : Integer
8782:  Function SAR_15( Value : Integer) : Integer
8783:  Function SAR_16( Value : Integer) : Integer
8784:  Function ColorSwap( WinColor : TColor) : TColor32
8785: end;
8786:
8787: procedure SIRegister_GR32_Filters(CL: TPSPascalCompiler);
8788: begin
8789:  AddTypeS('TLogicalOperator', '( loXOR, loAND, loOR )
8790:  Procedure CopyComponents( Dst, Src : TCustomBitmap32; Components : TColor32Components);
8791:  Procedure CopyComponents1(Dst:TCustBmap32;DstX,
      DstY:Int;Src:TCustomBmap32;SrcRect:TRect;Components:TColor32Comp;
8792:  Procedure AlphaToGrayscale( Dst, Src : TCustomBitmap32)
8793:  Procedure ColorToGrayscale( Dst, Src : TCustomBitmap32; PreserveAlpha : Boolean)
8794:  Procedure IntensityToAlpha( Dst, Src : TCustomBitmap32)
8795:  Procedure Invert( Dst, Src : TCustomBitmap32; Components : TColor32Components)
8796:  Procedure InvertRGB( Dst, Src : TCustomBitmap32)
8797:  Procedure ApplyLUT( Dst, Src : TCustomBitmap32; const LUT : TLUT8; PreserveAlpha : Boolean)
8798:  Procedure ChromaKey( ABitmap : TCustomBitmap32; TrColor : TColor32)
8799:  Function CreateBitmask( Components : TColor32Components) : TColor32
8800:  Procedure ApplyBitmask(Dst: TCustomBitmap32; DstX,DstY:Integer; Src:TCustomBitmap32; SrcRect : TRect;
      Bitmask : TColor32; LogicalOperator : TLogicalOperator);
8801:  Procedure
      ApplyBitmask1(ABitmap:TCustomBitmap32;ARect:TRect;Bitmask:TColor32;LogicalOperator:TLogicalOperator);
8802:  Procedure CheckParams( Dst, Src : TCustomBitmap32; ResizeDst : Boolean)
8803: end;
8804:
8805:
8806: procedure SIRegister_JclNTFS(CL: TPSPascalCompiler);
8807: begin
8808:   AddClassN(FindClass('TOBJECT'),'EJclNtfsError
8809:   AddTypeS('TFileCompressionState', '( fcNoCompression, fcDefaultCompression, fcLZNT1Compression )
8810:  Function NtfsGetCompression( const FileName : string; var State : Short) : Boolean;
8811:  Function NtfsGetCompression1( const FileName : string) : TFileCompressionState;
8812:  Function NtfsSetCompression( const FileName : string; const State : Short) : Boolean
8813:  Procedure NtfsSetFileCompression( const FileName : string; const State : TFileCompressionState)
8814:  Procedure NtfsSetDirectoryTreeCompression(const Directory: string; const State : TFileCompressionState)
8815:  Procedure NtfsSetDefaultFileCompression(const Directory: string; const State:TFileCompressionState)
8816:  Procedure NtfsSetPathCompression(const Path:string;const State:TFileCompressionState;Recursive:Boolean;
8817:   //AddTypeS('TNtfsAllocRanges', 'record Entries : Integer; Data : PFileAlloca'
8818:    //+'tedRangeBuffer; MoreData : Boolean; end
```

```
8819:  Function NtfsSetSparse( const FileName : string) : Boolean
8820:  Function NtfsZeroDataByHandle( const Handle : THandle; const First, Last : Int64) : Boolean
8821:  Function NtfsZeroDataByName( const FileName : string; const First, Last : Int64) : Boolean
8822:  //Function NtfsQueryAllocRanges(const FileName:string;Offset,Count:Int64;var
       Ranges:TNtfsAllocRanges):Boolean;
8823:  //Function NtfsGetAllocRangeEntry( const Ranges : TNtfsAllocRanges;
       Index:Integer):TFileAllocatedRangeBuffer
8824:  Function NtfsSparseStreamsSupported( const Volume : string) : Boolean
8825:  Function NtfsGetSparse( const FileName : string) : Boolean
8826:  Function NtfsDeleteReparsePoint( const FileName : string; ReparseTag : DWORD) : Boolean
8827:  Function NtfsSetReparsePoint( const FileName : string; var ReparseData, Size : Longword) : Boolean
8828:  //Function NtfsGetReparsePoint(const FileName:string; var ReparseData:TReparseGuidDataBuffer):Boolean
8829:  Function NtfsGetReparseTag( const Path : string; var Tag : DWORD) : Boolean
8830:  Function NtfsReparsePointsSupported( const Volume : string) : Boolean
8831:  Function NtfsFileHasReparsePoint( const Path : string) : Boolean
8832:  Function NtfsIsFolderMountPoint( const Path : string) : Boolean
8833:  Function NtfsMountDeviceAsDrive( const Device : string; Drive : Char) : Boolean
8834:  Function NtfsMountVolume( const Volume : Char; const MountPoint : string) : Boolean
8835:   AddTypeS('TOpLock', '( olExclusive, olReadOnly, olBatch, olFilter )
8836:  Function NtfsOpLockAckClosePending( Handle : THandle; Overlapped : TOverlapped) : Boolean
8837:  Function NtfsOpLockBreakAckNo2( Handle : THandle; Overlapped : TOverlapped) : Boolean
8838:  Function NtfsOpLockBreakAcknowledge( Handle : THandle; Overlapped : TOverlapped) : Boolean
8839:  Function NtfsOpLockBreakNotify( Handle : THandle; Overlapped : TOverlapped) : Boolean
8840:  Function NtfsRequestOpLock( Handle : THandle; Kind : TOpLock; Overlapped : TOverlapped) : Boolean
8841:  Function NtfsCreateJunctionPoint( const Source, Destination : string) : Boolean
8842:  Function NtfsDeleteJunctionPoint( const Source : string) : Boolean
8843:  Function NtfsGetJunctionPointDestination( const Source : string; var Destination : string) : Boolean
8844:   AddTypeS('TStreamId', '( siInvalid, siStandard, siExtendedAttribute, siSec'
8845:    +'urity, siAlternate, siHardLink, siProperty, siObjectIdentifier, siReparsePoints, siSparseFile )
8846:   AddTypeS('TStreamIds', 'set of TStreamId
8847:   AddTypeS('TInternalFindStreamData', 'record FileHandle : THandle; Context '
8848:    +': ___Pointer; StreamIds : TStreamIds; end
8849:   AddTypeS('TFindStreamData', 'record internal : TInternalFindStreamData; At'
8850:    +'tributes : DWORD; StreamID : TStreamId; Name : WideString; Size : Int64; end
8851:  Function NtfsFindFirstStream(const FileName:string;StreamIds:TStreamIds;var Data:TFindStreamData):Boolean;
8852:  Function NtfsFindNextStream( var Data : TFindStreamData) : Boolean
8853:  Function NtfsFindStreamClose( var Data : TFindStreamData) : Boolean
8854:  Function NtfsCreateHardLink( const LinkFileName, ExistingFileName : string) : Boolean
8855:   AddTypeS('TNtfsHardLinkInfo', 'record LinkCount : Cardinal; FileIndex : Int64; end
8856:  Function NtfsGetHardLinkInfo( const FileName : string; var Info : TNtfsHardLinkInfo) : Boolean
8857:  Function NtfsFindHardLinks(const Path:string;const FileIndexHigh,FileIndexLow:Cardinal;const
       List:TStrings):Bool;
8858:  Function NtfsDeleteHardLinks( const FileName : string) : Boolean
8859:  Function JclAppInstances : TJclAppInstances;
8860:  Function JclAppInstances1( const UniqueAppIdGuidStr : string) : TJclAppInstances;
8861:  Function ReadMessageCheck( var Message: TMessage;const IgnoredOriginatorWnd: HWND) : TJclAppInstDataKind
8862:  Procedure ReadMessageData( const Message : TMessage; var Data : ___Pointer; var Size : Integer)
8863:  Procedure ReadMessageString( const Message : TMessage; var S : string)
8864:  Procedure ReadMessageStrings( const Message : TMessage; const Strings : TStrings)
8865:
8866:
8867: (*----------------------------------------------------------------------------*)
8868: procedure SIRegister_JclGraphics(CL: TPSPascalCompiler);
8869: begin
8870:   FindClass('TOBJECT'),'EJclGraphicsError
8871:   TDynDynIntegerArrayArray', 'array of TDynIntegerArray
8872:   TDynPointArray', 'array of TPoint
8873:   TDynDynPointArrayArray', 'array of TDynPointArray
8874:   TPointF', 'record X : Single; Y : Single; end
8875:   TDynPointArrayF', 'array of TPointF
8876:   TDrawMode2', '( dmOpaque, dmBlend )
8877:   TStretchFilter2', '( sfNearest, sfLinear, sfSpline )
8878:   TConversionKind', '( ckRed, ckGreen, ckBlue, ckAlpha, ckUniformRGB, ckWeightedRGB )
8879:   TResamplingFilter', '( rfBox, rfTriangle, rfHermite, rfBell, rfSpline, rfLanczos3, rfMitchell )
8880:   TMatrix3d', 'record array[0..2,0..2] of extended end
8881:   TDynDynPointArrayArrayF', 'array of TDynPointArrayF
8882:   TScanLine', 'array of Integer
8883:   TScanLines', 'array of TScanLine
8884:   TColorChannel', '( ccRed, ccGreen, ccBlue, ccAlpha )
8885:   TGradientDirection', '( gdVertical, gdHorizontal )
8886:   TPolyFillMode', '( fmAlternate, fmWinding )
8887:   TJclRegionCombineOperator', '( coAnd, coDiff, coOr, coXor )
8888:   TJclRegionBitmapMode', '( rmInclude, rmExclude )
8889:   TJclRegionKind', '( rkNull, rkSimple, rkComplex, rkError )
8890:   SIRegister_TJclDesktopCanvas(CL);
8891:   FindClass('TOBJECT'),'TJclRegion
8892:   SIRegister_TJclRegionInfo(CL);
8893:   SIRegister_TJclRegion(CL);
8894:   SIRegister_TJclThreadPersistent(CL);
8895:   SIRegister_TJclCustomMap(CL);
8896:   SIRegister_TJclBitmap32(CL);
8897:   SIRegister_TJclByteMap(CL);
8898:   SIRegister_TJclTransformation(CL);
8899:   SIRegister_TJclLinearTransformation(CL);
8900:  Procedure Stretch(NewWidth,
       NewHeight:Card;Filter:TResamplingFilter;Radius:Single;Source:TGraphic;Target:TBitmap);
8901:  Procedure Stretch1(NewWidth,NewHeight:Cardinal;Filter:TResamplingFilter;Radius:Single;Bitmap:TBitmap);
8902:  Procedure DrawBitmap( DC : HDC; Bitmap : HBitMap; X, Y, Width, Height : Integer)
8903:  Function GetAntialiasedBitmap( const Bitmap : TBitmap) : TBitmap
```

```
8904:  Procedure BitmapToJPeg( const FileName : string)
8905:  Procedure JPegToBitmap( const FileName : string)
8906:  Function ExtractIconCount( const FileName : string) : Integer
8907:  Function BitmapToIconJ( Bitmap : HBITMAP; cx, cy : Integer) : HICON
8908:  Function IconToBitmapJ( Icon : HICON) : HBITMAP
8909:  Procedure
      BlockTransfer(Dst:TJclBitmap32;DstX:Int;DstY:Int;Src:TJclBitmap32;SrcRect:TRect;CombineOp:TDrawMode)
8910:  Procedure StretchTransfer(Dst:TJclBitmap32;
      DstRect:TRect;Src:TJclBitmap32;SrcRect:TRect;StretchFilter:TStretchFilter; CombineOp : TDrawMode)
8911:  Procedure Transform( Dst, Src : TJclBitmap32; SrcRect : TRect; Transformation : TJclTransformation)
8912:  Procedure SetBorderTransparent( ABitmap : TJclBitmap32; ARect : TRect)
8913:  Function FillGradient(DC:HDC; ARect:TRect; ColorCount:Integer; StartColor,EndColor:TColor;ADirection :
      TGradientDirection) : Boolean;
8914:  Function CreateRegionFromBitmap(Bitmap: TBitmap; RegionColor:TColor;
      RegionBitmapMode:TJclRegionBitmapMode): HRGN
8915:  Procedure ScreenShot( bm : TBitmap; Left, Top, Width, Height : Integer; Window : HWND);
8916:  Procedure ScreenShot1( bm : TBitmap);
8917:  Procedure PolyLineTS( Bitmap : TJclBitmap32; const Points : TDynPointArray; Color : TColor32)
8918:  Procedure PolyLineAS( Bitmap : TJclBitmap32; const Points : TDynPointArray; Color : TColor32)
8919:  Procedure PolyLineFS( Bitmap : TJclBitmap32; const Points : TDynPointArrayF; Color : TColor32)
8920:  Procedure PolygonTS( Bitmap : TJclBitmap32; const Points : TDynPointArray; Color : TColor32)
8921:  Procedure PolygonAS( Bitmap : TJclBitmap32; const Points : TDynPointArray; Color : TColor32)
8922:  Procedure PolygonFS( Bitmap : TJclBitmap32; const Points : TDynPointArrayF; Color : TColor32)
8923:  Procedure PolyPolygonTS(Bitmap:TJclBitmap32;const Points:TDynDynPointArrayArray;Color:TColor32);
8924:  Procedure PolyPolygonAS(Bitmap:TJclBitmap32;const Points:TDynDynPointArrayArray;Color:TColor32);
8925:  Procedure PolyPolygonFS(Bitmap:TJclBitmap32;const Points:TDynDynPointArrayArrayF;Color:TColor32);
8926:  Procedure AlphaToGrayscale( Dst, Src : TJclBitmap32)
8927:  Procedure IntensityToAlpha( Dst, Src : TJclBitmap32)
8928:  Procedure Invert( Dst, Src : TJclBitmap32)
8929:  Procedure InvertRGB( Dst, Src : TJclBitmap32)
8930:  Procedure ColorToGrayscale( Dst, Src : TJclBitmap32)
8931:  Procedure ApplyLUT( Dst, Src : TJclBitmap32; const LUT : TLUT8)
8932:  Procedure SetGamma( Gamma : Single)
8933: end;
8934:
8935: (*----------------------------------------------------------------------------*)
8936: procedure SIRegister_JclSynch(CL: TPSPascalCompiler);
8937: begin
8938:  Function LockedAdd( var Target : Integer; Value : Integer) : Integer
8939:  Function LockedCompareExchange( var Target : Integer; Exch, Comp : Integer) : Integer;
8940:  Function LockedCompareExchange1( var Target : ___Pointer; Exch, Comp : ___Pointer) : Pointer;
8941:  Function LockedDec( var Target : Integer) : Integer
8942:  Function LockedExchange( var Target : Integer; Value : Integer) : Integer
8943:  Function LockedExchangeAdd( var Target : Integer; Value : Integer) : Integer
8944:  Function LockedExchangeDec( var Target : Integer) : Integer
8945:  Function LockedExchangeInc( var Target : Integer) : Integer
8946:  Function LockedExchangeSub( var Target : Integer; Value : Integer) : Integer
8947:  Function LockedInc( var Target : Integer) : Integer
8948:  Function LockedSub( var Target : Integer; Value : Integer) : Integer
8949:   TJclWaitResult', '( wrAbandoned, wrError, wrIoCompletion, wrSignaled, wrTimeout )
8950:   SIRegister_TJclDispatcherObject(CL);
8951:  Function WaitForMultipleObjects(const Objects:array of
      TJclDispatcherObject;WaitAll:Bool;TimeOut:Cardinal):Cardinal;
8952:  Function WaitAlertableForMultipleObjects(const Objects : array of TJclDispatcherObject; WaitAll:Bool;
      TimeOut : Cardinal):Cardinal
8953:   SIRegister_TJclCriticalSection(CL);
8954:   SIRegister_TJclCriticalSectionEx(CL);
8955:   SIRegister_TJclEvent(CL);
8956:   SIRegister_TJclWaitableTimer(CL);
8957:   SIRegister_TJclSemaphore(CL);
8958:   SIRegister_TJclMutex(CL);
8959:   POptexSharedInfo', '^TOptexSharedInfo // will not work
8960:   TOptexSharedInfo', 'record SpinCount:Int; LockCount: Int; ThreadId:Longword; RecursionCount:Int; end
8961:   SIRegister_TJclOptex(CL);
8962:   TMrewPreferred', '( mpReaders, mpWriters, mpEqual )
8963:   TMrewThreadInfo', 'record ThreadId : Longword; RecursionCount: Integer; Reader : Boolean; end
8964:   TMrewThreadInfoArray', 'array of TMrewThreadInfo
8965:   SIRegister_TJclMultiReadExclusiveWrite(CL);
8966:   PMetSectSharedInfo', '^TMetSectSharedInfo // will not work
8967:   TMetSectSharedInfo', 'record Initialized : LongBool; SpinLock : '
8968:    +'Longint; ThreadsWaiting : Longint; AvailableCount : Longint; MaximumCount : Longint; end
8969:   PMeteredSection', '^TMeteredSection // will not work
8970:   TMeteredSection', 'record Event : THandle; FileMap : THandle; SharedInfo : PMetSectSharedInfo; end
8971:   SIRegister_TJclMeteredSection(CL);
8972:   TEventInfo', 'record EventType : Longint; Signaled : LongBool; end
8973:   TMutexInfo', 'record SignalState : Longint; Owned : Boolean; Abandoned : Boolean; end
8974:   TSemaphoreCounts', 'record CurrentCount : Longint; MaximumCount: Longint; end
8975:   TTimerInfo', 'record Remaining : TLargeInteger; Signaled : LongBool; end
8976:  Function QueryCriticalSection( CS : TJclCriticalSection; var Info : TRTLCriticalSection) : Boolean
8977:  Function QueryEvent( Handle : THandle; var Info : TEventInfo) : Boolean
8978:  Function QueryMutex( Handle : THandle; var Info : TMutexInfo) : Boolean
8979:  Function QuerySemaphore( Handle : THandle; var Info : TSemaphoreCounts) : Boolean
8980:  Function QueryTimer( Handle : THandle; var Info : TTimerInfo) : Boolean
8981:   FindClass('TOBJECT'),'EJclWin32HandleObjectError
8982:   FindClass('TOBJECT'),'EJclDispatcherObjectError
8983:   FindClass('TOBJECT'),'EJclCriticalSectionError
8984:   FindClass('TOBJECT'),'EJclEventError
8985:   FindClass('TOBJECT'),'EJclWaitableTimerError
8986:   FindClass('TOBJECT'),'EJclSemaphoreError
```

```
8987:   FindClass('TOBJECT'),'EJclMutexError
8988:   FindClass('TOBJECT'),'EJclMeteredSectionError
8989: end;
8990:
8991:
8992: //*************************unit uPSI_mORMotReport;
8993: Procedure SetCurrentPrinterAsDefault
8994: Function CurrentPrinterName : string
8995: Function mCurrentPrinterPaperSize : string
8996: Procedure UseDefaultPrinter
8997:
8998: procedure SIRegisterTSTREAM(Cl: TPSPascalCompiler);
8999: begin
9000:   with FindClass('TOBJECT'), 'TStream') do begin
9001:     IsAbstract := True;
9002:    //RegisterMethod('Function Read( var Buffer, Count : Longint) : Longint
9003:    // RegisterMethod('Function Write( const Buffer, Count : Longint) : Longint
9004:     function Read(Buffer:String;Count:LongInt):LongInt
9005:     function Write(Buffer:String;Count:LongInt):LongInt
9006:     function ReadString(Buffer:String;Count:LongInt):LongInt    //FileStream
9007:     function WriteString(Buffer:String;Count:LongInt):LongInt
9008:     function ReadInt(Buffer:integer;Count:LongInt):LongInt
9009:     function WriteInt(Buffer:integer;Count:LongInt):LongInt
9010:     function ReadByteArray(Buffer:TByteArray;Count:LongInt):LongInt');
9011:     function WriteByteArray(Buffer:TByteArray;Count:LongInt):LongInt');
9012:
9013:     procedure ReadAB(Buffer: TByteArray;Count:LongInt)
9014:     procedure WriteAB(Buffer: TByteArray;Count:LongInt)
9015:     procedure ReadABD(Buffer: TByteDynArray;Count:LongInt)
9016:     procedure WriteABD(Buffer: TByteDynArray;Count:LongInt)
9017:     procedure ReadAC(Buffer: TCharArray;Count:LongInt)
9018:     procedure WriteAC(Buffer: TCharArray;Count:LongInt)
9019:     procedure ReadACD(Buffer: TCharDynArray;Count:LongInt)
9020:     procedure WriteACD(Buffer: TCharDynArray;Count:LongInt)
9021:
9022:     function Seek(Offset:LongInt;Origin:Word):LongInt
9023:     procedure ReadBuffer(Buffer:String;Count:LongInt)
9024:     procedure WriteBuffer(Buffer:String;Count:LongInt)
9025:     procedure ReadBufferInt(Buffer:Integer;Count:LongInt)');
9026:     procedure WriteBufferInt(Buffer:Integer;Count:LongInt)');
9027:     procedure ReadBufferFloat(Buffer:Double;Count:LongInt)');
9028:     Procedure WriteBufferFloat(Buffer:Double;Count:LongInt)');
9029:
9030:     procedure ReadBufferAB(Buffer: TByteArray;Count:LongInt)
9031:     procedure WriteBufferAB(Buffer: TByteArray;Count:LongInt)
9032:     procedure ReadBufferABD(Buffer: TByteDynArray;Count:LongInt)
9033:     procedure WriteBufferABD(Buffer: TByteDynArray;Count:LongInt)
9034:     procedure ReadBufferAW(Buffer: TWordArray;Count:LongInt)
9035:     procedure WriteBufferAW(Buffer: TWordArray;Count:LongInt)
9036:     procedure ReadBufferAWD(Buffer: TWordDynArray;Count:LongInt)
9037:     procedure WriteBufferAWD(Buffer: TWordDynArray;Count:LongInt)
9038:     procedure ReadBufferAW(Buffer: TWordArray;Count:LongInt)
9039:     procedure WriteBufferAW(Buffer: TWordArray;Count:LongInt)
9040:     procedure ReadBufferAC(Buffer: TCharArray;Count:LongInt)
9041:     procedure WriteBufferAC(Buffer: TCharArray;Count:LongInt)
9042:     procedure ReadBufferACD(Buffer: TCharDynArray;Count:LongInt)
9043:     procedure WriteBufferACD(Buffer: TCharDynArray;Count:LongInt)
9044:
9045:     procedure ReadBufferP(Buffer: PChar;Count:LongInt)
9046:     procedure WriteBufferP(Buffer: PChar;Count:LongInt)
9047:     procedure ReadBufferO(Buffer: TObject;Count:LongInt)');
9048:     procedure WriteBufferO(Buffer: TObject;Count:LongInt)');
9049:     //READBUFFERAC
9050:     function InstanceSize: Longint
9051:     Procedure FixupResourceHeader( FixupInfo : Integer)
9052:     Procedure ReadResHeader
9053:
9054:     {$IFDEF DELPHI4UP}
9055:     function CopyFrom(Source:TStream;Count:Int64):LongInt
9056:     {$ELSE}
9057:     function CopyFrom(Source:TStream;Count:Integer):LongInt
9058:     {$ENDIF}
9059:     RegisterProperty('Position', 'LongInt', iptrw);
9060:     RegisterProperty('Size', 'LongInt', iptrw);
9061:   end;
9062: end;
9063:
9064:
9065: { ***************************************************************
9066:   Unit DMATH - Interface for DMATH.DLL
9067:    *************************************************************** }
9068: // see more docs/dmath_manual.pdf
9069:
9070: Function InitEval : Integer
9071: Procedure SetVariable( VarName : Char; Value : Float)
9072: Procedure SetFunction( FuncName : String; Wrapper : TWrapper)
9073: Function Eval( ExpressionString : String) : Float
9074:
9075: unit dmath; //types are in built, others are external in DLL
```

```
9076: interface
9077: {$IFDEF DELPHI}
9078: uses
9079:   StdCtrls, Graphics;
9080: {$ENDIF}
9081: { ---------------------------------------------------------------
9082:   Types and constants
9083:   --------------------------------------------------------------- }
9084: {$i types.inc}
9085: { ---------------------------------------------------------------
9086:   Error handling
9087:   --------------------------------------------------------------- }
9088: procedure SetErrCode(ErrCode : Integer); external 'dmath';
9089: { Sets the error code }
9090: function DefaultVal(ErrCode : Integer; DefVal : Float) : Float; external 'dmath';
9091: { Sets error code and default function value }
9092: function MathErr : Integer; external 'dmath';
9093: { Returns the error code }
9094: { ---------------------------------------------------------------
9095:   Dynamic arrays
9096:   --------------------------------------------------------------- }
9097: procedure SetAutoInit(AutoInit : Boolean); external 'dmath';
9098: { Sets the auto-initialization of arrays }
9099: procedure DimVector(var V : TVector; Ub : Integer); external 'dmath';
9100: { Creates floating point vector V[0..Ub] }
9101: procedure DimIntVector(var V : TIntVector; Ub : Integer); external 'dmath';
9102: { Creates integer vector V[0..Ub] }
9103: procedure DimCompVector(var V : TCompVector; Ub : Integer); external 'dmath';
9104: { Creates complex vector V[0..Ub] }
9105: procedure DimBoolVector(var V : TBoolVector; Ub : Integer); external 'dmath';
9106: { Creates boolean vector V[0..Ub] }
9107: procedure DimStrVector(var V : TStrVector; Ub : Integer); external 'dmath';
9108: { Creates string vector V[0..Ub] }
9109: procedure DimMatrix(var A : TMatrix; Ub1, Ub2 : Integer); external 'dmath';
9110: { Creates floating point matrix A[0..Ub1, 0..Ub2] }
9111: procedure DimIntMatrix(var A : TIntMatrix; Ub1, Ub2 : Integer); external 'dmath';
9112: { Creates integer matrix A[0..Ub1, 0..Ub2] }
9113: procedure DimCompMatrix(var A : TCompMatrix; Ub1, Ub2 : Integer); external 'dmath';
9114: { Creates complex matrix A[0..Ub1, 0..Ub2] }
9115: procedure DimBoolMatrix(var A : TBoolMatrix; Ub1, Ub2 : Integer); external 'dmath';
9116: { Creates boolean matrix A[0..Ub1, 0..Ub2] }
9117: procedure DimStrMatrix(var A : TStrMatrix; Ub1, Ub2 : Integer); external 'dmath';
9118: { Creates string matrix A[0..Ub1, 0..Ub2] }
9119: { ---------------------------------------------------------------
9120:   Minimum, maximum, sign and exchange
9121:   --------------------------------------------------------------- }
9122: function FMin(X, Y : Float) : Float; external 'dmath';
9123: { Minimum of 2 reals }
9124: function FMax(X, Y : Float) : Float; external 'dmath';
9125: { Maximum of 2 reals }
9126: function IMin(X, Y : Integer) : Integer; external 'dmath';
9127: { Minimum of 2 integers }
9128: function IMax(X, Y : Integer) : Integer; external 'dmath';
9129: { Maximum of 2 integers }
9130: function Sgn(X : Float) : Integer; external 'dmath';
9131: { Sign (returns 1 if X = 0) }
9132: function Sgn0(X : Float) : Integer; external 'dmath';
9133: { Sign (returns 0 if X = 0) }
9134: function DSgn(A, B : Float) : Float; external 'dmath';
9135: { Sgn(B) * |A| }
9136: procedure FSwap(var X, Y : Float); external 'dmath';
9137: { Exchange 2 reals }
9138: procedure ISwap(var X, Y : Integer); external 'dmath';
9139: { Exchange 2 integers }
9140: { ---------------------------------------------------------------
9141:   Rounding functions
9142:   --------------------------------------------------------------- }
9143: function RoundN(X : Float; N : Integer) : Float; external 'dmath';
9144: { Rounds X to N decimal places }
9145: function Ceil(X : Float) : Integer; external 'dmath';
9146: { Ceiling function }
9147: function Floor(X : Float) : Integer; external 'dmath';
9148: { Floor function }
9149: { ---------------------------------------------------------------
9150:   Logarithms, exponentials and power
9151:   --------------------------------------------------------------- }
9152: function Expo(X : Float) : Float; external 'dmath';
9153: { Exponential }
9154: function Exp2(X : Float) : Float; external 'dmath';
9155: { 2^X }
9156: function Exp10(X : Float) : Float; external 'dmath';
9157: { 10^X }
9158: function Log(X : Float) : Float; external 'dmath';
9159: { Natural log }
9160: function Log2(X : Float) : Float; external 'dmath';
9161: { Log, base 2 }
9162: function Log10(X : Float) : Float; external 'dmath';
9163: { Decimal log }
9164: function LogA(X, A : Float) : Float; external 'dmath';
```

```
9165: { Log, base A }
9166: function IntPower(X : Float; N : Integer) : Float; external 'dmath';
9167: { X^N }
9168: function Power(X, Y : Float) : Float; external 'dmath';
9169: { X^Y, X >= 0 }
9170: { ---------------------------------------------------------------
9171:   Trigonometric functions
9172:   --------------------------------------------------------------- }
9173: function Pythag(X, Y : Float) : Float; external 'dmath';
9174: { Sqrt(X^2 + Y^2) }
9175: function FixAngle(Theta : Float) : Float; external 'dmath';
9176: { Set Theta in -Pi..Pi }
9177: function Tan(X : Float) : Float; external 'dmath';
9178: { Tangent }
9179: function ArcSin(X : Float) : Float; external 'dmath';
9180: { Arc sinus }
9181: function ArcCos(X : Float) : Float; external 'dmath';
9182: { Arc cosinus }
9183: function ArcTan2(Y, X : Float) : Float; external 'dmath';
9184: { Angle (Ox, OM) with M(X,Y) }
9185: { ---------------------------------------------------------------
9186:   Hyperbolic functions
9187:   --------------------------------------------------------------- }
9188: function Sinh(X : Float) : Float; external 'dmath';
9189: { Hyperbolic sine }
9190: function Cosh(X : Float) : Float; external 'dmath';
9191: { Hyperbolic cosine }
9192: function Tanh(X : Float) : Float; external 'dmath';
9193: { Hyperbolic tangent }
9194: function ArcSinh(X : Float) : Float; external 'dmath';
9195: { Inverse hyperbolic sine }
9196: function ArcCosh(X : Float) : Float; external 'dmath';
9197: { Inverse hyperbolic cosine }
9198: function ArcTanh(X : Float) : Float; external 'dmath';
9199: { Inverse hyperbolic tangent }
9200: procedure SinhCosh(X : Float; var SinhX, CoshX : Float); external 'dmath';
9201: { Sinh & Cosh }
9202: { ---------------------------------------------------------------
9203:   Gamma function and related functions
9204:   --------------------------------------------------------------- }
9205: function Fact(N : Integer) : Float; external 'dmath';
9206: { Factorial }
9207: function SgnGamma(X : Float) : Integer; external 'dmath';
9208: { Sign of Gamma function }
9209: function Gamma(X : Float) : Float; external 'dmath';
9210: { Gamma function }
9211: function LnGamma(X : Float) : Float; external 'dmath';
9212: { Logarithm of Gamma function }
9213: function Stirling(X : Float) : Float; external 'dmath';
9214: { Stirling's formula for the Gamma function }
9215: function StirLog(X : Float) : Float; external 'dmath';
9216: { Approximate Ln(Gamma) by Stirling's formula, for X >= 13 }
9217: function DiGamma(X : Float ) : Float; external 'dmath';
9218: { Digamma function }
9219: function TriGamma(X : Float ) : Float; external 'dmath';
9220: { Trigamma function }
9221: function IGamma(A, X : Float) : Float; external 'dmath';
9222: { Incomplete Gamma function}
9223: function JGamma(A, X : Float) : Float; external 'dmath';
9224: { Complement of incomplete Gamma function }
9225: function InvGamma(A, P : Float) : Float; external 'dmath';
9226: { Inverse of incomplete Gamma function }
9227: function Erf(X : Float) : Float; external 'dmath';
9228: { Error function }
9229: function Erfc(X : Float) : Float; external 'dmath';
9230: { Complement of error function }
9231: { ---------------------------------------------------------------
9232:   Beta function and related functions
9233:   --------------------------------------------------------------- }
9234: function Beta(X, Y : Float) : Float; external 'dmath';
9235: { Beta function }
9236: function IBeta(A, B, X : Float) : Float; external 'dmath';
9237: { Incomplete Beta function }
9238: function InvBeta(A, B, Y : Float) : Float; external 'dmath';
9239: { Inverse of incomplete Beta function }
9240: { ---------------------------------------------------------------
9241:   Lambert's function
9242:   --------------------------------------------------------------- }
9243: function LambertW(X : Float; UBranch, Offset : Boolean) : Float; external 'dmath';
9244:  ---------------------------------------------------------------
9245:   Binomial distribution
9246:   --------------------------------------------------------------- }
9247: function Binomial(N, K : Integer) : Float; external 'dmath';
9248: { Binomial coefficient C(N,K) }
9249: function PBinom(N : Integer; P : Float; K : Integer) : Float; external 'dmath';
9250: { Probability of binomial distribution }
9251: function FBinom(N : Integer; P : Float; K : Integer) : Float; external 'dmath';
9252: { Cumulative probability for binomial distrib. }
9253: { ---------------------------------------------------------------
```

```
9254:   Poisson distribution
9255:   ------------------------------------------------------------- }
9256: function PPoisson(Mu : Float; K : Integer) : Float; external 'dmath';
9257: { Probability of Poisson distribution }
9258: function FPoisson(Mu : Float; K : Integer) : Float; external 'dmath';
9259: { Cumulative probability for Poisson distrib. }
9260: { -------------------------------------------------------------
9261:   Exponential distribution
9262:   ------------------------------------------------------------- }
9263: function DExpo(A, X : Float) : Float; external 'dmath';
9264: { Density of exponential distribution with parameter A }
9265: function FExpo(A, X : Float) : Float; external 'dmath';
9266: { Cumulative probability function for exponential dist. with parameter A }
9267: { -------------------------------------------------------------
9268:   Standard normal distribution
9269:   ------------------------------------------------------------- }
9270: function DNorm(X : Float) : Float; external 'dmath';
9271: { Density of standard normal distribution }
9272: function FNorm(X : Float) : Float; external 'dmath';
9273: { Cumulative probability for standard normal distrib. }
9274: function PNorm(X : Float) : Float; external 'dmath';
9275: { Prob(|U| > X) for standard normal distrib. }
9276: function InvNorm(P : Float) : Float; external 'dmath';
9277: { Inverse of standard normal distribution }
9278: { -------------------------------------------------------------
9279:   Student's distribution
9280:   ------------------------------------------------------------- }
9281: function DStudent(Nu : Integer; X : Float) : Float; external 'dmath';
9282: { Density of Student distribution with Nu d.o.f. }
9283: function FStudent(Nu : Integer; X : Float) : Float; external 'dmath';
9284: { Cumulative probability for Student distrib. with Nu d.o.f. }
9285: function PStudent(Nu : Integer; X : Float) : Float; external 'dmath';
9286: { Prob(|t| > X) for Student distrib. with Nu d.o.f. }
9287: function InvStudent(Nu : Integer; P : Float) : Float; external 'dmath';
9288: { Inverse of Student's t-distribution function }
9289: { -------------------------------------------------------------
9290:   Khi-2 distribution
9291:   ------------------------------------------------------------- }
9292: function DKhi2(Nu : Integer; X : Float) : Float; external 'dmath';
9293: { Density of Khi-2 distribution with Nu d.o.f. }
9294: function FKhi2(Nu : Integer; X : Float) : Float; external 'dmath';
9295: { Cumulative prob. for Khi-2 distrib. with Nu d.o.f. }
9296: function PKhi2(Nu : Integer; X : Float) : Float; external 'dmath';
9297: { Prob(Khi2 > X) for Khi-2 distrib. with Nu d.o.f. }
9298: function InvKhi2(Nu : Integer; P : Float) : Float; external 'dmath';
9299: { Inverse of Khi-2 distribution function }
9300: { -------------------------------------------------------------
9301:   Fisher-Snedecor distribution
9302:   ------------------------------------------------------------- }
9303: function DSnedecor(Nu1, Nu2 : Integer; X : Float) : Float; external 'dmath';
9304: { Density of Fisher-Snedecor distribution with Nu1 and Nu2 d.o.f. }
9305: function FSnedecor(Nu1, Nu2 : Integer; X : Float) : Float; external 'dmath';
9306: { Cumulative prob. for Fisher-Snedecor distrib. with Nu1 and Nu2 d.o.f. }
9307: function PSnedecor(Nu1, Nu2 : Integer; X : Float) : Float; external 'dmath';
9308: { Prob(F > X) for Fisher-Snedecor distrib. with Nu1 and Nu2 d.o.f. }
9309: function InvSnedecor(Nu1, Nu2 : Integer; P : Float) : Float; external 'dmath';
9310: { Inverse of Snedecor's F-distribution function }
9311: { -------------------------------------------------------------
9312:   Beta distribution
9313:   ------------------------------------------------------------- }
9314: function DBeta(A, B, X : Float) : Float; external 'dmath';
9315: { Density of Beta distribution with parameters A and B }
9316: function FBeta(A, B, X : Float) : Float; external 'dmath';
9317: { Cumulative probability for Beta distrib. with param. A and B }
9318: { -------------------------------------------------------------
9319:   Gamma distribution
9320:   ------------------------------------------------------------- }
9321: function DGamma(A, B, X : Float) : Float; external 'dmath';
9322: { Density of Gamma distribution with parameters A and B }
9323: function FGamma(A, B, X : Float) : Float; external 'dmath';
9324: { Cumulative probability for Gamma distrib. with param. A and B }
9325: { -------------------------------------------------------------
9326:   Expression evaluation
9327:   ------------------------------------------------------------- }
9328: function InitEval : Integer; external 'dmath';
9329: { Initializes built-in functions and returns their number }
9330: function Eval(ExpressionString : String) : Float; external 'dmath';
9331: { Evaluates an expression at run-time }
9332: procedure SetVariable(VarName : Char; Value : Float); external 'dmath';
9333: { Assigns a value to a variable }
9334: procedure SetFunction(FuncName : String; Wrapper : TWrapper); external 'dmath';
9335: { Adds a function to the parser }
9336: { -------------------------------------------------------------
9337:   Matrices and linear equations
9338:   ------------------------------------------------------------- }
9339: procedure GaussJordan(A           : TMatrix;
9340:                       Lb, Ub1, Ub2 : Integer;
9341:                       var Det      : Float); external 'dmath';
9342: { Transforms a matrix according to the Gauss-Jordan method }
```

```
9343: procedure LinEq(A       : TMatrix;
9344:                 B       : TVector;
9345:                 Lb, Ub  : Integer;
9346:                 var Det : Float); external 'dmath';
9347: { Solves a linear system according to the Gauss-Jordan method }
9348: procedure Cholesky(A, L : TMatrix; Lb, Ub : Integer); external 'dmath';
9349: { Cholesky factorization of a positive definite symmetric matrix }
9350: procedure LU_Decomp(A : TMatrix; Lb, Ub : Integer); external 'dmath';
9351: { LU decomposition }
9352: procedure LU_Solve(A      : TMatrix;
9353:                    B      : TVector;
9354:                    Lb, Ub : Integer;
9355:                    X      : TVector); external 'dmath';
9356: { Solution of linear system from LU decomposition }
9357: procedure QR_Decomp(A          : TMatrix;
9358:                     Lb, Ub1, Ub2 : Integer;
9359:                     R          : TMatrix); external 'dmath';
9360: { QR decomposition }
9361: procedure QR_Solve(Q, R        : TMatrix;
9362:                    B           : TVector;
9363:                    Lb, Ub1, Ub2 : Integer;
9364:                    X           : TVector); external 'dmath';
9365: { Solution of linear system from QR decomposition }
9366: procedure SV_Decomp(A          : TMatrix;
9367:                     Lb, Ub1, Ub2 : Integer;
9368:                     S          : TVector;
9369:                     V          : TMatrix); external 'dmath';
9370: { Singular value decomposition }
9371: procedure SV_SetZero(S      : TVector;
9372:                      Lb, Ub : Integer;
9373:                      Tol    : Float); external 'dmath';
9374: { Set lowest singular values to zero }
9375: procedure SV_Solve(U          : TMatrix;
9376:                    S          : TVector;
9377:                    V          : TMatrix;
9378:                    B          : TVector;
9379:                    Lb, Ub1, Ub2 : Integer;
9380:                    X          : TVector); external 'dmath';
9381: { Solution of linear system from SVD }
9382: procedure SV_Approx(U          : TMatrix;
9383:                     S          : TVector;
9384:                     V          : TMatrix;
9385:                     Lb, Ub1, Ub2 : Integer;
9386:                     A          : TMatrix); external 'dmath';
9387: { Matrix approximation from SVD }
9388: procedure EigenVals(A      : TMatrix;
9389:                     Lb, Ub : Integer;
9390:                     Lambda : TCompVector); external 'dmath';
9391: { Eigenvalues of a general square matrix }
9392: procedure EigenVect(A      : TMatrix;
9393:                     Lb, Ub : Integer;
9394:                     Lambda : TCompVector;
9395:                     V      : TMatrix); external 'dmath';
9396: { Eigenvalues and eigenvectors of a general square matrix }
9397: procedure EigenSym(A      : TMatrix;
9398:                    Lb, Ub : Integer;
9399:                    Lambda : TVector;
9400:                    V      : TMatrix); external 'dmath';
9401: { Eigenvalues and eigenvectors of a symmetric matrix (SVD method) }
9402: procedure Jacobi(A              : TMatrix;
9403:                  Lb, Ub, MaxIter : Integer;
9404:                  Tol            : Float;
9405:                  Lambda         : TVector;
9406:                  V              : TMatrix); external 'dmath';
9407: { Eigenvalues and eigenvectors of a symmetric matrix (Jacobi method) }
9408: { ---------------------------------------------------------------
9409:   Optimization
9410:   --------------------------------------------------------------- }
9411: procedure MinBrack(Func                     : TFunc;
9412:                    var A, B, C, Fa, Fb, Fc : Float); external 'dmath';
9413: { Brackets a minimum of a function }
9414: procedure GoldSearch(Func          : TFunc;
9415:                      A, B          : Float;
9416:                      MaxIter       : Integer;
9417:                      Tol           : Float;
9418:                      var Xmin, Ymin : Float); external 'dmath';
9419: { Minimization of a function of one variable (golden search) }
9420: procedure LinMin(Func      : TFuncNVar;
9421:                  X, DeltaX : TVector;
9422:                  Lb, Ub    : Integer;
9423:                  var R     : Float;
9424:                  MaxIter   : Integer;
9425:                  Tol       : Float;
9426:                  var F_min : Float); external 'dmath';
9427: { Minimization of a function of several variables along a line }
9428: procedure Newton(Func      : TFuncNVar;
9429:                  HessGrad  : THessGrad;
9430:                  X         : TVector;
9431:                  Lb, Ub    : Integer;
```

```
9432:                 MaxIter   : Integer;
9433:                 Tol       : Float;
9434:                 var F_min : Float;
9435:                 G         : TVector;
9436:                 H_inv     : TMatrix;
9437:                 var Det   : Float); external 'dmath';
9438: { Minimization of a function of several variables (Newton's method) }
9439: procedure SaveNewton(FileName : string); external 'dmath';
9440: { Save Newton iterations in a file }
9441: procedure Marquardt(Func      : TFuncNVar;
9442:                     HessGrad  : THessGrad;
9443:                     X         : TVector;
9444:                     Lb, Ub    : Integer;
9445:                     MaxIter   : Integer;
9446:                     Tol       : Float;
9447:                     var F_min : Float;
9448:                     G         : TVector;
9449:                     H_inv     : TMatrix;
9450:                     var Det   : Float); external 'dmath';
9451: { Minimization of a function of several variables (Marquardt's method) }
9452: procedure SaveMarquardt(FileName : string); external 'dmath';
9453: { Save Marquardt iterations in a file }
9454: procedure BFGS(Func      : TFuncNVar;
9455:                Gradient  : TGradient;
9456:                X         : TVector;
9457:                Lb, Ub    : Integer;
9458:                MaxIter   : Integer;
9459:                Tol       : Float;
9460:                var F_min : Float;
9461:                G         : TVector;
9462:                H_inv     : TMatrix); external 'dmath';
9463: { Minimization of a function of several variables (BFGS method) }
9464: procedure SaveBFGS(FileName : string); external 'dmath';
9465: { Save BFGS iterations in a file }
9466: procedure Simplex(Func      : TFuncNVar;
9467:                   X         : TVector;
9468:                   Lb, Ub    : Integer;
9469:                   MaxIter   : Integer;
9470:                   Tol       : Float;
9471:                   var F_min : Float); external 'dmath';
9472: { Minimization of a function of several variables (Simplex) }
9473: procedure SaveSimplex(FileName : string); external 'dmath';
9474: { Save Simplex iterations in a file }
9475: { ------------------------------------------------------------------
9476:   Nonlinear equations
9477:   ------------------------------------------------------------------ }
9478: procedure RootBrack(Func             : TFunc;
9479:                     var X, Y, FX, FY : Float); external 'dmath';
9480: { Brackets a root of function Func between X and Y }
9481: procedure Bisect(Func     : TFunc;
9482:                  var X, Y : Float;
9483:                  MaxIter  : Integer;
9484:                  Tol      : Float;
9485:                  var F    : Float); external 'dmath';
9486: { Bisection method }
9487: procedure Secant(Func     : TFunc;
9488:                  var X, Y : Float;
9489:                  MaxIter  : Integer;
9490:                  Tol      : Float;
9491:                  var F    : Float); external 'dmath';
9492: { Secant method }
9493: procedure NewtEq(Func, Deriv : TFunc;
9494:                  var X       : Float;
9495:                  MaxIter     : Integer;
9496:                  Tol         : Float;
9497:                  var F       : Float); external 'dmath';
9498: { Newton-Raphson method for a single nonlinear equation }
9499: procedure NewtEqs(Equations : TEquations;
9500:                   Jacobian  : TJacobian;
9501:                   X, F      : TVector;
9502:                   Lb, Ub    : Integer;
9503:                   MaxIter   : Integer;
9504:                   Tol       : Float); external 'dmath';
9505: { Newton-Raphson method for a system of nonlinear equations }
9506: procedure Broyden(Equations : TEquations;
9507:                   X, F      : TVector;
9508:                   Lb, Ub    : Integer;
9509:                   MaxIter   : Integer;
9510:                   Tol       : Float); external 'dmath';
9511: { Broyden's method for a system of nonlinear equations }
9512: { ------------------------------------------------------------------
9513:   Polynomials and rational fractions
9514:   ------------------------------------------------------------------ }
9515: function Poly(X    : Float;
9516:               Coef : TVector;
9517:               Deg  : Integer) : Float; external 'dmath';
9518: { Evaluates a polynomial }
9519: function RFrac(X          : Float;
9520:                Coef       : TVector;
```

```
9521:                Deg1, Deg2 : Integer) : Float; external 'dmath';
9522: { Evaluates a rational fraction }
9523: function RootPol1(A, B  : Float;
9524:                   var X : Float) : Integer; external 'dmath';
9525: { Solves the linear equation A + B * X = 0 }
9526: function RootPol2(Coef : TVector;
9527:                   Z    : TCompVector) : Integer; external 'dmath';
9528: { Solves a quadratic equation }
9529: function RootPol3(Coef : TVector;
9530:                   Z    : TCompVector) : Integer; external 'dmath';
9531: { Solves a cubic equation }
9532: function RootPol4(Coef : TVector;
9533:                   Z    : TCompVector) : Integer; external 'dmath';
9534: { Solves a quartic equation }
9535: function RootPol(Coef : TVector;
9536:                  Deg  : Integer;
9537:                  Z    : TCompVector) : Integer; external 'dmath';
9538: { Solves a polynomial equation }
9539: function SetRealRoots(Deg : Integer;
9540:                       Z   : TCompVector;
9541:                       Tol : Float) : Integer; external 'dmath';
9542: { Set the imaginary part of a root to zero }
9543: procedure SortRoots(Deg : Integer;
9544:                     Z   : TCompVector); external 'dmath';
9545: { Sorts the roots of a polynomial }
9546: { ------------------------------------------------------------------
9547:   Numerical integration and differential equations
9548:   ------------------------------------------------------------------ }
9549: function TrapInt(X, Y : TVector; N : Integer) : Float; external 'dmath';
9550: { Integration by trapezoidal rule }
9551: function GausLeg(Func : TFunc; A, B : Float) : Float; external 'dmath';
9552: { Integral from A to B }
9553: function GausLeg0(Func : TFunc; B : Float) : Float; external 'dmath';
9554: { Integral from 0 to B }
9555: function Convol(Func1, Func2 : TFunc; T : Float) : Float; external 'dmath';
9556: { Convolution product at time T }
9557: procedure ConvTrap(Func1,Func2:TFunc; T,Y:TVector; N:Integer);external 'dmath';
9558: { Convolution by trapezoidal rule }
9559: procedure RKF45(F                   : TDiffEqs;
9560:                 Neqn                : Integer;
9561:                 Y, Yp               : TVector;
9562:                 var T               : Float;
9563:                 Tout, RelErr, AbsErr : Float;
9564:                 var Flag            : Integer); external 'dmath';
9565: { Integration of a system of differential equations }
9566: { ------------------------------------------------------------------
9567:   Fast Fourier Transform
9568:   ------------------------------------------------------------------ }
9569: procedure FFT(NumSamples        : Integer;
9570:               InArray, OutArray : TCompVector); external 'dmath';
9571: { Fast Fourier Transform }
9572: procedure IFFT(NumSamples        : Integer;
9573:                InArray, OutArray : TCompVector); external 'dmath';
9574: { Inverse Fast Fourier Transform }
9575: procedure FFT_Integer(NumSamples     : Integer;
9576:                       RealIn, ImagIn : TIntVector;
9577:                       OutArray       : TCompVector); external 'dmath';
9578: { Fast Fourier Transform for integer data }
9579: procedure FFT_Integer_Cleanup; external 'dmath';
9580: { Clear memory after a call to FFT_Integer }
9581: procedure CalcFrequency(NumSamples,
9582:                         FrequencyIndex : Integer;
9583:                         InArray        : TCompVector;
9584:                         var FFT        : Complex); external 'dmath';
9585: { Direct computation of Fourier transform }
9586: { ------------------------------------------------------------------
9587:   Random numbers
9588:   ------------------------------------------------------------------ }
9589: procedure SetRNG(RNG : RNG_Type); external 'dmath';
9590: { Select generator }
9591: procedure InitGen(Seed : RNG_IntType); external 'dmath';
9592: { Initialize generator }
9593: function IRanGen : RNG_IntType; external 'dmath';
9594: { 32-bit random integer in [-2^31 .. 2^31 - 1] }
9595: function IRanGen31 : RNG_IntType; external 'dmath';
9596: { 31-bit random integer in [0 .. 2^31 - 1] }
9597: function RanGen1 : Float; external 'dmath';
9598: { 32-bit random real in [0,1] }
9599: function RanGen2 : Float; external 'dmath';
9600: { 32-bit random real in [0,1) }
9601: function RanGen3 : Float; external 'dmath';
9602: { 32-bit random real in (0,1) }
9603: function RanGen53 : Float; external 'dmath';
9604: { 53-bit random real in [0,1) }
9605: procedure InitMWC(Seed : RNG_IntType); external 'dmath';
9606: { Initializes the 'Multiply with carry' random number generator }
9607: function IRanMWC : RNG_IntType; external 'dmath';
9608: { Returns a 32 bit random number in [-2^31 ; 2^31-1] }
9609: procedure InitMT(Seed : RNG_IntType); external 'dmath';
```

```
9610: { Initializes Mersenne Twister generator with a seed }
9611: procedure InitMTbyArray(InitKey   : array of RNG_LongType;
9612:                         KeyLength : Word); external 'dmath';
9613: { Initialize MT generator with an array InitKey[0..(KeyLength - 1)] }
9614: function IRanMT : RNG_IntType; external 'dmath';
9615: { Random integer from MT generator }
9616: procedure InitUVAGbyString(KeyPhrase : string); external 'dmath';
9617: { Initializes the UVAG generator with a string }
9618: procedure InitUVAG(Seed : RNG_IntType); external 'dmath';
9619: { Initializes the UVAG generator with an integer }
9620: function IRanUVAG : RNG_IntType; external 'dmath';
9621: { Random integer from UVAG generator }
9622: function RanGaussStd : Float; external 'dmath';
9623: { Random number from standard normal distribution }
9624: function RanGauss(Mu, Sigma : Float) : Float; external 'dmath';
9625: { Random number from normal distrib. with mean Mu and S. D. Sigma }
9626: procedure RanMult(M      : TVector; L      : TMatrix;
9627:                   Lb, Ub : Integer;
9628:                   X      : TVector); external 'dmath';
9629: { Random vector from multinormal distribution (correlated) }
9630: procedure RanMultIndep(M, S   : TVector;
9631:                        Lb, Ub : Integer;
9632:                        X      : TVector); external 'dmath';
9633: { Random vector from multinormal distribution (uncorrelated) }
9634: procedure InitMHParams(NCycles, MaxSim, SavedSim : Integer); external 'dmath';
9635: { Initializes Metropolis-Hastings parameters }
9636: procedure GetMHParams(var NCycles, MaxSim,SavedSim:Integer); external 'dmath';
9637: { Returns Metropolis-Hastings parameters }
9638: procedure Hastings(Func      : TFuncNVar;
9639:                    T         : Float;
9640:                    X         : TVector;
9641:                    V         : TMatrix;
9642:                    Lb, Ub    : Integer;
9643:                    Xmat      : TMatrix;
9644:                    X_min     : TVector;
9645:                    var F_min : Float); external 'dmath';
9646: { Simulation of a probability density function by Metropolis-Hastings }
9647: procedure InitSAParams(NT, NS, NCycles : Integer; RT : Float); external 'dmath';
9648: { Initializes Simulated Annealing parameters }
9649: procedure SA_CreateLogFile(FileName : String); external 'dmath';
9650: { Initializes log file }
9651: procedure SimAnn(Func          : TFuncNVar;
9652:                  X, Xmin, Xmax : TVector;
9653:                  Lb, Ub        : Integer;
9654:                  var F_min     : Float); external 'dmath';
9655: { Minimization of a function of several var. by simulated annealing }
9656: procedure InitGAParams(NP, NG : Integer; SR, MR, HR : Float); external 'dmath';
9657: { Initializes Genetic Algorithm parameters }
9658: procedure GA_CreateLogFile(FileName : String); external 'dmath';
9659: { Initializes log file }
9660: procedure GenAlg(Func          : TFuncNVar;
9661:                  X, Xmin, Xmax : TVector;
9662:                  Lb, Ub        : Integer;
9663:                  var F_min     : Float); external 'dmath';
9664: { Minimization of a function of several var. by genetic algorithm }
9665: { ---------------------------------------------------------------
9666:   Statistics
9667:   --------------------------------------------------------------- }
9668: function Mean(X : TVector; Lb, Ub : Integer) : Float; external 'dmath';
9669: { Mean of sample X }
9670: function Min(X : TVector; Lb, Ub : Integer) : Float; external 'dmath';
9671: { Minimum of sample X }
9672: function Max(X : TVector; Lb, Ub : Integer) : Float; external 'dmath';
9673: { Maximum of sample X }
9674: function Median(X : TVector; Lb, Ub : Integer; Sorted : Boolean) : Float; external 'dmath';
9675: { Median of sample X }
9676: function StDev(X : TVector; Lb, Ub : Integer; M : Float) : Float; external 'dmath';
9677: { Standard deviation estimated from sample X }
9678: function StDevP(X : TVector; Lb, Ub : Integer; M : Float) : Float; external 'dmath';
9679: { Standard deviation of population }
9680: function Correl(X, Y : TVector; Lb, Ub : Integer) : Float; external 'dmath';
9681: { Correlation coefficient }
9682: function Skewness(X : TVector; Lb, Ub : Integer; M,Sigma: Float): Float; external 'dmath';
9683: { Skewness of sample X }
9684: function Kurtosis(X : TVector; Lb, Ub : Integer; M,Sigma: Float): Float; external 'dmath';
9685: { Kurtosis of sample X }
9686: procedure QSort(X : TVector; Lb, Ub : Integer); external 'dmath';
9687: { Quick sort (ascending order) }
9688: procedure DQSort(X : TVector; Lb, Ub : Integer); external 'dmath';
9689: { Quick sort (descending order) }
9690: procedure Interval(X1, X2             : Float;
9691:                    MinDiv, MaxDiv     : Integer;
9692:                    var Min, Max, Step : Float); external 'dmath';
9693: { Determines an interval for a set of values }
9694: procedure AutoScale(X : TVector; Lb, Ub : Integer; Scale : TScale;
9695:                     var XMin, XMax, XStep : Float); external 'dmath';
9696: { Finds an appropriate scale for plotting the data in X[Lb..Ub] }
9697: procedure StudIndep(N1, N2         : Integer;
9698:                     M1, M2, S1, S2 : Float;
```

```
9699:                    var T          : Float;
9700:                    var DoF        : Integer); external 'dmath';
9701: { Student t-test for independent samples }
9702: procedure StudPaired(X, Y    : TVector;
9703:                      Lb, Ub  : Integer;
9704:                      var T   : Float;
9705:                      var DoF : Integer); external 'dmath';
9706: { Student t-test for paired samples }
9707: procedure AnOVa1(Ns               : Integer;
9708:                  N                : TIntVector;
9709:                  M, S             : TVector;
9710:                  var V_f, V_r, F  : Float;
9711:                  var DoF_f, DoF_r : Integer); external 'dmath';
9712: { One-way analysis of variance }
9713: procedure AnOVa2(NA, NB, Nobs : Integer;
9714:                  M, S         : TMatrix;
9715:                  V, F         : TVector;
9716:                  DoF          : TIntVector); external 'dmath';
9717: { Two-way analysis of variance }
9718: procedure Snedecor(N1, N2          : Integer;
9719:                    S1, S2          : Float;
9720:                    var F           : Float;
9721:                    var DoF1, DoF2 : Integer); external 'dmath';
9722: { Snedecor's F-test (comparison of two variances) }
9723: procedure Bartlett(Ns       : Integer;
9724:                    N        : TIntVector;
9725:                    S        : TVector;
9726:                    var Khi2 : Float;
9727:                    var DoF  : Integer); external 'dmath';
9728: { Bartlett's test (comparison of several variances) }
9729: procedure Mann_Whitney(N1, N2     : Integer;
9730:                        X1, X2     : TVector;
9731:                        var U, Eps : Float); external 'dmath';
9732: { Mann-Whitney test}
9733: procedure Wilcoxon(X, Y       : TVector;
9734:                    Lb, Ub     : Integer;
9735:                    var Ndiff  : Integer;
9736:                    var T, Eps : Float); external 'dmath';
9737: { Wilcoxon test }
9738: procedure Kruskal_Wallis(Ns      : Integer;
9739:                          N       : TIntVector;
9740:                          X       : TMatrix;
9741:                          var H   : Float;
9742:                          var DoF : Integer); external 'dmath';
9743: { Kruskal-Wallis test }
9744: procedure Khi2_Conform(N_cls    : Integer;
9745:                        N_estim  : Integer;
9746:                        Obs      : TIntVector;
9747:                        Calc     : TVector;
9748:                        var Khi2 : Float;
9749:                        var DoF  : Integer); external 'dmath';
9750: { Khi-2 test for conformity }
9751: procedure Khi2_Indep(N_lin    : Integer;
9752:                      N_col    : Integer;
9753:                      Obs      : TIntMatrix;
9754:                      var Khi2 : Float;
9755:                      var DoF  : Integer); external 'dmath';
9756: { Khi-2 test for independence }
9757: procedure Woolf_Conform(N_cls   : Integer;
9758:                         N_estim : Integer;
9759:                         Obs     : TIntVector;
9760:                         Calc    : TVector;
9761:                         var G   : Float;
9762:                         var DoF : Integer); external 'dmath';
9763: { Woolf's test for conformity }
9764: procedure Woolf_Indep(N_lin   : Integer;
9765:                       N_col   : Integer;
9766:                       Obs     : TIntMatrix;
9767:                       var G   : Float;
9768:                       var DoF : Integer); external 'dmath';
9769: { Woolf's test for independence }
9770: procedure DimStatClassVector(var C : TStatClassVector;
9771:                              Ub    : Integer); external 'dmath';
9772: { Allocates an array of statistical classes: C[0..Ub] }
9773: procedure Distrib(X       : TVector;
9774:                   Lb, Ub  : Integer;
9775:                   A, B, H : Float;
9776:                   C       : TStatClassVector); external 'dmath';
9777: { Distributes an array X[Lb..Ub] into statistical classes }
9778: { ----------------------------------------------------------------
9779:   Linear / polynomial regression
9780:   ---------------------------------------------------------------- }
9781: procedure LinFit(X, Y   : TVector;
9782:                  Lb, Ub : Integer;
9783:                  B      : TVector;
9784:                  V      : TMatrix); external 'dmath';
9785: { Linear regression : Y = B(0) + B(1) * X }
9786: procedure WLinFit(X, Y, S : TVector;
9787:                   Lb, Ub  : Integer;
```

```
9788:                   B       : TVector;
9789:                   V       : TMatrix); external 'dmath';
9790: { Weighted linear regression : Y = B(0) + B(1) * X }
9791: procedure SVDLinFit(X, Y   : TVector;
9792:                      Lb, Ub : Integer;
9793:                      SVDTol : Float;
9794:                      B      : TVector;
9795:                      V      : TMatrix); external 'dmath';
9796: { Unweighted linear regression by singular value decomposition }
9797: procedure WSVDLinFit(X, Y, S : TVector;
9798:                       Lb, Ub  : Integer;
9799:                       SVDTol  : Float;
9800:                       B       : TVector;
9801:                       V       : TMatrix); external 'dmath';
9802: { Weighted linear regression by singular value decomposition }
9803: procedure MulFit(X            : TMatrix;
9804:                  Y            : TVector;
9805:                  Lb, Ub, Nvar : Integer;
9806:                  ConsTerm     : Boolean;
9807:                  B            : TVector;
9808:                  V            : TMatrix); external 'dmath';
9809: { Multiple linear regression by Gauss-Jordan method }
9810: procedure WMulFit(X            : TMatrix;
9811:                   Y, S         : TVector;
9812:                   Lb, Ub, Nvar : Integer;
9813:                   ConsTerm     : Boolean;
9814:                   B            : TVector;
9815:                   V            : TMatrix); external 'dmath';
9816: { Weighted multiple linear regression by Gauss-Jordan method }
9817: procedure SVDFit(X            : TMatrix;
9818:                  Y            : TVector;
9819:                  Lb, Ub, Nvar : Integer;
9820:                  ConsTerm     : Boolean;
9821:                  SVDTol       : Float;
9822:                  B            : TVector;
9823:                  V            : TMatrix); external 'dmath';
9824: { Multiple linear regression by singular value decomposition }
9825: procedure WSVDFit(X            : TMatrix;
9826:                   Y, S         : TVector;
9827:                   Lb, Ub, Nvar : Integer;
9828:                   ConsTerm     : Boolean;
9829:                   SVDTol       : Float;
9830:                   B            : TVector;
9831:                   V            : TMatrix); external 'dmath';
9832: { Weighted multiple linear regression by singular value decomposition }
9833: procedure PolFit(X, Y        : TVector;
9834:                  Lb, Ub, Deg : Integer;
9835:                  B           : TVector;
9836:                  V           : TMatrix); external 'dmath';
9837: { Polynomial regression by Gauss-Jordan method }
9838: procedure WPolFit(X, Y, S     : TVector;
9839:                   Lb, Ub, Deg : Integer;
9840:                   B           : TVector;
9841:                   V           : TMatrix); external 'dmath';
9842: { Weighted polynomial regression by Gauss-Jordan method }
9843: procedure SVDPolFit(X, Y        : TVector;
9844:                     Lb, Ub, Deg : Integer;
9845:                     SVDTol      : Float;
9846:                     B           : TVector;
9847:                     V           : TMatrix); external 'dmath';
9848: { Unweighted polynomial regression by singular value decomposition }
9849: procedure WSVDPolFit(X, Y, S     : TVector;
9850:                      Lb, Ub, Deg : Integer;
9851:                      SVDTol      : Float;
9852:                      B           : TVector;
9853:                      V           : TMatrix); external 'dmath';
9854: { Weighted polynomial regression by singular value decomposition }
9855: procedure RegTest(Y, Ycalc : TVector;
9856:                   LbY, UbY : Integer;
9857:                   V        : TMatrix;
9858:                   LbV, UbV : Integer;
9859:                   var Test : TRegTest); external 'dmath';
9860: { Test of unweighted regression }
9861: procedure WRegTest(Y, Ycalc, S : TVector;
9862:                    LbY, UbY    : Integer;
9863:                    V           : TMatrix;
9864:                    LbV, UbV    : Integer;
9865:                    var Test    : TRegTest); external 'dmath';
9866: { Test of weighted regression }
9867: { ---------------------------------------------------------------
9868:   Nonlinear regression
9869:   --------------------------------------------------------------- }
9870: procedure SetOptAlgo(Algo : TOptAlgo); external 'dmath';
9871: { Sets the optimization algorithm for nonlinear regression }
9872: function GetOptAlgo : TOptAlgo; external 'dmath';
9873: { Returns the optimization algorithm }
9874: procedure SetMaxParam(N : Byte); external 'dmath';
9875: { Sets the maximum number of regression parameters for nonlinear regression }
9876: function GetMaxParam : Byte; external 'dmath';
```

```
9877: { Returns the maximum number of regression parameters for nonlinear regression }
9878: procedure SetParamBounds(I : Byte; ParamMin, ParamMax : Float); external 'dmath';
9879: { Sets the bounds on the I-th regression parameter }
9880: procedure GetParamBounds(I : Byte; var ParamMin,ParamMax:Float); external 'dmath';
9881: { Returns the bounds on the I-th regression parameter }
9882: procedure NLFit(RegFunc   : TRegFunc;
9883:                 DerivProc : TDerivProc;
9884:                 X, Y      : TVector;
9885:                 Lb, Ub    : Integer;
9886:                 MaxIter   : Integer;
9887:                 Tol       : Float;
9888:                 B         : TVector;
9889:                 FirstPar,
9890:                 LastPar   : Integer;
9891:                 V         : TMatrix); external 'dmath';
9892: { Unweighted nonlinear regression }
9893: procedure WNLFit(RegFunc   : TRegFunc;
9894:                  DerivProc : TDerivProc;
9895:                  X, Y, S   : TVector;
9896:                  Lb, Ub    : Integer;
9897:                  MaxIter   : Integer;
9898:                  Tol       : Float;
9899:                  B         : TVector;
9900:                  FirstPar,
9901:                  LastPar   : Integer;
9902:                  V         : TMatrix); external 'dmath';
9903: { Weighted nonlinear regression }
9904: procedure SetMCFile(FileName : String); external 'dmath';
9905: { Set file for saving MCMC simulations }
9906: procedure SimFit(RegFunc   : TRegFunc;
9907:                  X, Y      : TVector;
9908:                  Lb, Ub    : Integer;
9909:                  B         : TVector;
9910:                  FirstPar,
9911:                  LastPar   : Integer;
9912:                  V         : TMatrix); external 'dmath';
9913: { Simulation of unweighted nonlinear regression by MCMC }
9914: procedure WSimFit(RegFunc   : TRegFunc;
9915:                   X, Y, S   : TVector;
9916:                   Lb, Ub    : Integer;
9917:                   B         : TVector;
9918:                   FirstPar,
9919:                   LastPar   : Integer;
9920:                   V         : TMatrix); external 'dmath';
9921: { Simulation of weighted nonlinear regression by MCMC }
9922: { ------------------------------------------------------------------
9923:   Nonlinear regression models
9924:   ------------------------------------------------------------------ }
9925: procedure FracFit(X, Y       : TVector;
9926:                   Lb, Ub     : Integer;
9927:                   Deg1, Deg2 : Integer;
9928:                   ConsTerm   : Boolean;
9929:                   MaxIter    : Integer;
9930:                   Tol        : Float;
9931:                   B          : TVector;
9932:                   V          : TMatrix); external 'dmath';
9933: { Unweighted fit of rational fraction }
9934: procedure WFracFit(X, Y, S    : TVector;
9935:                    Lb, Ub     : Integer;
9936:                    Deg1, Deg2 : Integer;
9937:                    ConsTerm   : Boolean;
9938:                    MaxIter    : Integer;
9939:                    Tol        : Float;
9940:                    B          : TVector;
9941:                    V          : TMatrix); external 'dmath';
9942: { Weighted fit of rational fraction }
9943:
9944: function FracFit_Func(X : Float; B : TVector) : Float; external 'dmath';
9945: { Returns the value of the rational fraction at point X }
9946: procedure ExpFit(X, Y         : TVector;
9947:                  Lb, Ub, Nexp : Integer;
9948:                  ConsTerm     : Boolean;
9949:                  MaxIter      : Integer;
9950:                  Tol          : Float;
9951:                  B            : TVector;
9952:                  V            : TMatrix); external 'dmath';
9953: { Unweighted fit of sum of exponentials }
9954: procedure WExpFit(X, Y, S      : TVector;
9955:                   Lb, Ub, Nexp : Integer;
9956:                   ConsTerm     : Boolean;
9957:                   MaxIter      : Integer;
9958:                   Tol          : Float;
9959:                   B            : TVector;
9960:                   V            : TMatrix); external 'dmath';
9961: { Weighted fit of sum of exponentials }
9962: function ExpFit_Func(X : Float; B : TVector) : Float; external 'dmath';
9963: { Returns the value of the regression function at point X }
9964: procedure IncExpFit(X, Y     : TVector;
9965:                     Lb, Ub   : Integer;
```

```
                    ConsTerm : Boolean;
                    MaxIter  : Integer;
                    Tol      : Float;
                    B        : TVector;
                    V        : TMatrix); external 'dmath';
{ Unweighted fit of model of increasing exponential }
procedure WIncExpFit(X, Y, S  : TVector;
                     Lb, Ub   : Integer;
                     ConsTerm : Boolean;
                     MaxIter  : Integer;
                     Tol      : Float;
                     B        : TVector;
                     V        : TMatrix); external 'dmath';
{ Weighted fit of increasing exponential }
function IncExpFit_Func(X : Float; B : TVector) : Float; external 'dmath';
{ Returns the value of the regression function at point X }
procedure ExpLinFit(X, Y    : TVector;
                    Lb, Ub  : Integer;
                    MaxIter : Integer;
                    Tol     : Float;
                    B       : TVector;
                    V       : TMatrix); external 'dmath';
{ Unweighted fit of the "exponential + linear" model }
procedure WExpLinFit(X, Y, S : TVector;
                     Lb, Ub  : Integer;
                     MaxIter : Integer;
                     Tol     : Float;
                     B       : TVector;
                     V       : TMatrix); external 'dmath';
{ Weighted fit of the "exponential + linear" model }

function ExpLinFit_Func(X : Float; B : TVector) : Float; external 'dmath';
{ Returns the value of the regression function at point X }
procedure MichFit(X, Y    : TVector;
                  Lb, Ub  : Integer;
                  MaxIter : Integer;
                  Tol     : Float;
                  B       : TVector;
                  V       : TMatrix); external 'dmath';
{ Unweighted fit of Michaelis equation }
procedure WMichFit(X, Y, S : TVector;
                   Lb, Ub  : Integer;
                   MaxIter : Integer;
                   Tol     : Float;
                   B       : TVector;
                   V       : TMatrix); external 'dmath';
{ Weighted fit of Michaelis equation }
function MichFit_Func(X : Float; B : TVector) : Float; external 'dmath';
{ Returns the value of the Michaelis equation at point X }
procedure MintFit(X, Y    : TVector;
                  Lb, Ub  : Integer;
                  MintVar : TMintVar;
                  Fit_S0  : Boolean;
                  MaxIter : Integer;
                  Tol     : Float;
                  B       : TVector;
                  V       : TMatrix); external 'dmath';
{ Unweighted fit of the integrated Michaelis equation }
procedure WMintFit(X, Y, S : TVector;
                   Lb, Ub  : Integer;
                   MintVar : TMintVar;
                   Fit_S0  : Boolean;
                   MaxIter : Integer;
                   Tol     : Float;
                   B       : TVector;
                   V       : TMatrix); external 'dmath';
{ Weighted fit of the integrated Michaelis equation }
function MintFit_Func(X : Float; B : TVector) : Float; external 'dmath';
{ Returns the value of the integrated Michaelis equation at point X }
procedure HillFit(X, Y    : TVector;
                  Lb, Ub  : Integer;
                  MaxIter : Integer;
                  Tol     : Float;
                  B       : TVector;
                  V       : TMatrix); external 'dmath';
{ Unweighted fit of Hill equation }
procedure WHillFit(X, Y, S : TVector;
                   Lb, Ub  : Integer;
                   MaxIter : Integer;
                   Tol     : Float;
                   B       : TVector;
                   V       : TMatrix); external 'dmath';
{ Weighted fit of Hill equation }
function HillFit_Func(X : Float; B : TVector) : Float; external 'dmath';
{ Returns the value of the Hill equation at point X }
procedure LogiFit(X, Y     : TVector;
                  Lb, Ub   : Integer;
                  ConsTerm : Boolean;
                  General  : Boolean;
```

```
10055:                  MaxIter  : Integer;
10056:                  Tol      : Float;
10057:                  B        : TVector;
10058:                  V        : TMatrix); external 'dmath';
10059: { Unweighted fit of logistic function }
10060: procedure WLogiFit(X, Y, S  : TVector;
10061:                    Lb, Ub   : Integer;
10062:                    ConsTerm : Boolean;
10063:                    General  : Boolean;
10064:                    MaxIter  : Integer;
10065:                    Tol      : Float;
10066:                    B        : TVector;
10067:                    V        : TMatrix); external 'dmath';
10068: { Weighted fit of logistic function }
10069: function LogiFit_Func(X : Float; B : TVector) : Float; external 'dmath';
10070: { Returns the value of the logistic function at point X }
10071: procedure PKFit(X, Y    : TVector;
10072:                 Lb, Ub  : Integer;
10073:                 MaxIter : Integer;
10074:                 Tol     : Float;
10075:                 B       : TVector;
10076:                 V       : TMatrix); external 'dmath';
10077: { Unweighted fit of the acid-base titration curve }
10078: procedure WPKFit(X, Y, S : TVector;
10079:                  Lb, Ub  : Integer;
10080:                  MaxIter : Integer;
10081:                  Tol     : Float;
10082:                  B       : TVector;
10083:                  V       : TMatrix); external 'dmath';
10084: { Weighted fit of the acid-base titration curve }
10085: function PKFit_Func(X : Float; B : TVector) : Float; external 'dmath';
10086: { Returns the value of the acid-base titration function at point X }
10087: procedure PowFit(X, Y    : TVector;
10088:                  Lb, Ub  : Integer;
10089:                  MaxIter : Integer;
10090:                  Tol     : Float;
10091:                  B       : TVector;
10092:                  V       : TMatrix); external 'dmath';
10093: { Unweighted fit of power function }
10094: procedure WPowFit(X, Y, S : TVector;
10095:                   Lb, Ub  : Integer;
10096:                   MaxIter : Integer;
10097:                   Tol     : Float;
10098:                   B       : TVector;
10099:                   V       : TMatrix); external 'dmath';
10100: { Weighted fit of power function }
10101:
10102: function PowFit_Func(X : Float; B : TVector) : Float; external 'dmath';
10103: { Returns the value of the power function at point X }
10104: procedure GammaFit(X, Y    : TVector;
10105:                    Lb, Ub  : Integer;
10106:                    MaxIter : Integer;
10107:                    Tol     : Float;
10108:                    B       : TVector;
10109:                    V       : TMatrix); external 'dmath';
10110: { Unweighted fit of gamma distribution function }
10111: procedure WGammaFit(X, Y, S : TVector;
10112:                     Lb, Ub  : Integer;
10113:                     MaxIter : Integer;
10114:                     Tol     : Float;
10115:                     B       : TVector;
10116:                     V       : TMatrix); external 'dmath';
10117: { Weighted fit of gamma distribution function }
10118: function GammaFit_Func(X : Float; B : TVector) : Float; external 'dmath';
10119: { Returns the value of the gamma distribution function at point X }
10120: { ---------------------------------------------------------------
10121:   Principal component analysis
10122:   --------------------------------------------------------------- }
10123: procedure VecMean(X            : TMatrix;
10124:                   Lb, Ub, Nvar : Integer;
10125:                   M            : TVector); external 'dmath';
10126: { Computes the mean vector M from matrix X }
10127: procedure VecSD(X             : TMatrix;
10128:                 Lb, Ub, Nvar : Integer;
10129:                 M, S         : TVector); external 'dmath';
10130: { Computes the vector of standard deviations S from matrix X }
10131: procedure MatVarCov(X             : TMatrix;
10132:                     Lb, Ub, Nvar : Integer;
10133:                     M            : TVector;
10134:                     V            : TMatrix); external 'dmath';
10135: { Computes the variance-covariance matrix V from matrix X }
10136: procedure MatCorrel(V    : TMatrix;
10137:                     Nvar : Integer;
10138:                     R    : TMatrix); external 'dmath';
10139: { Computes the correlation matrix R from the var-cov matrix V }
10140: procedure PCA(R      : TMatrix;
10141:               Nvar   : Integer;
10142:               Lambda : TVector;
10143:               C, Rc  : TMatrix); external 'dmath';
```

```
10144: { Performs a principal component analysis of the correlation matrix R }
10145: procedure ScaleVar(X            : TMatrix;
10146:                    Lb, Ub, Nvar : Integer;
10147:                    M, S         : TVector;
10148:                    Z            : TMatrix); external 'dmath';
10149: { Scales a set of variables by subtracting means and dividing by SD's }
10150: procedure PrinFac(Z            : TMatrix;
10151:                   Lb, Ub, Nvar : Integer;
10152:                   C, F         : TMatrix); external 'dmath';
10153: { Computes principal factors }
10154: { ---------------------------------------------------------------
10155:   Strings
10156:   --------------------------------------------------------------- }
10157: function LTrim(S : String) : String; external 'dmath';
10158: { Removes leading blanks }
10159: function RTrim(S : String) : String; external 'dmath';
10160: { Removes trailing blanks }
10161: function Trim(S : String) : String; external 'dmath';
10162: { Removes leading and trailing blanks }
10163: function StrChar(N : Byte; C : Char) : String; external 'dmath';
10164: { Returns a string made of character C repeated N times }
10165: function RFill(S : String; L : Byte) : String; external 'dmath';
10166: { Completes string S with trailing blanks for a total length L }
10167: function LFill(S : String; L : Byte) : String; external 'dmath';
10168: { Completes string S with leading blanks for a total length L }
10169: function CFill(S : String; L : Byte) : String; external 'dmath';
10170: { Centers string S on a total length L }
10171: function Replace(S : String; C1, C2 : Char) : String; external 'dmath';
10172: { Replaces in string S all the occurences of C1 by C2 }
10173: function Extract(S : String; var Index : Byte; Delim : Char) : String; external 'dmath';
10174: { Extracts a field from a string }
10175: procedure Parse(S : String; Delim:Char; Field:TStrVector; var N:Byte); external 'dmath';
10176: { Parses a string into its constitutive fields }
10177: procedure SetFormat(NumLength,MaxDec:Integer;FloatPoint,NSZero:Bool); external 'dmath';
10178: { Sets the numeric format }
10179: function FloatStr(X : Float) : String; external 'dmath';
10180: { Converts a real to a string according to the numeric format }
10181: function IntStr(N : LongInt) : String; external 'dmath';
10182: { Converts an integer to a string }
10183: function CompStr(Z : Complex) : String; external 'dmath';
10184: { Converts a complex number to a string }
10185: {$IFDEF DELPHI}
10186: function StrDec(S : String) : String; external 'dmath';
10187: { Set decimal separator to the symbol defined in SysUtils }
10188: function IsNumeric(var S : String; var X : Float) : Boolean; external 'dmath';
10189: { Test if a string represents a number and returns it in X }
10190: function ReadNumFromEdit(Edit : TEdit) : Float; external 'dmath';
10191: { Reads a floating point number from an Edit control }
10192: procedure WriteNumToFile(var F : Text; X : Float); external 'dmath';
10193: { Writes a floating point number in a text file }
10194: {$ENDIF}
10195: { ---------------------------------------------------------------
10196:   BGI / Delphi graphics
10197:   --------------------------------------------------------------- }
10198: function InitGraphics
10199: {$IFDEF DELPHI}
10200: (Width, Height : Integer) : Boolean;
10201: {$ELSE}
10202: (Pilot, Mode : Integer; BGIPath : String) : Boolean; {$ENDIF} external 'dmath';
10203: { Enters graphic mode }
10204: procedure SetWindow({$IFDEF DELPHI}Canvas : TCanvas;{$ENDIF}
10205:                     X1, X2, Y1,Y2 : Integer; GraphBorder:Boolean); external 'dmath';
10206: { Sets the graphic window }
10207: procedure SetOxScale(Scale               : TScale;
10208:                      OxMin, OxMax, OxStep : Float); external 'dmath';
10209: { Sets the scale on the Ox axis }
10210: procedure SetOyScale(Scale               : TScale;
10211:                      OyMin, OyMax, OyStep : Float); external 'dmath';
10212: { Sets the scale on the Oy axis }
10213: procedure GetOxScale(var Scale                : TScale;
10214:                      var OxMin, OxMax, OxStep : Float); external 'dmath';
10215: { Returns the scale on the Ox axis }
10216: procedure GetOyScale(var Scale                : TScale;
10217:                      var OyMin, OyMax, OyStep : Float); external 'dmath';
10218: { Returns the scale on the Oy axis }
10219: procedure SetGraphTitle(Title : String); external 'dmath'; { Sets the title for the graph }
10220: procedure SetOxTitle(Title : String); external 'dmath'; { Sets the title for the Ox axis }
10221: procedure SetOyTitle(Title : String); external 'dmath'; { Sets the title for the Oy axis }
10222: function GetGraphTitle : String; external 'dmath'; { Returns the title for the graph }
10223: function GetOxTitle : String; external 'dmath'; { Returns the title for the Ox axis }
10224: function GetOyTitle : String; external 'dmath'; { Returns the title for the Oy axis }
10225: {$IFNDEF DELPHI}
10226: procedure SetTitleFont(FontIndex, Width, Height : Integer); external 'dmath';
10227: { Sets the font for the main graph title }
10228: procedure SetOxFont(FontIndex, Width, Height : Integer); external 'dmath';
10229: { Sets the font for the Ox axis (title and labels) }
10230: procedure SetOyFont(FontIndex, Width, Height : Integer); external 'dmath';
10231: { Sets the font for the Oy axis (title and labels) }
10232: procedure SetLgdFont(FontIndex, Width, Height : Integer); external 'dmath';
```

```
10233: { Sets the font for the legends }
10234: procedure SetClipping(Clip : Boolean); external 'dmath';
10235: { Determines whether drawings are clipped at the current viewport
10236:   boundaries, according to the value of the Boolean parameter Clip }
10237: {$ENDIF}
10238: procedure PlotOxAxis{$IFDEF DELPHI}(Canvas : TCanvas){$ENDIF}; external 'dmath';
10239: { Plots the horizontal axis }
10240: procedure PlotOyAxis{$IFDEF DELPHI}(Canvas : TCanvas){$ENDIF}; external 'dmath';
10241: { Plots the vertical axis }
10242: procedure PlotGrid({$IFDEF DELPHI}Canvas:TCanvas;{$ENDIF} Grid:TGrid); external 'dmath';
10243: { Plots a grid on the graph }
10244: procedure WriteGraphTitle{$IFDEF DELPHI}(Canvas : TCanvas){$ENDIF}; external 'dmath';
10245: { Writes the title of the graph }
10246: procedure SetMaxCurv(NCurv : Byte); external 'dmath';
10247: { Sets the maximum number of curves and re-initializes their parameters }
10248: procedure SetPointParam
10249: {$IFDEF DELPHI}
10250: (CurvIndex, Symbol, Size : Integer; Color : TColor);
10251: {$ELSE}
10252: (CurvIndex, Symbol, Size, Color : Integer); {$ENDIF} external 'dmath';
10253: { Sets the point parameters for curve # CurvIndex }
10254: procedure SetLineParam
10255: {$IFDEF DELPHI}
10256: (CurvIndex : Integer; Style : TPenStyle; Width : Integer; Color : TColor);
10257: {$ELSE}
10258: (CurvIndex, Style, Width, Color : Integer); {$ENDIF} external 'dmath';
10259: { Sets the line parameters for curve # CurvIndex }
10260: procedure SetCurvLegend(CurvIndex : Integer; Legend : String); external 'dmath';
10261: { Sets the legend for curve # CurvIndex }
10262: procedure SetCurvStep(CurvIndex, Step : Integer); external 'dmath';
10263: { Sets the step for curve # CurvIndex }
10264: function GetMaxCurv : Byte; external 'dmath'; { Returns the maximum number of curves }
10265: procedure GetPointParam
10266: {$IFDEF DELPHI}
10267: (CurvIndex : Integer; var Symbol, Size : Integer; var Color : TColor);
10268: {$ELSE}
10269: (CurvIndex : Integer; var Symbol, Size, Color : Integer); {$ENDIF} external 'dmath';
10270: { Returns the point parameters for curve # CurvIndex }
10271: procedure GetLineParam
10272: {$IFDEF DELPHI}
10273: (CurvIndex : Integer; var Style : TPenStyle; var Width : Integer; var Color : TColor);
10274: {$ELSE}
10275: (CurvIndex : Integer; var Style, Width, Color : Integer); {$ENDIF} external 'dmath';
10276: { Returns the line parameters for curve # CurvIndex }
10277: function GetCurvLegend(CurvIndex : Integer) : String; external 'dmath';
10278: { Returns the legend for curve # CurvIndex }
10279: function GetCurvStep(CurvIndex : Integer) : Integer; external 'dmath';
10280: { Returns the step for curve # CurvIndex }
10281: {$IFDEF DELPHI}
10282: procedure PlotPoint(Canvas    : TCanvas;
10283:                     X, Y      : Float; CurvIndex : Integer); external 'dmath';
10284: {$ELSE}
10285: procedure PlotPoint(Xp, Yp, CurvIndex : Integer); external 'dmath';
10286: {$ENDIF}
10287: { Plots a point on the screen }
10288: procedure PlotCurve({$IFDEF DELPHI}Canvas : TCanvas;{$ENDIF}
10289:                     X, Y                 : TVector;
10290:                     Lb, Ub, CurvIndex    : Integer); external 'dmath';
10291: { Plots a curve }
10292: procedure PlotCurveWithErrorBars({$IFDEF DELPHI}Canvas : TCanvas;{$ENDIF}
10293:                                  X, Y, S              : TVector;
10294:                                  Ns, Lb, Ub, CurvIndex : Integer); external 'dmath';
10295: { Plots a curve with error bars }
10296: procedure PlotFunc({$IFDEF DELPHI}Canvas : TCanvas;{$ENDIF}
10297:                    Func                 : TFunc;
10298:                    Xmin, Xmax           : Float;
10299:                    {$IFDEF DELPHI}Npt    : Integer;{$ENDIF}
10300:                    CurvIndex            : Integer); external 'dmath';
10301: { Plots a function }
10302: procedure WriteLegend({$IFDEF DELPHI}Canvas : TCanvas;{$ENDIF}
10303:                       NCurv               : Integer;
10304:                       ShowPoints, ShowLines : Boolean); external 'dmath';
10305: { Writes the legends for the plotted curves }
10306: procedure ConRec({$IFDEF DELPHI}Canvas : TCanvas;{$ENDIF}
10307:                  Nx, Ny, Nc           : Integer;
10308:                  X, Y, Z              : TVector;
10309:                  F                    : TMatrix); external 'dmath';
10310: { Contour plot }
10311: function Xpixel(X : Float):Integer; external 'dmath'; {Converts user abscissa X to screen coordinate }
10312: function Ypixel(Y : Float):Integer; external 'dmath'; {Converts user ordinate Y to screen coordinate }
10313: function Xuser(X : Integer):Float; external 'dmath';  {Converts screen coordinate X to user abscissa }
10314: function Yuser(Y : Integer):Float; external 'dmath';  {Converts screen coordinate Y to user ordinate }
10315: {$IFNDEF DELPHI}
10316: procedure LeaveGraphics; external 'dmath';
10317: { Quits graphic mode }
10318: {$ENDIF}
10319: { ---------------------------------------------------------------
10320:   LaTeX graphics
10321:   --------------------------------------------------------------- }
```

```
10322: function TeX_InitGraphics(FileName          : String; PgWidth, PgHeight : Integer;
10323:                           Header            : Boolean) : Boolean; external 'dmath';
10324: { Initializes the LaTeX file }
10325: procedure TeX_SetWindow(X1, X2, Y1, Y2 : Integer; GraphBorder : Boolean); external 'dmath';
10326: { Sets the graphic window }
10327: procedure TeX_LeaveGraphics(Footer : Boolean); external 'dmath'; { Close the LaTeX file }
10328: procedure TeX_SetOxScale(Scale : TScale; OxMin, OxMax, OxStep : Float); external 'dmath';
10329: { Sets the scale on the Ox axis }
10330: procedure TeX_SetOyScale(Scale : TScale; OyMin, OyMax, OyStep : Float); external 'dmath';
10331: { Sets the scale on the Oy axis }
10332: procedure TeX_SetGraphTitle(Title : String); external 'dmath'; { Sets the title for the graph }
10333: procedure TeX_SetOxTitle(Title : String); external 'dmath'; { Sets the title for the Ox axis }
10334: procedure TeX_SetOyTitle(Title : String); external 'dmath'; { Sets the title for the Oy axis }
10335: procedure TeX_PlotOxAxis; external 'dmath'; { Plots the horizontal axis }
10336: procedure TeX_PlotOyAxis; external 'dmath'; { Plots the vertical axis }
10337: procedure TeX_PlotGrid(Grid : TGrid); external 'dmath'; { Plots a grid on the graph }
10338: procedure TeX_WriteGraphTitle; external 'dmath'; Writes the title of the graph }
10339: procedure TeX_SetMaxCurv(NCurv : Byte); external 'dmath';
10340: { Sets the maximum number of curves and re-initializes their parameters }
10341: procedure TeX_SetPointParam(CurvIndex, Symbol, Size : Integer); external 'dmath';
10342: { Sets the point parameters for curve # CurvIndex }
10343: procedure TeX_SetLineParam(CurvIndex, Style : Integer;
10344:                            Width : Float; Smooth : Boolean); external 'dmath';
10345: { Sets the line parameters for curve # CurvIndex }
10346: procedure TeX_SetCurvLegend(CurvIndex : Integer; Legend : String); external 'dmath';
10347: { Sets the legend for curve # CurvIndex }
10348: procedure TeX_SetCurvStep(CurvIndex, Step : Integer); external 'dmath';
10349: { Sets the step for curve # CurvIndex }
10350: procedure TeX_PlotCurve(X, Y : TVector; Lb, Ub, CurvIndex : Integer); external 'dmath';
10351: { Plots a curve }
10352: procedure TeX_PlotCurveWithErrorBars(X, Y, S : TVector;
10353:                                      Ns, Lb, Ub, CurvIndex : Integer); external 'dmath';
10354: { Plots a curve with error bars }
10355: procedure TeX_PlotFunc(Func : TFunc; X1, X2 : Float;
10356:                        Npt : Integer; CurvIndex : Integer); external 'dmath';
10357: { Plots a function }
10358: procedure TeX_WriteLegend(NCurv : Integer; ShowPoints, ShowLines : Boolean); external 'dmath';
10359: { Writes the legends for the plotted curves }
10360: procedure TeX_ConRec(Nx, Ny, Nc : Integer; X, Y, Z  : TVector; F : TMatrix); external 'dmath';
10361: { Contour plot }
10362: function Xcm(X : Float) : Float; external 'dmath'; { Converts user coordinate X to cm }
10363: function Ycm(Y : Float) : Float; external 'dmath'; { Converts user coordinate Y to cm }
10364:
10365: //******************************************************unit uPSI_SynPdf;
10366:  Function RawUTF8ToPDFString( const Value : RawUTF8) : PDFString
10367:  Function _DateTimeToPdfDate( ADate : TDateTime) : TPdfDate
10368:  Function _PdfDateToDateTime( const AText : TPdfDate) : TDateTime
10369:  Function PdfRect( Left, Top, Right, Bottom : Single) : TPdfRect;
10370:  Function PdfRect1( const Box : TPdfBox) : TPdfRect;
10371:  Function PdfBox( Left, Top, Width, Height : Single) : TPdfBox
10372:  //Function _GetCharCount( Text : PAnsiChar) : integer
10373:  //Procedure L2R( W : PWideChar; L : integer)
10374:  Function PdfCoord( MM : single) : integer
10375:  Function CurrentPrinterPaperSize : TPDFPaperSize
10376:  Function CurrentPrinterRes : TPoint
10377:  Procedure GDICommentBookmark( MetaHandle : HDC; const aBookmarkName : RawUTF8)
10378:  Procedure GDICommentOutline( MetaHandle : HDC; const aTitle : RawUTF8; aLevel : Integer)
10379:  Procedure GDICommentLink( MetaHandle:HDC; const aBookmarkName:RawUTF8; const aRect : TRect)
10380:  Const('Usp10','String 'usp10.dll
10381:   AddTypeS('TScriptState_enum', '( r0, r1, r2, r3, r4, fOverrideDirection, fInhibitSymSwap,
10382:    'fCharShape, fDigitSubstitute,fInhibitLigate,fDisplayZWG, fArabicNumContext, fGcpClusters )
10383:   AddTypeS('TScriptState_set', 'set of TScriptState_enum
10384: //*********************************************************************
10385:
10386: procedure SIRegister_PMrand(CL: TPSPascalCompiler);  //ParkMiller
10387: begin
10388:  Procedure PMrandomize( I : word)
10389:  Function PMrandom : longint
10390:  Function Rrand : extended
10391:  Function Irand( N : word) : word
10392:  Function Brand( P : extended) : boolean
10393:  Function Nrand : extended
10394: end;
10395:
10396: procedure SIRegister_Spring_Cryptography_Utils(CL: TPSPascalCompiler);
10397: begin
10398:   Function Endian( x : LongWord) : LongWord
10399:   Function Endian64( x : Int64) : Int64
10400:   Function spRol( x : LongWord; y : Byte) : LongWord
10401:   Function spRor( x : LongWord; y : Byte) : LongWord
10402:   Function Ror64( x : Int64; y : Byte) : Int64
10403: end;
10404:
10405: procedure SIRegister_MapReader(CL: TPSPascalCompiler);
10406: begin
10407:  Procedure ClearModules
10408:  Procedure ReadMapFile( Fname : string)
10409:  Function AddressInfo( Address : dword) : string
10410: end;
```

```
10411:
10412: procedure SIRegister_LibTar(CL: TPSPascalCompiler);
10413: begin
10414:   TTarPermission', '( tpReadByOwner, tpWriteByOwner, tpExecuteByOw'
10415:    +'ner, tpReadByGroup, tpWriteByGroup, tpExecuteByGroup, tpReadByOther, tpWri'
10416:    +'teByOther, tpExecuteByOther )
10417:   TTarPermissions', 'set of TTarPermission
10418:   TFileType', '( ftNormal, ftLink, ftSymbolicLink, ftCharacter, ft'
10419:    +'Block, ftDirectory, ftFifo, ftContiguous, ftDumpDir, ftMultiVolume, ftVolumeHeader;
10420:   TTarMode', '( tmSetUid, tmSetGid, tmSaveText )
10421:   TTarModes', 'set of TTarMode
10422:   TTarDirRec', 'record Name : STRING; Size : INT64; DateTime : TDa'
10423:    +'teTime; Permissions : TTarPermissions; FileType : TFileType; LinkName : ST'
10424:    +'RING; UID : INTEGER; GID : INTEGER; UserName : STRING; GroupName : STRING;'
10425:    +' ChecksumOK : BOOLEAN; Mode : TTarModes; Magic : STRING; MajorDevNo : INTE'
10426:    +'GER; MinorDevNo : INTEGER; FilePos : INT64; end
10427:   SIRegister_TTarArchive(CL);
10428:   SIRegister_TTarWriter(CL);
10429:  Function PermissionString( Permissions : TTarPermissions) : STRING
10430:  Function ConvertFilename( Filename : STRING) : STRING
10431:  Function FileTimeGMT( FileName : STRING) : TDateTime;
10432:  Function FileTimeGMT1( SearchRec : TSearchRec) : TDateTime;
10433:  Procedure ClearDirRec( var DirRec : TTarDirRec)
10434: end;
10435:
10436:
10437: //************************************************unit uPSI_TlHelp32;
10438: procedure SIRegister_TlHelp32(CL: TPSPascalCompiler);
10439: begin
10440:  Const('MAX_MODULE_NAME32','LongInt'( 255);
10441:  Function CreateToolhelp32Snapshot( dwFlags, th32ProcessID : DWORD) : THandle
10442:  Const('TH32CS_SNAPHEAPLIST','LongWord( $00000001);
10443:  Const('TH32CS_SNAPPROCESS','LongWord').SetUInt( $00000002);
10444:  Const('TH32CS_SNAPTHREAD','LongWord').SetUInt( $00000004);
10445:  Const('TH32CS_SNAPMODULE','LongWord').SetUInt( $00000008);
10446:  Const('TH32CS_INHERIT','LongWord').SetUInt( $80000000);
10447:   tagHEAPLIST32','record dwSize:DWORD;th32ProcessID:DWORD;th32HeapID:DWORD;dwFlags:DWORD;end';
10448:   AddTypeS('HEAPLIST32', 'tagHEAPLIST32
10449:   AddTypeS('THeapList32', 'tagHEAPLIST32
10450:  Const('HF32_DEFAULT','LongInt'( 1);
10451:  Const('HF32_SHARED','LongInt'( 2);
10452:  Function Heap32ListFirst( hSnapshot : THandle; var lphl : THeapList32) : BOOL
10453:  Function Heap32ListNext( hSnapshot : THandle; var lphl : THeapList32) : BOOL
10454:  AddTypeS('tagHEAPENTRY32', 'record dwSize : DWORD; hHandle : THandle; dwAd'
10455:    +'dress : DWORD; dwBlockSize : DWORD; dwFlags : DWORD; dwLockCount : DWORD; '
10456:    +'dwResvd : DWORD; th32ProcessID : DWORD; th32HeapID : DWORD; end
10457:   AddTypeS('HEAPENTRY32', 'tagHEAPENTRY32
10458:   AddTypeS('THeapEntry32', 'tagHEAPENTRY32
10459:  Const('LF32_FIXED','LongWord').SetUInt( $00000001);
10460:  Const('LF32_FREE','LongWord').SetUInt( $00000002);
10461:  Const('LF32_MOVEABLE','LongWord').SetUInt( $00000004);
10462:  Function Heap32First( var lphe : THeapEntry32; th32ProcessID, th32HeapID : DWORD) : BOOL
10463:  Function Heap32Next( var lphe : THeapEntry32) : BOOL
10464:  DWORD; var lpNumberOfBytesRead : DWORD) : BOOL
10465:   AddTypeS('tagTHREADENTRY32', 'record dwSize : DWORD; cntUsage : DWORD; th3'
10466:    +'2ThreadID : DWORD; th32OwnerProcessID : DWORD; tpBasePri : Longint; tpDelt'
10467:    +'aPri : Longint; dwFlags : DWORD; end
10468:   AddTypeS('THREADENTRY32', 'tagTHREADENTRY32
10469:   AddTypeS('TThreadEntry32', 'tagTHREADENTRY32
10470:  Function Thread32First( hSnapshot : THandle; var lpte : TThreadEntry32) : BOOL
10471:  Function Thread32Next( hSnapshot : THandle; var lpte : TThreadENtry32) : BOOL
10472: end;
10473:  Const('EW_RESTARTWINDOWS','LongWord').SetUInt( $0042);
10474:  Const('EW_REBOOTSYSTEM','LongWord( $0043);
10475:  Const('EW_EXITANDEXECAPP','LongWord( $0044);
10476:  Const('ENDSESSION_LOGOFF','LongWord').SetUInt( DWORD ( $80000000 ));
10477:  Const('EWX_LOGOFF','LongInt'( 0);
10478:  Const('EWX_SHUTDOWN','LongInt'( 1);
10479:  Const('EWX_REBOOT','LongInt'( 2);
10480:  Const('EWX_FORCE','LongInt'( 4);
10481:  Const('EWX_POWEROFF','LongInt'( 8);
10482:  Const('EWX_FORCEIFHUNG','LongWord').SetUInt( $10);
10483:  Function GET_APPCOMMAND_LPARAM( const lParam : LongInt) : Shortint
10484:  Function GET_DEVICE_LPARAM( const lParam : LongInt) : Word
10485:  Function GET_MOUSEORKEY_LPARAM( const lParam : LongInt) : Word
10486:  Function GET_FLAGS_LPARAM( const lParam : LongInt) : Word
10487:  Function GET_KEYSTATE_LPARAM( const lParam : LongInt) : Word
10488:  Function GetWindowWord( hWnd : HWND; nIndex : Integer) : Word
10489:  Function SetWindowWord( hWnd : HWND; nIndex : Integer; wNewWord : Word) : Word
10490:  Function GetWindowLong( hWnd : HWND; nIndex : Integer) : Longint
10491:  Function SetWindowLong( hWnd : HWND; nIndex : Integer; dwNewLong : Longint) : Longint
10492:  Function GetClassWord( hWnd : HWND; nIndex : Integer) : Word
10493:  Function SetClassWord( hWnd : HWND; nIndex : Integer; wNewWord : Word) : Word
10494:  Function GetClassLong( hWnd : HWND; nIndex : Integer) : DWORD
10495:  Function SetClassLong( hWnd : HWND; nIndex : Integer; dwNewLong : Longint) : DWORD
10496:  Function GetDesktopWindow : HWND
10497:  Function GetParent( hWnd : HWND) : HWND
10498:  Function SetParent( hWndChild, hWndNewParent : HWND) : HWND
10499:  Function GetTopWindow( hWnd : HWND) : HWND
```

```
10500:  Function GetNextWindow( hWnd : HWND; uCmd : UINT) : HWND
10501:  Function GetWindow( hWnd : HWND; uCmd : UINT) : HWND
10502:  //Delphi DFM
10503:  Function LoadDFMFile2Strings(const AFile:string; AStrings:TStrings; var WasText:boolean):integer
10504:  Function SaveStrings2DFMFile( AStrings : TStrings; const AFile : string) : integer
10505:  procedure GetHighlighters(AOwner: TComponent; AHighlighters: TStringList; AppendToList: boolean);
10506:  function GetHighlightersFilter(AHighlighters: TStringList): string;
10507:  function GetHighlighterFromFileExt(AHighlighters: TStringList;Extension: string):TSynCustomHighlighter;
10508:  Function ShowOwnedPopups( hWnd : HWND; fShow : BOOL) : BOOL
10509:  Function OpenIcon( hWnd : HWND) : BOOL
10510:  Function CloseWindow( hWnd : HWND) : BOOL
10511:  Function MoveWindow( hWnd : HWND; X, Y, nWidth, nHeight : Integer; bRepaint : BOOL) : BOOL
10512:  Function SetWindowPos(hWnd: HWND;hWndInsertAfter:HWND; X,Y,cx,cy : Integer; uFlags : UINT) : BOOL
10513:  Function IsWindowVisible( hWnd : HWND) : BOOL
10514:  Function IsIconic( hWnd : HWND) : BOOL
10515:  Function AnyPopup : BOOL
10516:  Function BringWindowToTop( hWnd : HWND) : BOOL
10517:  Function IsZoomed( hWnd : HWND) : BOOL
10518:  Function IsWindow( hWnd : HWND) : BOOL
10519:  Function IsMenu( hMenu : HMENU) : BOOL
10520:  Function IsChild( hWndParent, hWnd : HWND) : BOOL
10521:  Function DestroyWindow( hWnd : HWND) : BOOL
10522:  Function ShowWindow( hWnd : HWND; nCmdShow : Integer) : BOOL
10523:  Function AnimateWindow( hWnd : HWND; dwTime : DWORD; dwFlags : DWORD) : BOOL
10524:  Function ShowWindowAsync( hWnd : HWND; nCmdShow : Integer) : BOOL
10525:  Function FlashWindow( hWnd : HWND; bInvert : BOOL) : BOOL
10526:  Function IsWindowUnicode( hWnd : HWND) : BOOL
10527:  Function EnableWindow( hWnd : HWND; bEnable : BOOL) : BOOL
10528:  Function IsWindowEnabled( hWnd : HWND) : BOOL
10529:
10530: procedure SIRegister_IDECmdLine(CL: TPSPascalCompiler);
10531: begin
10532:  const('ShowSetupDialogOptLong','String '--setup
10533:  PrimaryConfPathOptLong','String '--primary-config-path=
10534:  PrimaryConfPathOptShort','String '--pcp=
10535:  SecondaryConfPathOptLong','String '--secondary-config-path=
10536:  SecondaryConfPathOptShort','String '--scp=
10537:  NoSplashScreenOptLong','String '--no-splash-screen
10538:  NoSplashScreenOptShort','String '--nsc
10539:  StartedByStartLazarusOpt','String '--started-by-startlazarus
10540:  SkipLastProjectOpt','String '--skip-last-project
10541:  DebugLogOpt','String '--debug-log=
10542:  DebugLogOptEnable','String '--debug-enable=
10543:  LanguageOpt','String '--language=
10544:  LazarusDirOpt','String '--lazarusdir=
10545:  Procedure ParseCommandLine(aCmdLineParams:TStrings;out IDEPid:Int;out ShowSplashScreen:boolean);
10546:  Function GetCommandLineParameters( aCmdLineParams : TStrings; isStartLazarus:Boolean) : string
10547:  Function ExtractPrimaryConfigPath( aCmdLineParams : TStrings) : string
10548:  Function IsHelpRequested : Boolean
10549:  Function IsVersionRequested : boolean
10550:  Function GetLanguageSpecified : string
10551:  Function ParamIsOption( ParamIndex : integer; const Option : string) : boolean
10552:  Function ParamIsOptionPlusValue(ParamIndex:integer;const Option:string;out AValue:string):bool;
10553:  Procedure ParseNoGuiCmdLineParams
10554:  Function ExtractCmdLineFilenames : TStrings
10555: end;
10556:
10557:
10558: procedure SIRegister_LazFileUtils(CL: TPSPascalCompiler);
10559: begin
10560:  Function CompareFilenames( const Filename1, Filename2 : string) : integer
10561:  Function CompareFilenamesIgnoreCase( const Filename1, Filename2 : string) : integer
10562:  Function CompareFileExt( const Filename, Ext : string; CaseSensitive : boolean) : integer;
10563:  Function CompareFileExt1( const Filename, Ext : string) : integer;
10564:  Function CompareFilenameStarts( const Filename1, Filename2 : string) : integer
10565:  Function CompareFilenames(Filename1:PChar;Len1:integer; Filename2:PChar;Len2:integer):integer
10566:  Function CompareFilenamesP( Filename1, Filename2 : PChar; IgnoreCase : boolean) : integer
10567:  Function DirPathExists( DirectoryName : string) : boolean
10568:  Function DirectoryIsWritable( const DirectoryName : string) : boolean
10569:  Function ExtractFileNameOnly( const AFilename : string) : string
10570:  Function FilenameIsAbsolute( const TheFilename : string) : boolean
10571:  Function FilenameIsWinAbsolute( const TheFilename : string) : boolean
10572:  Function FilenameIsUnixAbsolute( const TheFilename : string) : boolean
10573:  Function ForceDirectory( DirectoryName : string) : boolean
10574:  Procedure CheckIfFileIsExecutable( const AFilename : string)
10575:  Procedure CheckIfFileIsSymlink( const AFilename : string)
10576:  Function FileIsText( const AFilename : string) : boolean
10577:  Function FileIsText2( const AFilename : string; out FileReadable : boolean) : boolean
10578:  Function FilenameIsTrimmed( const TheFilename : string) : boolean
10579:  Function FilenameIsTrimmed2( StartPos : PChar; NameLen : integer) : boolean
10580:  Function TrimFilename( const AFilename : string) : string
10581:  Function ResolveDots( const AFilename : string) : string
10582:  Procedure ForcePathDelims( var FileName : string)
10583:  Function GetForcedPathDelims( const FileName : string) : String
10584:  Function CleanAndExpandFilename( const Filename : string) : string
10585:  Function CleanAndExpandDirectory( const Filename : string) : string
10586:  Function TrimAndExpandFilename( const Filename : string; const BaseDir : string) : string
10587:  Function TrimAndExpandDirectory( const Filename : string; const BaseDir : string) : string
10588:  Function TryCreateRelativePath(const Dest,Source:String; UsePointDirectory:bool;
       AlwaysRequireSharedBaseFolder : Boolean; out RelPath : String) : Boolean
```

```
10589:  Function CreateRelativePath( const Filename,BaseDirectory:string; UsePointDirectory:boolean;
       AlwaysRequireSharedBaseFolder: Boolean) : string
10590:  Function FileIsInPath( const Filename, Path : string) : boolean
10591:  Function AppendPathDelim( const Path : string) : string
10592:  Function ChompPathDelim( const Path : string) : string
10593:  Function CreateAbsoluteSearchPath( const SearchPath, BaseDirectory : string) : string
10594:  Function CreateRelativeSearchPath( const SearchPath, BaseDirectory : string) : string
10595:  Function MinimizeSearchPath( const SearchPath : string) : string
10596:  Function FindPathInSearchPath(APath:PChar;APathLen:int;SearchPath:PChar;SearchPathLen:int):PChar;
10597:  (*Function FileExistsUTF8( const Filename : string) : boolean
10598:  Function FileAgeUTF8( const FileName : string) : Longint
10599:  Function DirectoryExistsUTF8( const Directory : string) : Boolean
10600:  Function ExpandFileNameUTF8( const FileName : string; BaseDir : string) : string
10601:  Function FindFirstUTF8(const Path:string; Attr: Longint; out Rslt : TSearchRec) : Longint
10602:  Function FindNextUTF8( var Rslt : TSearchRec) : Longint
10603:  Procedure FindCloseUTF8( var F : TSearchrec)
10604:  Function FileSetDateUTF8( const FileName : String; Age : Longint) : Longint
10605:  Function FileGetAttrUTF8( const FileName : String) : Longint
10606:  Function FileSetAttrUTF8( const Filename : String; Attr : longint) : Longint
10607:  Function DeleteFileUTF8( const FileName : String) : Boolean
10608:  Function RenameFileUTF8( const OldName, NewName : String) : Boolean
10609:  Function FileSearchUTF8( const Name, DirList : String; ImplicitCurrentDir : Boolean) : String
10610:  Function FileIsReadOnlyUTF8( const FileName : String) : Boolean
10611:  Function GetCurrentDirUTF8 : String
10612:  Function SetCurrentDirUTF8( const NewDir : String) : Boolean
10613:  Function CreateDirUTF8( const NewDir : String) : Boolean
10614:  Function RemoveDirUTF8( const Dir : String) : Boolean
10615:  Function ForceDirectoriesUTF8( const Dir : string) : Boolean
10616:  Function FileOpenUTF8( const FileName : string; Mode : Integer) : THandle
10617:  Function FileCreateUTF8( const FileName : string) : THandle;
10618:  Function FileCreateUTF81( const FileName : string; Rights : Cardinal) : THandle;
10619:  Function FileCreateUtf82( const FileName : String; ShareMode : Integer; Rights : Cardinal) : THandle;
10620:  Function FileSizeUtf8( const Filename : string) : int64
10621:  Function GetFileDescription( const AFilename : string) : string
10622:  Function GetAppConfigDirUTF8( Global : Boolean; Create : boolean) : string
10623:  Function GetAppConfigFileUTF8( Global : Boolean; SubDir : boolean; CreateDir : boolean) : string
10624:  Function GetTempFileNameUTF8( const Dir, Prefix : String) : String*)
10625:  Function IsUNCPath( const Path : String) : Boolean
10626:  Function ExtractUNCVolume( const Path : String) : String
10627:  Function ExtractFileRoot( FileName : String) : String
10628:  Function GetDarwinSystemFilename( Filename : string) : string
10629:  Procedure SplitCmdLineParams( const Params : string; ParamList : TStrings; ReadBackslash : boolean)
10630:  Function StrToCmdLineParam( const Param : string) : string
10631:  Function MergeCmdLineParams( ParamList : TStrings) : string
10632:  Procedure InvalidateFileStateCache( const Filename : string)
10633:  Function FindAllFiles(const SearchPath:String;SearchMask:String;SearchSubDirs:Boolean):TStringList);
10634:  Function FindAllDirectories( const SearchPath : string; SearchSubDirs : Boolean) : TStringList
10635:  Function FindAllDocs(const Root, extmask: string): TStringlist;
10636:  Function ReadFileToString( const Filename : string) : string
10637:  procedure Inc1(var X: longint; N: Longint);
10638:
10639:  type
10640:   TCopyFileFlag = ( cffOverwriteFile,
10641:     cffCreateDestDirectory, cffPreserveTime );
10642:   TCopyFileFlags = set of TCopyFileFlag;*)
10643:   TCopyFileFlag', '(cffOverwriteFile, cffCreateDestDirectory, cffPreserveTime)
10644:   TCopyFileFlags', 'set of TCopyFileFlag
10645:   Function CopyDirTree( const SourceDir, TargetDir : string; Flags : TCopyFileFlags) : Boolean
10646: end;
10647:
10648: procedure SIRegister_lazMasks(CL: TPSPascalCompiler);
10649: begin
10650:   TMaskCharType', '( mcChar, mcCharSet, mcAnyChar, mcAnyText )
10651:   SIRegister_TMask(CL);
10652:   SIRegister_TParseStringList(CL);
10653:   SIRegister_TMaskList(CL);
10654:  Function MatchesMask( const FileName, Mask : String; const CaseSensitive : Boolean) : Boolean
10655:  Function MatchesWindowsMask( const FileName, Mask : String; const CaseSensitive : Boolean) : Bool;
10656:  Function MatchesMaskList(const FileName,Mask:String;Separator:Char;const CaseSensitive:Boolean):Bool;
10657:  Function MatchesWindowsMaskList(const FileName,Mask:String;Separat:Char;const CaseSensitive:Bool):Bool;
10658: end;
10659:
10660: procedure SIRegister_JvShellHook(CL: TPSPascalCompiler);
10661: begin
10662:   //PShellHookInfo', '^TShellHookInfo // will not work
10663:   TShellHookInfo', 'record hwnd : THandle; rc : TRect; end
10664:   SHELLHOOKINFO', 'TShellHookInfo
10665:   LPSHELLHOOKINFO', 'PShellHookInfo
10666:   TJvShellHookEvent', 'Procedure ( Sender : TObject; var Msg : TMessage)
10667:   SIRegister_TJvShellHook(CL);
10668:  Function InitJvShellHooks : Boolean
10669:  Procedure UnInitJvShellHooks
10670: end;
10671:
10672: procedure SIRegister_JvExControls(CL: TPSPascalCompiler);
10673: begin
10674:   TDlgCode', '( dcWantAllKeys, dcWantArrows, dcWantChars, dcButton'
10675:    +', dcHasSetSel, dcWantTab, dcNative )
10676:   TDlgCodes', 'set of TDlgCode
```

```
10677:  'dcWantMessage',' dcWantAllKeys);
10678:   SIRegister_IJvExControl(CL);
10679:   SIRegister_IJvDenySubClassing(CL);
10680:   SIRegister_TStructPtrMessage(CL);
10681:  Procedure SetDotNetFrameColors( FocusedColor, UnfocusedColor : TColor)
10682:  Procedure DrawDotNetControl( Control : TWinControl; AColor : TColor; InControl : Boolean);
10683:  Procedure DrawDotNetControl1( DC : HDC; R : TRect; AColor : TColor; UseFocusedColor : Boolean);
10684:  Procedure HandleDotNetHighlighting(Control:TWinControl;const Msg:TMessage;MouseOver:Boolean;Color:TColor);
10685:  Function CreateWMMessage( Msg : Integer; WParam : Integer; LParam : Longint) : TMessage;
10686:  Function CreateWMMessage1( Msg : Integer; WParam : Integer; LParam : TControl) : TMessage;
10687:  Function SmallPointToLong( const Pt : TSmallPoint) : Longint
10688:  Function ShiftStateToKeyData( Shift : TShiftState) : Longint
10689:  Function GetFocusedControl( AControl : TControl) : TWinControl
10690:  Function DlgcToDlgCodes( Value : Longint) : TDlgCodes
10691:  Function DlgCodesToDlgc( Value : TDlgCodes) : Longint
10692:  Procedure GetHintColor( var HintInfo : THintInfo; AControl : TControl; HintColor : TColor)
10693:  Function DispatchIsDesignMsg( Control : TControl; var Msg : TMessage) : Boolean
10694:   SIRegister_TJvExControl(CL);
10695:   SIRegister_TJvExWinControl(CL);
10696:   SIRegister_TJvExCustomControl(CL);
10697:   SIRegister_TJvExGraphicControl(CL);
10698:   SIRegister_TJvExHintWindow(CL);
10699:   SIRegister_TJvExPubGraphicControl(CL);
10700: end;
10701:
10702: (*----------------------------------------------------------------------------*)
10703: procedure SIRegister_EncdDecd(CL: TPSPascalCompiler);
10704: begin
10705:  Procedure EncodeStream( Input, Output : TStream)
10706:  Procedure DecodeStream( Input, Output : TStream)
10707:  Function EncodeString1( const Input : string) : string
10708:  Function DecodeString1( const Input : string) : string
10709: end;
10710:
10711: (*----------------------------------------------------------------------------*)
10712: procedure SIRegister_SockAppReg(CL: TPSPascalCompiler);
10713: begin
10714:   SIRegister_TWebAppRegInfo(CL);
10715:   SIRegister_TWebAppRegList(CL);
10716:  Procedure GetRegisteredWebApps( AList : TWebAppRegList)
10717:  Procedure RegisterWebApp( const AFileName, AProgID : string)
10718:  Procedure UnregisterWebApp( const AProgID : string)
10719:  Function FindRegisteredWebApp( const AProgID : string) : string
10720:  Function CreateRegistry( InitializeNewFile : Boolean) : TCustomIniFile
10721:  'sUDPPort','String 'UDPPort
10722: end;
10723:
10724: procedure SIRegister_PJEnvVars(CL: TPSPascalCompiler);
10725: begin
10726:  // TStringDynArray', 'array of string
10727:  Function GetEnvVarValue( const VarName : string) : string
10728:  Function SetEnvVarValue( const VarName, VarValue : string) : Integer
10729:  Function DeleteEnvVar( const VarName : string) : Integer
10730:  Function CreateEnvBlock(const NewEnv:TStrings;const IncludeCurrent:Bool;const Buffer:string;const
      BufSize:Int):Int;
10731:  Function ExpandEnvVars( const Str : string) : string
10732:  Function GetAllEnvVars( const Vars : TStrings) : Integer
10733:  Procedure GetAllEnvVarNames( const Names : TStrings);
10734:  Function GetAllEnvVarNames1 : TStringDynArray;
10735:  Function EnvBlockSize : Integer
10736:   TPJEnvVarsEnum', 'Procedure ( const VarName : string; Data : TObject)
10737:   SIRegister_TPJEnvVarsEnumerator(CL);
10738:   SIRegister_TPJEnvVars(CL);
10739:   FindClass('TOBJECT'),'EPJEnvVars
10740:   FindClass('TOBJECT'),'EPJEnvVars
10741:  //Procedure Register
10742: end;
10743:
10744: (*----------------------------------------------------------------------------*)
10745: procedure SIRegister_PJConsoleApp(CL: TPSPascalCompiler);
10746: begin
10747:  'cOneSecInMS','LongInt'( 1000);
10748:  //'cDefTimeSlice','LongInt'( 50);
10749:  //'cDefMaxExecTime',' cOneMinInMS);
10750:  'cAppErrorMask','LongInt'( 1 shl 29);
10751:  Function IsApplicationError( const ErrCode : LongWord) : Boolean
10752:   TPJConsoleAppPriority', '( cpDefault, cpHigh, cpNormal, cpIdle, cpRealTime )
10753:   TPJConsoleColors', 'record Foreground : TPJConsoleColor; Background:TPJConsoleColor; end;
10754:  Function MakeConsoleColors( const AForeground, ABackground : TPJConsoleColor):TPJConsoleColors;
10755:  Function MakeConsoleColors1( const AForeground, ABackground : TColor) : TPJConsoleColors;
10756:  Function MakeConsoleColors2( const AForeground, ABackground : TAlphaColor) : TPJConsoleColors;
10757:  Function MakeSize( const ACX, ACY : LongInt) : TSize
10758:   SIRegister_TPJCustomConsoleApp(CL);
10759:   SIRegister_TPJConsoleApp(CL);
10760: end;
10761:
10762: procedure SIRegister_ip_misc(CL: TPSPascalCompiler);
10763: begin
10764:  INVALID_IP_ADDRESS','LongWord').SetUInt( $ffffffff);
```

```
10765:   t_encoding', '( uuencode, base64, mime )
10766:  Function internet_date( date : TDateTime) : string
10767:  Function lookup_hostname( const hostname : string) : longint
10768:  Function my_hostname : string
10769:  Function my_ip_address : longint
10770:  Function ip2string( ip_address : longint) : string
10771:  Function resolve_hostname( ip : longint) : string
10772:  Function address_from( const s : string; count : integer) : string
10773:  Function encode_base64( data : TStream) : TStringList
10774:  Function decode_base64( source : TStringList) : TMemoryStream
10775:  Function posn( const s, t : string; count : integer) : integer
10776:  Function poscn( c : char; const s : string; n : integer) : integer
10777:  Function filename_of( const s : string) : string
10778:  //Function trim( const s : string) : string
10779:  //Procedure setlength( var s : string; l : byte)
10780:  Function TimeZoneBias : longint
10781:  Function eight2seven_quoteprint( const s : string) : string
10782:  Function eight2seven_german( const s : string) : string
10783:  Function seven2eight_quoteprint( const s : string) : string end;
10784:   type in_addr', 'record s_bytes : array[1..4] of byte; end;
10785:  Function socketerror : cint
10786:  Function fpsocket( domain : cint; xtype : cint; protocol : cint) : cint
10787:  Function fprecv( s : cint; buf : ___pointer; len : size_t; flags : cint) : ssize_t
10788:  Function fpsend( s : cint; msg : ___pointer; len : size_t; flags : cint) : ssize_t
10789:  //Function fpbind( s : cint; addrx : psockaddr; addrlen : tsocklen) : cint
10790:  Function fplisten( s : cint; backlog : cint) : cint
10791:  //Function fpaccept( s : cint; addrx : psockaddr; addrlen : plongint) : cint
10792:  //Function fpconnect( s : cint; name : psockaddr; namelen : tsocklen) : cint
10793:  //Function fpgetsockname( s : cint; name : psockaddr; namelen : psocklen) : cint
10794:  Function NetAddrToStr( Entry : in_addr) : String
10795:  Function HostAddrToStr( Entry : in_addr) : String
10796:  Function StrToHostAddr( IP : String) : in_addr
10797:  Function StrToNetAddr( IP : String) : in_addr
10798:  SOL_SOCKET','LongWord').SetUInt( $ffff);
10799:   cint8', 'shortint
10800:   cuint8', 'byte
10801:   cchar', 'cint8
10802:   cschar', 'cint8
10803:   cuchar', 'cuint8
10804:   cint16', 'smallint
10805:   cuint16', 'word
10806:   cshort', 'cint16
10807:   csshort', 'cint16
10808:   cushort', 'cuint16
10809:   cint32', 'longint
10810:   cuint32', 'longword
10811:   cint', 'cint32
10812:   csint', 'cint32
10813:   cuint', 'cuint32
10814:   csigned', 'cint
10815:   cunsigned', 'cuint
10816:   cint64', 'int64
10817:   clonglong', 'cint64
10818:   cslonglong', 'cint64
10819:   cbool', 'longbool
10820:   cfloat', 'single
10821:   cdouble', 'double
10822:   clongdouble', 'extended
10823:
10824: procedure SIRegister_uLkJSON(CL: TPSPascalCompiler);
10825: begin
10826:   TlkJSONtypes','(jsBase,jsNumber,jsString,jsBoolean,jsNull,jsList,jsObject )
10827:   SIRegister_TlkJSONdotnetclass(CL);
10828:   SIRegister_TlkJSONbase(CL);
10829:   SIRegister_TlkJSONnumber(CL);
10830:   SIRegister_TlkJSONstring(CL);
10831:   SIRegister_TlkJSONboolean(CL);
10832:   SIRegister_TlkJSONnull(CL);
10833:   TlkJSONFuncEnum', 'Procedure ( ElName : string; Elem : TlkJSONba'
10834:    +'se; data : TObject; var Continue : Boolean)
10835:   SIRegister_TlkJSONcustomlist(CL);
10836:   SIRegister_TlkJSONlist(CL);
10837:   SIRegister_TlkJSONobjectmethod(CL);
10838:   TlkHashItem', 'record hash : cardinal; index : Integer; end
10839:   TlkHashFunction', 'Function ( const ws : WideString) : cardinal
10840:   SIRegister_TlkHashTable(CL);
10841:   SIRegister_TlkBalTree(CL);
10842:   SIRegister_TlkJSONobject(CL);
10843:   SIRegister_TlkJSON(CL);
10844:   SIRegister_TlkJSONstreamed(CL);
10845:  Function GenerateReadableText( vObj : TlkJSONbase; var vLevel : Integer): string
10846: end;
10847:
10848: procedure SIRegister_ZSysUtils(CL: TPSPascalCompiler);
10849: begin
10850:   TZListSortCompare', 'Function (Item1, Item2 : TObject): Integer
10851:   SIRegister_TZSortedList(CL);
10852:  Function zFirstDelimiter( const Delimiters, Str : string) : Integer
10853:  Function zLastDelimiter( const Delimiters, Str : string) : Integer
```

```
10854:  //Function MemLCompUnicode( P1, P2 : PWideChar; Len : Integer) : Boolean
10855:  //Function MemLCompAnsi( P1, P2 : PAnsiChar; Len : Integer) : Boolean
10856:  Function zStartsWith( const Str, SubStr : WideString) : Boolean;
10857:  Function StartsWith1( const Str, SubStr : RawByteString) : Boolean;
10858:  Function EndsWith( const Str, SubStr : WideString) : Boolean;
10859:  Function EndsWith1( const Str, SubStr : RawByteString) : Boolean;
10860:  Function SQLStrToFloatDef( Str : RawByteString; Def : Extended) : Extended;
10861:  Function SQLStrToFloatDef1( Str : String; Def : Extended) : Extended;
10862:  Function SQLStrToFloat( const Str : AnsiString) : Extended
10863:  //Function BufferToStr( Buffer : PWideChar; Length : LongInt) : string;
10864:  //Function BufferToStr1( Buffer : PAnsiChar; Length : LongInt) : string;
10865:  Function BufferToBytes( Buffer : TObject; Length : LongInt) : TByteDynArray
10866:  Function StrToBoolEx( Str : string) : Boolean
10867:  Function BoolToStrEx( Bool : Boolean) : String
10868:  Function IsIpAddr( const Str : string) : Boolean
10869:  Function zSplitString( const Str, Delimiters : string) : TStrings
10870:  Procedure PutSplitString( List : TStrings; const Str, Delimiters : string)
10871:  Procedure AppendSplitString( List : TStrings; const Str, Delimiters : string)
10872:  Function ComposeString( List : TStrings; const Delimiter : string) : string
10873:  Function FloatToSQLStr( Value : Extended) : string
10874:  Procedure PutSplitStringEx( List : TStrings; const Str, Delimiter : string)
10875:  Function SplitStringEx( const Str, Delimiter : string) : TStrings
10876:  Procedure AppendSplitStringEx( List : TStrings; const Str, Delimiter : string)
10877:  Function zBytesToStr( const Value : TByteDynArray) : AnsiString
10878:  Function zStrToBytes( const Value : AnsiString) : TByteDynArray;
10879:  Function StrToBytes1( const Value : UTF8String) : TByteDynArray;
10880:  Function StrToBytes2( const Value : RawByteString) : TByteDynArray;
10881:  Function StrToBytes3( const Value : WideString) : TByteDynArray;
10882:  Function StrToBytes4( const Value : UnicodeString) : TByteDynArray;
10883:  Function BytesToVar( const Value : TByteDynArray) : Variant
10884:  Function VarToBytes( const Value : Variant) : TByteDynArray
10885:  Function AnsiSQLDateToDateTime( const Value : string) : TDateTime
10886:  Function TimestampStrToDateTime( const Value : string) : TDateTime
10887:  Function DateTimeToAnsiSQLDate( Value : TDateTime; WithMMSec : Boolean) : string
10888:  Function EncodeCString( const Value : string) : string
10889:  Function DecodeCString( const Value : string) : string
10890:  Function zReplaceChar( const Source, Target : Char; const Str : string) : string
10891:  Function MemPas( Buffer : PChar; Length : LongInt) : string
10892:  Procedure DecodeSQLVersioning(const FullVersion:Int;out MajorVersion:Int;out MinorVersion:Int;out
       SubVersion:Int);
10893:  Function EncodeSQLVersioning(const MajorVersion:Integer;const MinorVersion:Integer;const
       SubVersion:Integer):Int;
10894:  Function FormatSQLVersion( const SQLVersion : Integer) : String
10895:  Function ZStrToFloat( Value : AnsiChar) : Extended;
10896:  Function ZStrToFloat1( Value : AnsiString) : Extended;
10897:  Procedure ZSetString( const Src : AnsiChar; var Dest : AnsiString);
10898:  Procedure ZSetString1( const Src : AnsiChar; const Len : Cardinal; var Dest : AnsiString);
10899:  Procedure ZSetString2( const Src : AnsiChar; var Dest : UTF8String);
10900:  Procedure ZSetString3( const Src : AnsiChar; const Len : Cardinal; var Dest : UTF8String);
10901:  Procedure ZSetString4( const Src : AnsiChar; const Len : Cardinal; var Dest : WideString);
10902:  Procedure ZSetString5( const Src : AnsiChar; var Dest : RawByteString);
10903:  Procedure ZSetString6( const Src : AnsiChar; const Len : Cardinal; var Dest : RawByteString);
10904: end;
10905:
10906: unit uPSI_ZEncoding;
10907:  Function StringToAnsiEx( const s : String; const FromCP, ToCP : Word) : RawByteString
10908:  Function AnsiToStringEx( const s : RawByteString; const FromCP, ToCP : Word) : String
10909:  Function ZRawToUnicode( const S : RawByteString; const CP : Word) : WideString
10910:  Function ZUnicodeToRaw( const US : WideString; CP : Word) : RawByteString
10911:  Function ZConvertAnsiToRaw( const Src : AnsiString; const RawCP : Word) : RawByteString
10912:  Function ZConvertRawToAnsi( const Src : RawByteString; const RawCP : Word) : AnsiString
10913:  Function ZConvertAnsiToUTF8( const Src : AnsiString) : UTF8String
10914:  Function ZConvertUTF8ToAnsi( const Src : UTF8String) : AnsiString
10915:  Function ZConvertRawToUTF8( const Src : RawByteString; const CP : Word) : UTF8String
10916:  Function ZConvertUTF8ToRaw( const Src : UTF8String; const CP : Word) : RawByteString
10917:  Function ZConvertRawToString( const Src : RawByteString; const RawCP, StringCP : Word) : String
10918:  Function ZConvertStringToRaw( const Src : String; const StringCP, RawCP : Word) : RawByteString
10919:  Function ZConvertStringToRawWithAutoEncode(const Src:String;const StringCP,RawCP:Word):RawByteString;
10920:  Function ZConvertUTF8ToString( const Src : UTF8String; const StringCP : Word) : String
10921:  Function ZConvertStringToUTF8( const Src : String; const StringCP : Word) : UTF8String
10922:  Function ZConvertStringToUTF8WithAutoEncode( const Src : String; const StringCP: Word): UTF8String
10923:  Function ZConvertStringToAnsi( const Src : String; const StringCP : Word) : AnsiString
10924:  Function ZConvertStringToAnsiWithAutoEncode( const Src : String; const StringCP: Word): AnsiString
10925:  Function ZConvertAnsiToString( const Src : AnsiString; const StringCP : Word) : String
10926:  Function ZConvertUnicodeToString( const Src : WideString; const StringCP : Word) : String
10927:  Function ZConvertUnicodeToString_CPUTF8( const Src : WideString; const StringCP : Word) : String
10928:  Function ZConvertStringToUnicode( const Src : String; const StringCP : Word) : WideString
10929:  Function ZConvertString_CPUTF8ToUnicode( const Src : String; const StringCP : Word) : WideString
10930:  Function ZConvertStringToUnicodeWithAutoEncode( const Src: String; const StringCP:Word):WideString
10931:  Function ZMoveAnsiToRaw( const Src : AnsiString; const RawCP : Word) : RawByteString
10932:  Function ZMoveRawToAnsi( const Src : RawByteString; const RawCP : Word) : AnsiString
10933:  Function ZMoveAnsiToUTF8( const Src : AnsiString) : UTF8String
10934:  Function ZMoveUTF8ToAnsi( const Src : UTF8String) : AnsiString
10935:  Function ZMoveRawToUTF8( const Src : RawByteString; const CP : Word) : UTF8String
10936:  Function ZMoveUTF8ToRaw( const Src : UTF8String; const CP : Word) : RawByteString
10937:  Function ZMoveStringToAnsi( const Src : String; const StringCP : Word) : AnsiString
10938:  Function ZMoveAnsiToString( const Src : AnsiString; const StringCP : Word) : String
10939:  Function ZMoveRawToString( const Src : RawByteString; const RawCP, StringCP : Word) : String
10940:  Function ZMoveStringToRaw( const Src : String; const StringCP, RawCP : Word) : RawByteString
```

```
10941:  Function ZMoveUTF8ToString( const Src : UTF8String; StringCP : Word) : String
10942:  Function ZMoveStringToUTF8( const Src : String; const StringCP : Word) : UTF8String
10943:  Function ZUnknownRawToUnicode( const S : RawByteString; const CP : Word) : WideString
10944:  Function ZUnknownRawToUnicodeWithAutoEncode( const S : RawByteString; const CP : Word) : WideString
10945:  Function ZUnicodeToUnknownRaw( const US : WideString; CP : Word) : RawByteString
10946:  Function ZDefaultSystemCodePage : Word
10947:  Function ZCompatibleCodePages( const CP1, CP2 : Word) : Boolean
10948:
10949:
10950: procedure SIRegister_BoldComUtils(CL: TPSPascalCompiler);
10951: begin
10952:  'RPC_C_AUTHN_LEVEL_DEFAULT','LongInt'( 0);
10953:  ('RPC_C_AUTHN_LEVEL_NONE','LongInt'( 1);
10954:  ('RPC_C_AUTHN_LEVEL_CONNECT','LongInt'( 2);
10955:  ('RPC_C_AUTHN_LEVEL_CALL','LongInt'( 3);
10956:  ('RPC_C_AUTHN_LEVEL_PKT','LongInt'( 4);
10957:  ('RPC_C_AUTHN_LEVEL_PKT_INTEGRITY','LongInt'( 5);
10958:  ('RPC_C_AUTHN_LEVEL_PKT_PRIVACY','LongInt'( 6);
10959:  {('alDefault','1 RPC_C_AUTHN_LEVEL_DEFAULT);
10960:  ('alNone','2 RPC_C_AUTHN_LEVEL_NONE);
10961:  ('alConnect','3 RPC_C_AUTHN_LEVEL_CONNECT);
10962:  ('alCall','4 RPC_C_AUTHN_LEVEL_CALL);
10963:  ('alPacket','5 RPC_C_AUTHN_LEVEL_PKT);
10964:  ('alPacketIntegrity','6 RPC_C_AUTHN_LEVEL_PKT_INTEGRITY);
10965:  ('alPacketPrivacy','7 RPC_C_AUTHN_LEVEL_PKT_PRIVACY);}
10966:  ('RPC_C_IMP_LEVEL_DEFAULT','LongInt'( 0);
10967:  ('RPC_C_IMP_LEVEL_ANONYMOUS','LongInt'( 1);
10968:  ('RPC_C_IMP_LEVEL_IDENTIFY','LongInt'( 2);
10969:  ('RPC_C_IMP_LEVEL_IMPERSONATE','LongInt'( 3);
10970:  ('RPC_C_IMP_LEVEL_DELEGATE','LongInt'( 4);
10971:  {('ilDefault','0 RPC_C_IMP_LEVEL_DEFAULT);
10972:  ('ilAnonymous','1 RPC_C_IMP_LEVEL_ANONYMOUS);
10973:  ('ilIdentity','2 RPC_C_IMP_LEVEL_IDENTIFY);
10974:  ('ilImpersonate','3 RPC_C_IMP_LEVEL_IMPERSONATE);
10975:  ('ilDelegate','4 RPC_C_IMP_LEVEL_DELEGATE);}
10976:  ('EOAC_NONE','LongWord').SetUInt( $0);
10977:  ('EOAC_DEFAULT','LongWord').SetUInt( $800);
10978:  ('EOAC_MUTUAL_AUTH','LongWord').SetUInt( $1);
10979:  ('EOAC_STATIC_CLOACKING','LongWord').SetUInt( $20);
10980:  ('EOAC_DYNAMIC_CLOAKING','LongWord').SetUInt( $40);
10981:  ('EOAC_ANY_AUTHORITY','LongWord').SetUInt( $80);
10982:  ('RPC_C_AUTHN_WINNT','LongInt'( 10);
10983:  ('RPC_C_AUTHNZ_NONE','LongInt'( 0);
10984:  ('RPC_C_AUTHNZ_NAME','LongInt'( 1);
10985:  ('RPC_C_AUTHNZ_DCE','LongInt'( 2);
10986:   FindClass('TOBJECT'),'EBoldCom
10987:  Function BoldVariantIsType( V : OleVariant; TypeCode : Integer) : Boolean
10988:  Function BoldMemoryToVariant( const Buffer, BufSize : Integer) : OleVariant
10989:  Function BoldStreamToVariant( Stream : TStream) : OleVariant
10990:  Function BoldStringsToVariant( Strings : TStrings) : OleVariant
10991:  Function BoldVariantToMemory( V : OleVariant; var Buffer, BufSize : Integer) : Integer
10992:  Function BoldVariantToStream( V : OleVariant; Stream : TStream) : Integer
10993:  Function BoldVariantArrayOfArraysOfStringToStrings( V : OleVariant; Strings : TStrings) : Integer
10994:  Function BoldVariantIsNamedValues( V : OleVariant) : Boolean
10995:  Function BoldCreateNamedValues(const Names:array of string;const Values:array of OleVariant):OleVariant;
10996:  Function BoldGetNamedValue( Data : OleVariant; const Name : string) : OleVariant
10997:  Procedure BoldSetNamedValue( Data : OleVariant; const Name : string; Value : OleVariant)
10998:  Function BoldCreateGUID : TGUID
10999:  Function BoldCreateComObject( const ClsId, IId : TGUID; out Obj : variant; out Res : HResult) : Boolean
11000:  Function BoldCreateRemoteComObject(const HostName:string;const ClsId,IId:TGUID;out Obj:variant;out
       Res:HRes):Bool;
11001:  Procedure BoldInitializeComSecurity( AuthenticationLevel, ImpersonationLevel : longint)
11002:  Procedure BoldSetSecurityForInterface(AuthenticationLevel,ImpersonationLevel:longint;Unk:IUnknown);
11003: end;
11004:
11005: (*----------------------------------------------------------------------------*)
11006: procedure SIRegister_BoldIsoDateTime(CL: TPSPascalCompiler);
11007: begin
11008:  Function ParseISODate( s : string) : TDateTime
11009:  Function ParseISODateTime( s : string) : TDateTime
11010:  Function ParseISOTime( str : string) : TDateTime
11011: end;
11012:
11013: (*----------------------------------------------------------------------------*)
11014: procedure SIRegister_BoldGUIDUtils(CL: TPSPascalCompiler);
11015: begin
11016:  Function BoldCreateGUIDAsString( StripBrackets : Boolean) : string
11017:  Function BoldCreateGUIDWithBracketsAsString : string
11018: end;
11019:
11020: procedure SIRegister_BoldFileHandler(CL: TPSPascalCompiler);
11021: begin
11022:   FindClass('TOBJECT'),'TBoldFileHandler
11023:   FindClass('TOBJECT'),'TBoldDiskFileHandler
11024:   //TBoldFileHandlerClass', 'class of TBoldFileHandler
11025:   TBoldInitializeFileContents', 'Procedure ( StringList : TStringList)
11026:   SIRegister_TBoldFileHandler(CL);
11027:   SIRegister_TBoldDiskFileHandler(CL);
11028:  Procedure BoldCloseAllFilehandlers
```

```
11029:  Procedure BoldRemoveUnchangedFilesFromEditor
11030:  Function BoldFileHandlerList : TBoldObjectArray
11031:  Function BoldFileHandlerForFile(path,FileName:String; ModuleType:TBoldModuleType;ShowInEditor:Bool;
        OnInitializeFileContents : TBoldInitializeFileContents) : TBoldFileHandler
11032: end;
11033:
11034: procedure SIRegister_BoldWinINet(CL: TPSPascalCompiler);
11035: begin
11036:   PCharArr', 'array of PChar
11037:  Function BoldInternetOpen(Agent:String;
        AccessType:integer;Proxy:string;ProxyByPass:String;Flags:integer):ptr);
11038:  Function BoldInternetOpenUrl(iNet:Pointer;URL: string; Headers:String;Flags,Context:cardinal):Pointer
11039:  Function BoldInternetReadFile(hFile:Pointer;Buff:Ptr;NumbOfBytesToRead:Card;var
        NumberOfBytesRead:Card):LongBool;
11040:  Function BoldInternetCloseHandle( HINet : Pointer) : LongBool
11041:  Function BoldHttpQueryInfo( hRequest : Pointer; InfoLevel : Cardinal; Buffer : Pointer; BufferLength :
        Cardinal; Reserved : Cardinal) : LongBool
11042:  Function BoldInternetQueryDataAvailable( hFile : Pointer; var NumberOfBytesAvailable : Cardinal; flags :
        Cardinal; Context : Cardinal) : LongBool
11043:  Function BoldHttpOpenRequest(hConnect: Pointer; Verb, ObjectName, Version, Referrer : String; AcceptTypes
        : PCharArr; Flags, Context : Cardinal) : Pointer
11044:  Function BoldHttpSendRequest(hRequest:Ptr;Headers:string;Optional:Ptr;OptionalLength:Cardinal): LongBool
11045:  Function BoldInternetErrorDlg(hWnd:HWND;hRequest:HINTERNET;dwError,dwFlags:DWORD;var lppvData:Ptr):DWORD
11046:  Function BoldInternetAttemptConnect( dwReserved : DWORD) : DWORD
11047:  Function BoldInternetConnect(hInet: HINTERNET;ServerName:string; nServerPort:INTERNET_PORT;
        Username:string; Password : string; dwService : DWORD; dwFlags : DWORD; dwContext : DWORD):HINTERNET
11048:  Function BoldInternetCrackUrl(Url:PChar;UrlLength,dwFlags:DWORD;var lpUrlComponents:TURLComponents):BOOL;
11049: end;
11050:
11051: procedure SIRegister_BoldQueryUserDlg(CL: TPSPascalCompiler);
11052: begin
11053:   TBoldQueryResult', '( qrYesAll, qrYes, qrNo, qrNoAll )
11054:   SIRegister_TfrmBoldQueryUser(CL);
11055:  Function QueryUser( const Title, Query : string) : TBoldQueryResult
11056: end;
11057:
11058: (*----------------------------------------------------------------------------*)
11059: procedure SIRegister_BoldQueue(CL: TPSPascalCompiler);
11060: begin
11061:  //('befIsInDisplayList',' BoldElementFlag0);
11062:  //('befStronglyDependedOfPrioritized',' BoldElementFlag1);
11063:  //('befFollowerSelected',' BoldElementFlag2);
11064:   FindClass('TOBJECT'),'TBoldQueue
11065:   FindClass('TOBJECT'),'TBoldQueueable
11066:   TBoldQueueDisplayMode', '( dmDisplayOne, dmDisplayAll )
11067:   SIRegister_TBoldQueueable(CL);
11068:   SIRegister_TBoldQueue(CL);
11069:  Function BoldQueueFinalized : Boolean
11070:  Function BoldInstalledQueue : TBoldQueue
11071: end;
11072:
11073: procedure SIRegister_Barcode(CL: TPSPascalCompiler);
11074: begin
11075:  const mmPerInch','Extended').setExtended( 25.4);
11076:   TBarcodeType', '( bcCode_2_5_interleaved, bcCode_2_5_industrial,'
11077:    +' bcCode_2_5_matrix, bcCode39, bcCode39Extended, bcCode128A, bcCode128B, bc'
11078:    +'Code128C, bcCode93, bcCode93Extended, bcCodeMSI, bcCodePostNet, bcCodeCoda'
11079:    +'bar, bcCodeEAN8, bcCodeEAN13, bcCodeUPC_A, bcCodeUPC_E0, bcCodeUPC_E1, bcC'
11080:    +'odeUPC_Supp2, bcCodeUPC_Supp5, bcCodeEAN128A, bcCodeEAN128B, bcCodeEAN128C
11081:   TBarLineType', '( white, black, black_half )
11082:   TBarcodeOption', '( bcoNone, bcoCode, bcoTyp, bcoBoth )
11083:   TShowTextPosition', '( stpTopLeft, stpTopRight, stpTopCenter, st'
11084:    +'pBottomLeft, stpBottomRight, stpBottomCenter )
11085:   TCheckSumMethod', '( csmNone, csmModulo10 )
11086:   SIRegister_TAsBarcode(CL);
11087:  Function CheckSumModulo10( const data : string) : string
11088:  Function ConvertMmToPixelsX( const Value : Double) : Integer
11089:  Function ConvertMmToPixelsY( const Value : Double) : Integer
11090:  Function ConvertInchToPixelsX( const Value : Double) : Integer
11091:  Function ConvertInchToPixelsY( const Value : Double) : Integer
11092: end;
11093:
11094: procedure SIRegister_Geometry(CL: TPSPascalCompiler);  //OpenGL
11095: begin
11096:    THomogeneousByteVector', 'array[0..3] of Byte
11097:   THomogeneousWordVector', 'array[0..3] of Word
11098:   THomogeneousIntVector', 'array[0..3] of Integer
11099:   THomogeneousFltVector', 'array[0..3] of single
11100:   THomogeneousDblVector', 'array[0..3] of double
11101:   THomogeneousExtVector', 'array[0..3] of extended
11102:   TAffineByteVector', 'array[0..2] of Byte
11103:   TAffineWordVector', 'array[0..2] of Word
11104:   TAffineIntVector', 'array[0..2] of Integer
11105:   TAffineFltVector', 'array[0..2] of single
11106:   TAffineDblVector', 'array[0..2] of double
11107:   TAffineExtVector', 'array[0..2] of extended
11108:   THomogeneousByteMatrix', 'array[0..3] of THomogeneousByteVector
11109:   THomogeneousWordMatrix', 'array[0..3] of THomogeneousWordVector
11110:   THomogeneousIntMatrix', 'array[0..3] of THomogeneousIntVector
```

```
11111:   THomogeneousFltMatrix', 'array[0..3] of THomogeneousFltVector
11112:   THomogeneousDblMatrix', 'array[0..3] of THomogeneousDblVector
11113:   THomogeneousExtMatrix', 'array[0..3] of THomogeneousExtVector
11114:   TAffineByteMatrix', 'array[0..2] of TAffineByteVector
11115:   TAffineWordMatrix', 'array[0..2] of TAffineWordVector
11116:   TAffineIntMatrix', 'array[0..2] of TAffineIntVector
11117:   TAffineFltMatrix', 'array[0..3] of TAffineFltVector
11118:   TAffineDblMatrix', 'array[0..3] of TAffineDblVector
11119:   TAffineExtMatrix', 'array[0..3] of TAffineExtVector
11120:   TMatrix4b', 'THomogeneousByteMatrix
11121:   TMatrix4w', 'THomogeneousWordMatrix
11122:   TMatrix4i', 'THomogeneousIntMatrix
11123:   TMatrix4f', 'THomogeneousFltMatrix
11124:   TMatrix4d', 'THomogeneousDblMatrix
11125:   TMatrix4e', 'THomogeneousExtMatrix
11126:   TMatrix3b', 'TAffineByteMatrix
11127:   TMatrix3w', 'TAffineWordMatrix
11128:   TMatrix3i', 'TAffineIntMatrix
11129:   TMatrix3f', 'TAffineFltMatrix
11130:   TMatrix3d', 'TAffineDblMatrix
11131:   TMatrix3e', 'TAffineExtMatrix
11132:   //'PMatrix', '^TMatrix // will not work
11133:   TMatrixGL', 'THomogeneousFltMatrix
11134:   THomogeneousMatrix', 'THomogeneousFltMatrix
11135:   TAffineMatrix', 'TAffineFltMatrix
11136:   TQuaternion', 'record Vector : TVector4f; end
11137:   TRectangle', 'record Left : integer; Top : integer; Width : inte'
11138:   +'ger; Height : Integer; end
11139:   TTransType', '( ttScaleX, ttScaleY, ttScaleZ, ttShearXY, ttShear'
11140:    +'XZ, ttShearYZ, ttRotateX, ttRotateY, ttRotateZ, ttTranslateX, ttTranslateY'
11141:    +', ttTranslateZ, ttPerspectiveX, ttPerspectiveY, ttPerspectiveZ, ttPerspectiveW )
11142:  'EPSILON','Extended').setExtended( 1E-100);
11143:  'EPSILON2','Extended').setExtended( 1E-50);
11144:  Function VectorAddGL( V1, V2 : TVectorGL) : TVectorGL
11145:  Function VectorAffineAdd( V1, V2 : TAffineVector) : TAffineVector
11146:  Function VectorAffineCombine(V1,V2:TAffineVector; F1, F2 : Single) : TAffineVector
11147:  Function VectorAffineDotProduct( V1, V2 : TAffineVector) : Single
11148:  Function VectorAffineLerp( V1, V2 : TAffineVector; t : Single) : TAffineVector
11149:  Function VectorAffineSubtract( V1, V2 : TAffineVector) : TAffineVector
11150:  Function VectorAngle( V1, V2 : TAffineVector) : Single
11151:  Function VectorCombine( V1, V2 : TVectorGL; F1, F2 : Single) : TVectorGL
11152:  Function VectorCrossProduct( V1, V2 : TAffineVector) : TAffineVector
11153:  Function VectorDotProduct( V1, V2 : TVectorGL) : Single
11154:  Function VectorLength( V : array of Single) : Single
11155:  Function VectorLerp( V1, V2 : TVectorGL; t : Single) : TVectorGL
11156:  Procedure VectorNegate( V : array of Single)
11157:  Function VectorNorm( V : array of Single) : Single
11158:  Function VectorNormalize( V : array of Single) : Single
11159:  Function VectorPerpendicular( V, N : TAffineVector) : TAffineVector
11160:  Function VectorReflect( V, N : TAffineVector) : TAffineVector
11161:  Procedure VectorRotate( var Vector : TVector4f; Axis : TVector3f; Angle : Single)
11162:  Procedure VectorScale( V : array of Single; Factor : Single)
11163:  Function VectorSubtractGL( V1, V2 : TVectorGL) : TVectorGL
11164:  Function CreateRotationMatrixX( Sine, Cosine : Single) : TMatrixGL
11165:  Function CreateRotationMatrixY( Sine, Cosine : Single) : TMatrixGL
11166:  Function CreateRotationMatrixZ( Sine, Cosine : Single) : TMatrixGL
11167:  Function CreateScaleMatrix( V : TAffineVector) : TMatrixGL
11168:  Function CreateTranslationMatrix( V : TVectorGL) : TMatrixGL
11169:  Procedure MatrixAdjoint( var M : TMatrixGL)
11170:  Function MatrixAffineDeterminant( M : TAffineMatrix) : Single
11171:  Procedure MatrixAffineTranspose( var M : TAffineMatrix)
11172:  Function MatrixDeterminant( M : TMatrixGL) : Single
11173:  Procedure MatrixInvert( var M : TMatrixGL)
11174:  Function MatrixMultiply( M1, M2 : TMatrixGL) : TMatrixGL
11175:  Procedure MatrixScale( var M : TMatrixGL; Factor : Single)
11176:  Procedure MatrixTranspose( var M : TMatrixGL)
11177:  Function QuaternionConjugate( Q : TQuaternion) : TQuaternion
11178:  Function QuaternionFromPoints( V1, V2 : TAffineVector) : TQuaternion
11179:  Function QuaternionMultiply( qL, qR : TQuaternion) : TQuaternion
11180:  Function QuaternionSlerp( QStart,QEnd:TQuaternion; Spin:Integer; t:Single):TQuaternion
11181:  Function QuaternionToMatrix( Q : TQuaternion) : TMatrixGL
11182:  Procedure QuaternionToPoints( Q : TQuaternion; var ArcFrom, ArcTo : TAffineVector)
11183:  Function ConvertRotation( Angles : TAffineVector) : TVectorGL
11184:  Function CreateRotationMatrix( Axis : TVector3f; Angle : Single) : TMatrixGL
11185:  //Function MatrixDecompose( M : TMatrixGL; var Tran : TTransformations) : Boolean
11186:  Function VectorAffineTransform( V : TAffineVector; M : TAffineMatrix) : TAffineVector
11187:  Function VectorTransform( V : TVector4f; M : TMatrixGL) : TVector4f;
11188:  Function VectorTransform1( V : TVector3f; M : TMatrixGL) : TVector3f;
11189:  Function MakeAffineDblVector( V : array of Double) : TAffineDblVector
11190:  Function MakeDblVector( V : array of Double) : THomogeneousDblVector
11191:  Function MakeAffineVector( V : array of Single) : TAffineVector
11192:  Function MakeQuaternion( Imag : array of Single; Real : Single) : TQuaternion
11193:  Function MakeVector( V : array of Single) : TVectorGL
11194:  Function PointInPolygonGL( xp, yp : array of Single; x, y : Single) : Boolean
11195:  Function VectorAffineDblToFlt( V : TAffineDblVector) : TAffineVector
11196:  Function VectorDblToFlt( V : THomogeneousDblVector) : THomogeneousVector
11197:  Function VectorAffineFltToDbl( V : TAffineVector) : TAffineDblVector
11198:  Function VectorFltToDbl( V : TVectorGL) : THomogeneousDblVector
11199:  Function ArcCosGL( X : Extended) : Extended
```

```
11200:  Function ArcSinGL( X : Extended) : Extended
11201:  Function ArcTan2GL( Y, X : Extended) : Extended
11202:  Function CoTanGL( X : Extended) : Extended
11203:  Function DegToRadGL( Degrees : Extended) : Extended
11204:  Function RadToDegGL( Radians : Extended) : Extended
11205:  Procedure SinCosGL( Theta : Extended; var Sin, Cos : Extended)
11206:  Function TanGL( X : Extended) : Extended
11207:  Function Turn( Matrix : TMatrixGL; Angle : Single) : TMatrixGL;
11208:  Function Turn1( Matrix : TMatrixGL; MasterUp : TAffineVector; Angle: Single): TMatrixGL;
11209:  Function Pitch( Matrix : TMatrixGL; Angle : Single) : TMatrixGL;
11210:  Function Pitch1( Matrix : TMatrixGL; MasterRight:TAffineVector;Angle:Single):TMatrixGL;
11211:  Function Roll( Matrix : TMatrixGL; Angle : Single) : TMatrixGL;
11212:  Function Roll1( Matrix:TMatrixGL; MasterDirection:TAffineVector;Angle:Single):TMatrixGL;
11213: end;
11214:
11215:
11216: procedure SIRegister_JclRegistry(CL: TPSPascalCompiler);
11217: begin
11218:  Function RegCreateKey( const RootKey : HKEY; const Key, Value : string) : Longint
11219:  Function RegDeleteEntry( const RootKey : HKEY; const Key, Name : string) : Boolean
11220:  Function RegDeleteKeyTree( const RootKey : HKEY; const Key : string) : Boolean
11221:  Function RegReadBool( const RootKey : HKEY; const Key, Name : string) : Boolean
11222:  Function RegReadBoolDef( const RootKey : HKEY; const Key, Name : string; Def : Boolean) : Boolean
11223:  Function RegReadInteger( const RootKey : HKEY; const Key, Name : string) : Integer
11224:  Function RegReadIntegerDef( const RootKey : HKEY; const Key, Name : string; Def : Integer) : Integer
11225:  Function RegReadString( const RootKey : HKEY; const Key, Name : string) : string
11226:  Function RegReadStringDef( const RootKey : HKEY; const Key, Name, Def : string) : string
11227:  Function RegReadDWORD( const RootKey : HKEY; const Key, Name : string) : Int64
11228:  Function RegReadDWORDDef( const RootKey : HKEY; const Key, Name : string; Def : Int64) : Int64
11229:  Procedure RegWriteBool( const RootKey : HKEY; const Key, Name : string; Value : Boolean)
11230:  Procedure RegWriteInteger( const RootKey : HKEY; const Key, Name : string; Value : Integer)
11231:  Procedure RegWriteString( const RootKey : HKEY; const Key, Name, Value : string)
11232:  Procedure RegWriteDWORD( const RootKey : HKEY; const Key, Name : string; Value : Int64)
11233:  Function RegGetValueNames( const RootKey : HKEY; const Key : string; const List : TStrings) : Boolean
11234:  Function RegGetKeyNames( const RootKey : HKEY; const Key : string; const List : TStrings) : Boolean
11235:  Function RegHasSubKeys( const RootKey : HKEY; const Key : string) : Boolean
11236:  Function RegKeyExists( const RootKey : HKEY; const Key : string) : Boolean
11237:   AddTypeS('TExecKind', '( ekMachineRun, ekMachineRunOnce, ekUserRun, ekUser'
11238:    +'RunOnce, ekServiceRun, ekServiceRunOnce )
11239:   AddClassN(FindClass('TOBJECT'),'EJclRegistryError
11240:  Function UnregisterAutoExec( ExecKind : TExecKind; const Name : string) : Boolean
11241:  Function RegisterAutoExec( ExecKind : TExecKind; const Name, Cmdline : string) : Boolean
11242:  Function RegSaveList(const RootKey:HKEY;const Key:string; const ListName:string;const
      Items:TStrings):Bool;
11243:  Function RegLoadList(const RootKey:HKEY;const Key:string;const ListName:string;const
      SaveTo:TStrings):Bool;
11244:  Function RegDelList( const RootKey:HKEY;const Key:string; const ListName:string): Boolean
11245: end;
11246:
11247: procedure SIRegister_JclCOM(CL: TPSPascalCompiler);
11248: begin
11249:  CLSID_StdComponentCategoriesMgr','TGUID '{0002E005-0000-0000-C000-000000000046}
11250:  CATID_SafeForInitializing','TGUID '{7DD95802-9882-11CF-9FA9-00AA006C42C4}
11251:  CATID_SafeForScripting','TGUID '{7DD95801-9882-11CF-9FA9-00AA006C42C4}
11252:  icMAX_CATEGORY_DESC_LEN','LongInt'( 128);
11253:   FindClass('TOBJECT'),'EInvalidParam
11254:  Function IsDCOMInstalled : Boolean
11255:  Function IsDCOMEnabled : Boolean
11256:  Function GetDCOMVersion : string
11257:  Function GetMDACVersion : string
11258:  Function GetMDACVersion2 : string
11259:  Function MarshalInterThreadInterfaceInVarArray(const iid:TIID;unk:IUnknown;var
      VarArray:OleVariant):HResult;
11260:  Function MarshalInterProcessInterfaceInStream(const iid:TIID;unk:IUnknown;var stm:IStream):HResult;
11261:  Function MarshalInterProcessInterfaceInVarArray(const iid:TIID;unk:IUnknown;var
      VarArray:OleVariant):HResult;
11262:  Function MarshalInterMachineInterfaceInStream( const iid:TIID;unk:IUnknown;var stm:IStream):HResult;
11263:  Function MarshalInterMachineInterfaceInVarArray(const iid:TIID;unk:IUnknown;var
      VarArray:OleVariant):HResult;
11264:  Function CreateComponentCategory( const CatID : TGUID; const sDescription : string) : HResult
11265:  Function RegisterCLSIDInCategory( const ClassID : TGUID; const CatID : TGUID) : HResult
11266:  Function UnRegisterCLSIDInCategory( const ClassID : TGUID; const CatID : TGUID) : HResult
11267:  Function ResetIStreamToStart( Stream : IStream) : Boolean
11268:  Function SizeOfIStreamContents( Stream : IStream) : Largeint
11269:  Function StreamToVariantArray( Stream : TStream) : OleVariant;
11270:  Function StreamToVariantArray1( Stream : IStream) : OleVariant;
11271:  Procedure VariantArrayToStream( VarArray : OleVariant; var Stream : TStream);
11272:  Procedure VariantArrayToStream1( VarArray : OleVariant; var Stream : IStream);
11273: end;
11274:
11275:
11276: procedure SIRegister_JclUnitConv_mX2(CL: TPSPascalCompiler);
11277: begin
11278:  Const('CelsiusFreezingPoint','Extended').setExtended( 0.0);
11279:  FahrenheitFreezingPoint','Extended').setExtended( 32.0);
11280:  KelvinFreezingPoint','Extended').setExtended( 273.15);
11281:  CelsiusAbsoluteZero','Extended').setExtended( - 273.15);
11282:  FahrenheitAbsoluteZero','Extended').setExtended( - 459.67);
11283:  KelvinAbsoluteZero','Extended').setExtended( 0.0);
```

```
11284:  DegPerCycle','Extended').setExtended( 360.0);
11285:  DegPerGrad','Extended').setExtended( 0.9);
11286:  DegPerRad','Extended').setExtended( 57.295779513082320876798154814105);
11287:  GradPerCycle','Extended').setExtended( 400.0);
11288:  GradPerDeg','Extended').setExtended( 1.11111111111111111111111111111111);
11289:  GradPerRad','Extended').setExtended( 63.661977236758134307553505349006);
11290:  RadPerCycle','Extended').setExtended( 6.2831853071795864769252867665590);
11291:  RadPerDeg','Extended').setExtended( 0.017453292519943295769236907684886);
11292:  RadPerGrad','Extended').setExtended( 0.015707963267948966192313216916398);
11293:  CyclePerDeg','Extended').setExtended( 0.002777777777777777777777777777778);
11294:  CyclePerGrad','Extended').setExtended( 0.0025);
11295:  CyclePerRad','Extended').setExtended( 0.15915494309189533576888376337251);
11296:  ArcMinutesPerDeg','Extended').setExtended( 60.0);
11297:  ArcSecondsPerArcMinute','Extended').setExtended( 60.0);
11298:  Function HowAOneLinerCanBiteYou( const Step, Max : Longint) : Longint
11299:  Function MakePercentage( const Step, Max : Longint) : Longint
11300:  Function CelsiusToKelvin( const T : double) : double
11301:  Function CelsiusToFahrenheit( const T : double) : double
11302:  Function KelvinToCelsius( const T : double) : double
11303:  Function KelvinToFahrenheit( const T : double) : double
11304:  Function FahrenheitToCelsius( const T : double) : double
11305:  Function FahrenheitToKelvin( const T : double) : double
11306:  Function CycleToDeg( const Cycles : double) : double
11307:  Function CycleToGrad( const Cycles : double) : double
11308:  Function CycleToRad( const Cycles : double) : double
11309:  Function DegToCycle( const Degrees : double) : double
11310:  Function DegToGrad( const Degrees : double) : double
11311:  Function DegToRad( const Degrees : double) : double
11312:  Function GradToCycle( const Grads : double) : double
11313:  Function GradToDeg( const Grads : double) : double
11314:  Function GradToRad( const Grads : double) : double
11315:  Function RadToCycle( const Radians : double) : double
11316:  Function RadToDeg( const Radians : double) : double
11317:  Function RadToGrad( const Radians : double) : double
11318:  Function DmsToDeg( const D, M : Integer; const S : double) : double
11319:  Function DmsToRad( const D, M : Integer; const S : double) : double
11320:  Procedure DegToDms( const Degrees : double; out D, M : Integer; out S : double)
11321:  Function DegToDmsStr( const Degrees : double; const SecondPrecision : Cardinal) : string
11322:  Procedure CartesianToPolar( const X, Y : double; out R, Phi : double)
11323:  Procedure PolarToCartesian( const R, Phi : double; out X, Y : double)
11324:  Procedure CartesianToCylinder( const X, Y, Z : double; out R, Phi, Zeta : double)
11325:  Procedure CartesianToSpheric( const X, Y, Z : double; out Rho, Phi, Theta : double)
11326:  Procedure CylinderToCartesian( const R, Phi, Zeta : double; out X, Y, Z : double)
11327:  Procedure SphericToCartesian( const Rho, Theta, Phi : double; out X, Y, Z : double)
11328:  Function CmToInch( const Cm : double) : double
11329:  Function InchToCm( const Inch : double) : double
11330:  Function FeetToMetre( const Feet : double) : double
11331:  Function MetreToFeet( const Metre : double) : double
11332:  Function YardToMetre( const Yard : double) : double
11333:  Function MetreToYard( const Metre : double) : double
11334:  Function NmToKm( const Nm : double) : double
11335:  Function KmToNm( const Km : double) : double
11336:  Function KmToSm( const Km : double) : double
11337:  Function SmToKm( const Sm : double) : double
11338:  Function LitreToGalUs( const Litre : double) : double
11339:  Function GalUsToLitre( const GalUs : double) : double
11340:  Function GalUsToGalCan( const GalUs : double) : double
11341:  Function GalCanToGalUs( const GalCan : double) : double
11342:  Function GalUsToGalUk( const GalUs : double) : double
11343:  Function GalUkToGalUs( const GalUk : double) : double
11344:  Function LitreToGalCan( const Litre : double) : double
11345:  Function GalCanToLitre( const GalCan : double) : double
11346:  Function LitreToGalUk( const Litre : double) : double
11347:  Function GalUkToLitre( const GalUk : double) : double
11348:  Function KgToLb( const Kg : double) : double
11349:  Function LbToKg( const Lb : double) : double
11350:  Function KgToOz( const Kg : double) : double
11351:  Function OzToKg( const Oz : double) : double
11352:  Function CwtUsToKg( const Cwt : double) : double
11353:  Function CwtUkToKg( const Cwt : double) : double
11354:  Function KaratToKg( const Karat : double) : double
11355:  Function KgToCwtUs( const Kg : double) : double
11356:  Function KgToCwtUk( const Kg : double) : double
11357:  Function KgToKarat( const Kg : double) : double
11358:  Function KgToSton( const Kg : double) : double
11359:  Function KgToLton( const Kg : double) : double
11360:  Function StonToKg( const STon : double) : double
11361:  Function LtonToKg( const Lton : double) : double
11362:  Function QrUsToKg( const Qr : double) : double
11363:  Function QrUkToKg( const Qr : double) : double
11364:  Function KgToQrUs( const Kg : double) : double
11365:  Function KgToQrUk( const Kg : double) : double
11366:  Function PascalToBar( const Pa : double) : double
11367:  Function PascalToAt( const Pa : double) : double
11368:  Function PascalToTorr( const Pa : double) : double
11369:  Function BarToPascal( const Bar : double) : double
11370:  Function AtToPascal( const At : double) : double
11371:  Function TorrToPascal( const Torr : double) : double
11372:  Function KnotToMs( const Knot : double) : double
```

```
11373:  Function HpElectricToWatt( const HpE : double) : double
11374:  Function HpMetricToWatt( const HpM : double) : double
11375:  Function MsToKnot( const ms : double) : double
11376:  Function WattToHpElectric( const W : double) : double
11377:  Function WattToHpMetric( const W : double) : double
11378:  function getBigPI: string;    //PI of 1000 numbers
11379:
11380: procedure SIRegister_devcutils(CL: TPSPascalCompiler);
11381: begin
11382:  Function CDExecuteFile( const FileName, Params, DefaultDir : string; ShowCmd : Integer) : THandle
11383:  Procedure CDCopyFile( const FileName, DestName : string)
11384:  Procedure CDMoveFile( const FileName, DestName : string)
11385:  Function MakeCommaTextToColor( Text : string; Index : Integer; DefaultColor : TColor) : TColor
11386:  Procedure CDDeleteFiles( Sender : TObject; s : string)
11387:  Function CDGetTempDir : string
11388:  Function CDGetFileSize( FileName : string) : longint
11389:  Function GetFileTime( FileName : string) : longint
11390:  Function GetShortName( FileName : string) : string
11391:  Function GetFullName( FileName : string) : string
11392:  Function WinReboot : boolean
11393:  Function WinDir : String
11394:  Function RunFile( FileToRun : string; Params : string; Dir : string; Wait : boolean) : cardinal
11395:  Function RunFile_( Cmd, WorkDir : string; Wait : boolean) : Boolean
11396:  Function devExecutor : TdevExecutor
11397: end;
11398:
11399: procedure SIRegister_FileAssocs(CL: TPSPascalCompiler);
11400: begin
11401:  Procedure CheckAssociations // AssociationsCount','LongInt'( 7);
11402:  Procedure Associate( Index : integer)
11403:  Procedure UnAssociate( Index : integer)
11404:  Function IsAssociated( Index : integer) : boolean
11405:  Function CheckFiletype( const extension, filetype, description, verb, serverapp : string) : boolean
11406:  Procedure RegisterFiletype( const extension, filetype, description, verb, serverapp,IcoNum: string)
11407:  Procedure RegisterDDEServer( const filetype, verb, topic, servername, macro : string)
11408:  procedure RefreshIcons;
11409: function GetShadeColor(ACanvas: TCanvas; clr: TColor; Value: integer): TColor;
11410: function MergColor(Colors: Array of TColor): TColor;
11411: function NewColor(ACanvas: TCanvas; clr: TColor; Value: integer): TColor;
11412: procedure DimBitmap(ABitmap: TBitmap; Value: integer);
11413: function GrayColor(ACanvas: TCanvas; clr: TColor; Value: integer): TColor;
11414: function GetInverseColor(AColor: TColor): TColor;
11415: procedure GrayBitmap(ABitmap: TBitmap; Value: integer);
11416: procedure DrawBitmapShadow(B: TBitmap; ACanvas: TCanvas;X,Y: integer;ShadowColor: TColor);
11417: procedure DrawCheckMark(ACanvas: TCanvas; X, Y: integer);
11418: Procedure GetSystemMenuFont(Font: TFont);
11419: end;
11420:
11421: //*************************unit uPSI_JvHLParser;*****************************
11422: function IsStringConstant(const St: string): Boolean;
11423: function IsIntConstant(const St: string): Boolean;
11424: function IsRealConstant(const St: string): Boolean;
11425: function IsIdentifier(const ID: string): Boolean;
11426: function GetStringValue(const St: string): string;
11427: procedure ParseString(const S: string; Ss: TStrings);
11428: function IsStringConstantW(const St: WideString): Boolean;
11429: function IsIntConstantW(const St: WideString): Boolean;
11430: function IsRealConstantW(const St: WideString): Boolean;
11431: function IsIdentifierW(const ID: WideString): Boolean;
11432: function GetStringValueW(const St: WideString): WideString;
11433: procedure ParseStringW(const S: WideString; Ss: TStrings);
11434:
11435:
11436: //*************************unit uPSI_JclMapi;*****************************
11437:
11438: Function JclSimpleSendMail( const ARecipient,AName,ASubject, ABody : string; const AAttachment :
       TFileName; ShowDialog : Boolean; AParentWND : HWND) : Boolean
11439: Function JclSimpleSendFax( const ARecipient, AName,ASubject, ABody : string; const AAttachment :
       TFileName; ShowDialog : Boolean; AParentWND : HWND) : Boolean
11440: Function JclSimpleBringUpSendMailDialog(const ASubject,ABody:string;const
       AAttach:TFileName;AParentWND:HWND):Bool
11441: Function MapiCheck( const Res : DWORD; IgnoreUserAbort : Boolean) : DWORD
11442: Function MapiErrorMessage( const ErrorCode : DWORD) : string
11443:
11444: procedure SIRegister_IdNTLM(CL: TPSPascalCompiler);
11445: begin
11446:   //'Pdes_key_schedule', '^des_key_schedule // will not work
11447:  Function BuildType1Message( ADomain, AHost : String) : String
11448:  Function BuildType3Message(ADomain,AHost,AUsername:WideString;APassword,ANonce:String):String
11449:  Procedure RegisterAuthenticationMethod( MethodName : String; AuthClass : TIdAuthenticationClass)
11450:  Function FindAuthClass( AuthName : String) : TIdAuthenticationClass
11451: GBase64CodeTable','string'ABCDEFGHIJKLMNOPQRSTUVWXYZabcdefghijklmnopqrstuvwxyz0123456789+/
11452: GXXECodeTable','string'+-0123456789ABCDEFGHIJKLMNOPQRSTUVWXYZabcdefghijklmnopqrstuvwxyz
11453: GUUECodeTable','string'`!"#$%&''()*+,-./0123456789:;<=>?@ABCDEFGHIJKLMNOPQRSTUVWXYZ[\]^_
11454: end;
11455:
11456: procedure SIRegister_WDosSocketUtils(CL: TPSPascalCompiler);
11457: begin
11458: ('IpAny','LongWord').SetUInt( $00000000);
```

```
11459:  IpLoopBack','LongWord').SetUInt( $7F000001);
11460:  IpBroadcast','LongWord').SetUInt( $FFFFFFFF);
11461:  IpNone','LongWord').SetUInt( $FFFFFFFF);
11462:  PortAny','LongWord( $0000);
11463:  SocketMaxConnections','LongInt'( 5);
11464:  TIpAddr', 'LongWord
11465:  TIpRec', 'record IpB1 : byte; IpB2 : byte; IpB3 : byte; IpB4 : Byte; end
11466:  Function HostToNetLong( HostLong : LongWord) : LongWord
11467:  Function HostToNetShort( HostShort : Word) : Word
11468:  Function NetToHostLong( NetLong : LongWord) : LongWord
11469:  Function NetToHostShort( NetShort : Word) : Word
11470:  Function StrToIp( Ip : string) : TIpAddr
11471:  Function IpToStr( Ip : TIpAddr) : string
11472: end;
11473:
11474: (*----------------------------------------------------------------------------*)
11475: procedure SIRegister_ALSMTPClient(CL: TPSPascalCompiler);
11476: begin
11477:   TAlSmtpClientAuthType', '( AlsmtpClientAuthNone, alsmtpClientAut'
11478:    +'hPlain, AlsmtpClientAuthLogin, AlsmtpClientAuthCramMD5, AlsmtpClientAuthCr'
11479:    +'amSha1, AlsmtpClientAuthAutoSelect )
11480:   TAlSmtpClientAuthTypeSet', 'set of TAlSmtpClientAuthType
11481:   SIRegister_TAlSmtpClient(CL);
11482: end;
11483:
11484: procedure SIRegister_WDosPlcUtils(CL: TPSPascalCompiler);
11485: begin
11486: 'TBitNo', 'Integer
11487:   TStByteNo', 'Integer
11488: TStationNo', 'Integer
11489: TInOutNo', 'Integer
11490: TIo', '( EE, AA, NE, NA )
11491: TBitSet', 'set of TBitNo
11492: TAddrKind', 'set of ( akBit0, akBit1, akBit2, akOut, akNot, akBus )
11493: TBitAddrRec', 'record Kind : TAddrKind; InOutNo : TInOutNo; ByteNo : Byte; end
11494: TBitAddr', 'LongInt
11495: TByteAddrRec', 'record Kind : TAddrKind; ByteNo : Byte; end
11496: TByteAddr', 'SmallInt
11497: TInOutState', '( iosInit, iosHalt, iosRun, iosError )
11498:  Function BitAddr(aIo: TIo; aInOutNo : TInOutNo; aByteNo : Byte; aBitNo : TBitNo) : TBitAddr
11499:  Function BusBitAddr(aIo:TIo;aInOutNo:TInOutNo;aStat:TStatNo;aStByteNo:TStByteNo;aBitNo:TBitNo):TBitAddr;
11500:  Procedure BitAddrToValues(aBitAdr:TBitAdr;var aIo:TIo;var aInOutNo:TInOutNo;var aByteNo:Byte;var
       aBitNo:TBitNo);
11501:  Function BitAddrToStr( Value : TBitAddr) : string
11502:  Function StrToBitAddr( const Value : string) : TBitAddr
11503:  Function ByteAddr( aIo : TIo; aInOutNo : TInOutNo; aByteNo : Byte) : TByteAddr
11504:  Function BusByteAddr(aIo:TIo;aInOutNo:TInOutNo;aStation:TStationNo;aStByteNo: TStByteNo):TByteAddr
11505:  Procedure ByteAddrToValues(aByteAddr:TByteAddr;var aIo:TIo;var aInOutNo:TInOutNo;var aByteNo:Byte)
11506:  Function ByteAddrToStr( Value : TByteAddr) : string
11507:  Function StrToByteAddr( const Value : string) : TByteAddr
11508:  Procedure IncByteAddr( var ByteAddr : TByteAddr; Increment : Integer)
11509:  Procedure DecByteAddr( var ByteAddr : TByteAddr; Decrement : Integer)
11510:  Function InOutStateToStr( State : TInOutState) : string
11511:  Function MasterErrorToStr( ErrorCode : TErrorCode) : string
11512:  Function SlaveErrorToStr( ErrorCode : TErrorCode) : string
11513: end;
11514:
11515: procedure SIRegister_WDosTimers(CL: TPSPascalCompiler);
11516: begin
11517: TIntFreq', '( ifNone, if32768, if16384, if8192, if4096, if2048, '
11518:    +'if1024, if512, if256, if128, if64, if32, if16, if8, if4, if2 )
11519: DpmiPmVector', 'Int64
11520:  'DInterval','LongInt'( 1000);
11521:  //'DEnabled','Boolean')BoolToStr( True);
11522:  'DIntFreq','string' if64
11523:  //'DMessages','Boolean if64);
11524:   SIRegister_TwdxCustomTimer(CL);
11525:   SIRegister_TwdxTimer(CL);
11526:   SIRegister_TwdxRtcTimer(CL);
11527:   SIRegister_TCustomIntTimer(CL);
11528:   SIRegister_TIntTimer(CL);
11529:   SIRegister_TRtcIntTimer(CL);
11530:  Function RealNow : TDateTime
11531:  Function MsToDateTime( MilliSecond : LongInt) : TDateTime
11532:  Function DateTimeToMs( Time : TDateTime) : LongInt
11533: end;
11534:
11535: procedure SIRegister_IdSysLogMessage(CL: TPSPascalCompiler);
11536: begin
11537: TIdSyslogPRI', 'Integer
11538: TIdSyslogFacility', '( sfKernel, sfUserLevel, sfMailSystem, sfSy'
11539:    +'stemDaemon, sfSecurityOne, sfSysLogInternal, sfLPR, sfNNTP, sfUUCP, sfCloc'
11540:    +'kDaemonOne, sfSecurityTwo, sfFTPDaemon, sfNTP, sfLogAudit, sfLogAlert, sfC'
11541:    +'lockDaemonTwo, sfLocalUseZero, sfLocalUseOne, sfLocalUseTwo, sfLocalUseThr'
11542:    +'ee, sfLocalUseFour, sfLocalUseFive, sfLocalUseSix, sfLocalUseSeven )
11543: TIdSyslogSeverity','(slEmergency,slAlert,slCritical,slError,slWarning,slNotice,slInformational,slDebug)
11544:   SIRegister_TIdSysLogMsgPart(CL);
11545:   SIRegister_TIdSysLogMessage(CL);
11546:  Function FacilityToString( AFac : TIdSyslogFacility) : string
```

```
11547:  Function SeverityToString( ASec : TIdsyslogSeverity) : string
11548:  Function NoToSeverity( ASev : Word) : TIdSyslogSeverity
11549:  Function logSeverityToNo( ASev : TIdSyslogSeverity) : Word
11550:  Function NoToFacility( AFac : Word) : TIdSyslogFacility
11551:  Function logFacilityToNo( AFac : TIdSyslogFacility) : Word
11552: end;
11553:
11554: procedure SIRegister_TextUtils(CL: TPSPascalCompiler);
11555: begin
11556:  'UWhitespace','String '(?:\s*)
11557:  Function StripSpaces( const AText : string) : string
11558:  Function CharCount( const AText : string; Ch : Char) : Integer
11559:  Function BalancedText( const AText : string; const Ch1, Ch2 : Char; const Count : Integer) : string
11560:  Function BalancedTextReg( const AText:string; const Ch1, Ch2 : Char; const Count : Integer) : string
11561: end;
11562:
11563:
11564: procedure SIRegister_ExtPascalUtils(CL: TPSPascalCompiler);
11565: begin
11566:  ExtPascalVersion','String '0.9.8
11567:   AddTypeS('TBrowser', '( brUnknown, brIE, brFirefox, brChrome, brSafari, br'
11568:    +'Opera, brKonqueror, brMobileSafari )
11569:   AddTypeS('TCSSUnit', '( cssPX, cssPerc, cssEM, cssEX, cssIN, cssCM, cssMM, cssPT, cssPC, cssnone )
11570:   AddTypeS('TExtProcedure', 'Procedure
11571:  Function DetermineBrowser( const UserAgentStr : string) : TBrowser
11572:  Function ExtExtract(const Delims:array of string;var S:string;var Matches:TStringList;Remove:bool):bool;
11573:  Function ExtExplode( Delim : char; const S : string; Separator : char) : TStringList
11574:  Function FirstDelimiter( const Delimiters, S : string; Offset : integer) : integer
11575:  Function RPosEx( const Substr, Str : string; Offset : integer) : integer
11576:  Function CountStr( const Substr, Str : string; UntilStr : string) : integer
11577:  Function StrToJS( const S : string; UseBR : boolean) : string
11578:  Function CaseOf( const S : string; const Cases : array of string) : integer
11579:  Function RCaseOf( const S : string; const Cases : array of string) : integer
11580:  Function EnumToJSString( TypeInfo : PTypeInfo; Value : integer) : string
11581:  Function SetPaddings(Top:integer;Right:int;Bottom:intr;Left:integer;CSSUnit:TCSSUnit;Header:bool):string;
11582:  Function SetMargins(Top:integer;Right:int;Bottom:int;Left:integer;CSSUnit:TCSSUnit;Header:bool): string;
11583:  Function ExtBefore( const BeforeS, AfterS, S : string) : boolean
11584:  Function IsUpperCase( S : string) : boolean
11585:  Function BeautifyJS(const AScript:string;const StartingLevel:integer;SplitHTMLNewLine: boolean):string;
11586:  Function BeautifyCSS( const AStyle : string) : string
11587:  Function LengthRegExp( Rex : string; CountAll : Boolean) : integer
11588:  Function JSDateToDateTime( JSDate : string) : TDateTime
11589: end;
11590:
11591: procedure SIRegister_JclShell(CL: TPSPascalCompiler);
11592: begin
11593:   TSHDeleteOption', '( doSilent, doAllowUndo, doFilesOnly )
11594:   TSHDeleteOptions', 'set of TSHDeleteOption
11595:   TSHRenameOption', '( roSilent, roRenameOnCollision )
11596:   TSHRenameOptions', 'set of TSHRenameOption
11597:  Function SHDeleteFiles( Parent : HWND; const Files : string; Options : TSHDeleteOptions) : Boolean
11598:  Function SHDeleteFolder( Parent : HWND; const Folder : string; Options : TSHDeleteOptions) : Boolean
11599:  Function SHRenameFile( const Src, Dest : string; Options : TSHRenameOptions) : Boolean
11600:   TEnumFolderFlag', '( efFolders, efNonFolders, efIncludeHidden )
11601:   TEnumFolderFlags', 'set of TEnumFolderFlag
11602:   TEnumFolderRec', 'record DisplayName : string; Attributes : DWOR'
11603:    +'D; IconLarge : HICON; IconSmall : HICON; Item : PItemIdList; EnumIdList : '
11604:    +'IEnumIdList; Folder : IShellFolder; end
11605:  Function SHEnumFolderFirst(const Folder:string;Flags:TEnumFolderFlags;var F:TEnumFolderRec):Boolean;
11606:  Function SHEnumSpecialFolderFirst(SpecialFolder:DWORD;Flags:TEnumFolderFlags;var F:TEnumFolderRec):Bool;
11607:  Procedure SHEnumFolderClose( var F : TEnumFolderRec)
11608:  Function SHEnumFolderNext( var F : TEnumFolderRec) : Boolean
11609:  Function GetSpecialFolderLocation( const Folder : Integer) : string
11610:  Function DisplayPropDialog( const Handle : HWND; const FileName : string) : Boolean;
11611:  Function DisplayPropDialog1( const Handle : HWND; const Item : PItemIdList) : Boolean;
11612:  Function DisplayContextMenu( const Handle : HWND; const FileName : string; Pos : TPoint) : Boolean
11613:  Function OpenFolder( const Path : string; Parent : HWND) : Boolean
11614:  Function OpenSpecialFolder( FolderID : Integer; Parent : HWND) : Boolean
11615:  Function SHReallocMem( var P : Pointer; Count : Integer) : Boolean
11616:  Function SHAllocMem( out P : Pointer; Count : Integer) : Boolean
11617:  Function SHGetMem( var P : Pointer; Count : Integer) : Boolean
11618:  Function SHFreeMem( var P : Pointer) : Boolean
11619:  Function DriveToPidlBind( const DriveName : string; out Folder : IShellFolder) : PItemIdList
11620:  Function PathToPidl( const Path : string; Folder : IShellFolder) : PItemIdList
11621:  Function PathToPidlBind( const FileName : string; out Folder : IShellFolder) : PItemIdList
11622:  Function PidlBindToParent(const IdList:PItemIdList;out Folder:IShellFolder;out Last:PItemIdList):Bool;
11623:  Function PidlCompare( const Pidl1, Pidl2 : PItemIdList) : Boolean
11624:  Function PidlCopy( const Source : PItemIdList; out Dest : PItemIdList) : Boolean
11625:  Function PidlFree( var IdList : PItemIdList) : Boolean
11626:  Function PidlGetDepth( const Pidl : PItemIdList) : Integer
11627:  Function PidlGetLength( const Pidl : PItemIdList) : Integer
11628:  Function PidlGetNext( const Pidl : PItemIdList) : PItemIdList
11629:  Function PidlToPath( IdList : PItemIdList) : string
11630:  Function StrRetFreeMem( StrRet : TStrRet) : Boolean
11631:  Function StrRetToString( IdList : PItemIdList; StrRet : TStrRet; Free : Boolean) : string
11632:   PShellLink', '^TShellLink // will not work
11633:   TShellLink', 'record Arguments : string; ShowCmd : Integer; Work'
11634:    +'ingDirectory : string; IdList : PItemIDList; Target : string; Description '
11635:    +': string; IconLocation : string; IconIndex : Integer; HotKey : Word; end
```

```
11636:  Procedure ShellLinkFree( var Link : TShellLink)
11637:  Function ShellLinkResolve( const FileName : string; var Link : TShellLink) : HRESULT
11638:  Function ShellLinkCreate( const Link : TShellLink; const FileName : string) : HRESULT
11639:  Function ShellLinkCreateSystem(const Link:TShellLink;const Folder:Integer; const FileName:string):HRESULT;
11640:  Function ShellLinkGetIcon( const Link : TShellLink; const Icon : TIcon) : Boolean
11641:  Function SHDllGetVersion( const FileName : string; var Version : TDllVersionInfo) : Boolean
11642:  Function GetSystemIcon( IconIndex : Integer; Flags : Cardinal) : HICON
11643:  Function OverlayIcon( var Icon : HICON; Overlay : HICON; Large : Boolean) : Boolean
11644:  Function OverlayIconShortCut( var Large, Small : HICON) : Boolean
11645:  Function OverlayIconShared( var Large, Small : HICON) : Boolean
11646:  Function SHGetItemInfoTip( const Folder : IShellFolder; Item : PItemIdList) : string
11647:  Function ShellExecEx(const FileName:string;const Parameters:string;const Verb:string; CmdShow:Int):Bool;
11648:  Function ShellExec(Wnd: Integer;const Operation,FileName,Parameters,Directy:string;ShowCommand:Int):Bool;
11649:  Function ShellExecAndWait(const FileName:string;const Paramets:string;const Verb:string;CmdShow:Int):Bool;
11650:  Function ShellOpenAs( const FileName : string) : Boolean
11651:  Function ShellRasDial( const EntryName : string) : Boolean
11652:  Function ShellRunControlPanel( const NameOrFileName:string; AppletNumber:Integer):Boolean
11653:  Function GetFileNameIcon( const FileName : string; Flags : Cardinal) : HICON
11654:   TJclFileExeType', '( etError, etMsDos, etWin16, etWin32Gui, etWin32Con )
11655:  Function GetFileExeType( const FileName : TFileName) : TJclFileExeType
11656:  Function ShellFindExecutable( const FileName, DefaultDir : string) : string
11657:  Procedure keybd_event( bVk : Byte; bScan : Byte; dwFlags, dwExtraInfo : DWORD)
11658:  Function OemKeyScan( wOemChar : Word) : DWORD
11659:  Procedure mouse_event( dwFlags, dx, dy, dwData, dwExtraInfo : DWORD)
11660: end;
11661:
11662: procedure SIRegister_cXMLFunctions(CL: TPSPascalCompiler);
11663: begin
11664:  xmlVersion','String '1.0 FindClass('TOBJECT'),'Exml
11665:  //Function xmlValidChar( const Ch : AnsiChar) : Boolean;
11666:  Function xmlValidChar1( const Ch : UCS4Char) : Boolean;
11667:  Function xmlValidChar2( const Ch : WideChar) : Boolean;
11668:  Function xmlIsSpaceChar( const Ch : WideChar) : Boolean
11669:  Function xmlIsLetter( const Ch : WideChar) : Boolean
11670:  Function xmlIsDigit( const Ch : WideChar) : Boolean
11671:  Function xmlIsNameStartChar( const Ch : WideChar) : Boolean
11672:  Function xmlIsNameChar( const Ch : WideChar) : Boolean
11673:  Function xmlIsPubidChar( const Ch : WideChar) : Boolean
11674:  Function xmlValidName( const Text : UnicodeString) : Boolean
11675:  //xmlSpace','Char #$20 or  #$9 or  #$D or  #$A);
11676:  //Function xmlSkipSpace( var P : PWideChar) : Boolean
11677:  //Function xmlSkipEq( var P : PWideChar) : Boolean
11678:  //Function xmlExtractQuotedText( var P : PWideChar; var S : UnicodeString) : Boolean
11679:  //Function xmlGetEntityEncoding( const Buf : Pointer; const BufSize : Integer; out HeaderSize : Integer)
      : TUnicodeCodecClass
11680:  Function xmlResolveEntityReference( const RefName : UnicodeString) : WideChar
11681:  Function xmlTag( const Tag : UnicodeString) : UnicodeString
11682:  Function xmlEndTag( const Tag : UnicodeString) : UnicodeString
11683:  Function xmlAttrTag( const Tag : UnicodeString; const Attr : UnicodeString) : UnicodeString
11684:  Function xmlEmptyTag( const Tag, Attr : UnicodeString) : UnicodeString
11685:  Procedure xmlSafeTextInPlace( var Txt : UnicodeString)
11686:  Function xmlSafeText( const Txt : UnicodeString) : UnicodeString
11687:  Function xmlSpaceIndent( const IndentLength : Integer; const IndentLevel : Integer):UnicodeString
11688:  Function xmlTabIndent( const IndentLevel : Integer) : UnicodeString
11689:  Function xmlComment( const Comment : UnicodeString) : UnicodeString
11690:  Procedure SelfTestcXMLFunctions
11691: end;
11692:
11693: (*----------------------------------------------------------------------------*)
11694: procedure SIRegister_DepWalkUtils(CL: TPSPascalCompiler);
11695: begin
11696:  Function AWaitCursor : IUnknown
11697:  Function ChangeCursor( NewCursor : TCursor) : IUnknown
11698:  Procedure SuspendRedraw( AControl : TWinControl; Suspend : boolean)
11699:  Function YesNo( const ACaption, AMsg : string) : boolean
11700:  Procedure strTokenize( const S : string; Delims : TSysCharSet; Results : TStrings)
11701:  Function GetBorlandLibPath( Version : integer; ForDelphi : boolean) : string
11702:  Function GetExpandedLibRoot( Version : integer; ForDelphi : boolean) : string
11703:  Procedure GetPathList( Version : integer; ForDelphi : boolean; Strings : TStrings)
11704:  Procedure GetSystemPaths( Strings : TStrings)
11705:  Procedure MakeEditNumeric( EditHandle : integer)
11706: end;
11707:
11708: procedure SIRegister_yuvconverts(CL: TPSPascalCompiler);
11709: begin
11710:   AddTypeS('TVideoCodec','(vcUnknown,vcRGB,vcYUY2,vcUYVY,vcBTYUV,vcYV,U9,vcYUV12,vcY8,vcY211)
11711:  'BI_YUY2','LongWord( $32595559);
11712:  'BI_UYVY','LongWord').SetUInt( $59565955);
11713:  'BI_BTYUV','LongWord').SetUInt( $50313459);
11714:  'BI_YVU9','LongWord').SetUInt( $39555659);
11715:  'BI_YUV12','LongWord( $30323449);
11716:  'BI_Y8','LongWord').SetUInt( $20203859);
11717:  'BI_Y211','LongWord').SetUInt( $31313259);
11718:  Function BICompressionToVideoCodec( Value : DWord) : TVideoCodec
11719:  Function ConvertCodecToRGB(Codec:TVideoCodec;Src,Dst:Pointer;AWidth,AHeight:Integer):Boolean;
11720: end;
11721:
11722: (*----------------------------------------------------------------------------*)
11723: procedure SIRegister_AviCap(CL: TPSPascalCompiler);
```

```
11724: begin
11725:  'WM_USER','LongWord').SetUInt( $0400);
11726:  'WM_CAP_START','LongWord').SetUint($0400);
11727:  'WM_CAP_END','longword').SetUint($0400+85);
11728:  //WM_CAP_START+  85
11729:  //    WM_CAP_SET_CALLBACK_CAPCONTROL  = (WM_CAP_START+  85);
11730:  Function capSetCallbackOnError( hwnd : THandle; fpProc : LongInt) : LongInt
11731:  Function capSetCallbackOnStatus( hwnd : THandle; fpProc : LongInt) : LongInt
11732:  Function capSetCallbackOnYield( hwnd : THandle; fpProc : LongInt) : LongInt
11733:  Function capSetCallbackOnFrame( hwnd : THandle; fpProc : LongInt) : LongInt
11734:  Function capSetCallbackOnVideoStream( hwnd : THandle; fpProc : LongInt) : LongInt
11735:  Function capSetCallbackOnWaveStream( hwnd : THandle; fpProc : LongInt) : LongInt
11736:  Function capSetCallbackOnCapControl( hwnd : THandle; fpProc : LongInt) : LongInt
11737:  Function capSetUserData( hwnd : THandle; lUser : LongInt) : LongInt
11738:  Function capGetUserData( hwnd : THandle) : LongInt
11739:  Function capDriverConnect( hwnd : THandle; I : Word) : LongInt
11740:  Function capDriverDisconnect( hwnd : THandle) : LongInt
11741:  Function capDriverGetName( hwnd : THandle; szName : LongInt; wSize : Word) : LongInt
11742:  Function capDriverGetVersion( hwnd : THandle; szVer : LongInt; wSize : Word) : LongInt
11743:  Function capDriverGetCaps( hwnd : THandle; s : LongInt; wSize : Word) : LongInt
11744:  Function capFileSetCaptureFile( hwnd : THandle; szName : LongInt) : LongInt
11745:  Function capFileGetCaptureFile( hwnd : THandle; szName : LongInt; wSize : Word):LongInt
11746:  Function capFileAlloc( hwnd : THandle; dwSize : LongInt) : LongInt
11747:  Function capFileSaveAs( hwnd : THandle; szName : LongInt) : LongInt
11748:  Function capFileSetInfoChunk( hwnd : THandle; lpInfoChunk : LongInt) : LongInt
11749:  Function capFileSaveDIB( hwnd : THandle; szName : LongInt) : LongInt
11750:  Function capEditCopy( hwnd : THandle) : LongInt
11751:  Function capSetAudioFormat( hwnd : THandle; s : LongInt; wSize : Word) : LongInt
11752:  Function capGetAudioFormat( hwnd : THandle; s : LongInt; wSize : Word) : LongInt
11753:  Function capGetAudioFormatSize( hwnd : THandle) : LongInt
11754:  Function capDlgVideoFormat( hwnd : THandle) : LongInt
11755:  Function capDlgVideoSource( hwnd : THandle) : LongInt
11756:  Function capDlgVideoDisplay( hwnd : THandle) : LongInt
11757:  Function capDlgVideoCompression( hwnd : THandle) : LongInt
11758:  Function capGetVideoFormat( hwnd : THandle; s : LongInt; wSize : Word) : LongInt
11759:  Function capGetVideoFormatSize( hwnd : THandle) : LongInt
11760:  Function capSetVideoFormat( hwnd : THandle; s : LongInt; wSize : Word) : LongInt
11761:  Function capPreview( hwnd : THandle; f : Word) : LongInt
11762:  Function capPreviewRate( hwnd : THandle; wMS : Word) : LongInt
11763:  Function capOverlay( hwnd : THandle; f : Word) : LongInt
11764:  Function capPreviewScale( hwnd : THandle; f : Word) : LongInt
11765:  Function capGetStatus( hwnd : THandle; s : LongInt; wSize : Word) : LongInt
11766:  Function capSetScrollPos( hwnd : THandle; lpP : LongInt) : LongInt
11767:  Function capGrabFrame( hwnd : THandle) : LongInt
11768:  Function capGrabFrameNoStop( hwnd : THandle) : LongInt
11769:  Function capCaptureSequence( hwnd : THandle) : LongInt
11770:  Function capCaptureSequenceNoFile( hwnd : THandle) : LongInt
11771:  Function capCaptureStop( hwnd : THandle) : LongInt
11772:  Function capCaptureAbort( hwnd : THandle) : LongInt
11773:  Function capCaptureSingleFrameOpen( hwnd : THandle) : LongInt
11774:  Function capCaptureSingleFrameClose( hwnd : THandle) : LongInt
11775:  Function capCaptureSingleFrame( hwnd : THandle) : LongInt
11776:  Function capCaptureGetSetup( hwnd : THandle; s : LongInt; wSize : Word) : LongInt
11777:  Function capCaptureSetSetup( hwnd : THandle; s : LongInt; wSize : Word) : LongInt
11778:  Function capSetMCIDeviceName( hwnd : THandle; szName : LongInt) : LongInt
11779:  Function capGetMCIDeviceName( hwnd : THandle; szName : LongInt; wSize : Word) : LongInt
11780:  Function capPaletteOpen( hwnd : THandle; szName : LongInt) : LongInt
11781:  Function capPaletteSave( hwnd : THandle; szName : LongInt) : LongInt
11782:  Function capPalettePaste( hwnd : THandle) : LongInt
11783:  Function capPaletteAuto( hwnd : THandle; iFrames : Word; iColors : LongInt) : LongInt
11784:  Function capPaletteManual( hwnd : THandle; fGrab : Word; iColors : LongInt) : LongInt
11785:   //PCapDriverCaps', '^TCapDriverCaps // will not work
11786:   TCapDriverCaps', 'record wDeviceIndex : WORD; fHasOverlay : BOOL'
11787:    +'; fHasDlgVideoSource : BOOL; fHasDlgVideoFormat : BOOL; fHasDlgVideoDispla'
11788:    +'y : BOOL; fCaptureInitialized : BOOL; fDriverSuppliesPalettes : BOOL; hVid'
11789:    +'eoIn : THANDLE; hVideoOut : THANDLE; hVideoExtIn:THANDLE; hVideoExtOut:THANDLE; end
11790:   //PCapStatus', '^TCapStatus // will not work
11791:   TCapStatus', 'record uiImageWidth : UINT; uiImageHeight : UINT; '
11792:    +'fLiveWindow : BOOL; fOverlayWindow : BOOL; fScale : BOOL; ptScroll : TPOIN'
11793:    +'T; fUsingDefaultPalette : BOOL; fAudioHardware : BOOL; fCapFileExists : BO'
11794:    +'OL; dwCurrentVideoFrame : DWORD; dwCurrentVideoFramesDropped : DWORD; dwCu'
11795:    +'rrentWaveSamples : DWORD; dwCurrentTimeElapsedMS : DWORD; hPalCurrent : HP'
11796:    +'ALETTE; fCapturingNow : BOOL; dwReturn : DWORD; wNumVideoAllocated : WORD;'
11797:    +' wNumAudioAllocated : WORD; end
11798:   //PCaptureParms', '^TCaptureParms // will not work
11799:   TCaptureParms', 'record dwRequestMicroSecPerFrame : DWORD; fMake'
11800:    +'UserHitOKToCapture : BOOL; wPercentDropForError : WORD; fYield : BOOL; dwI'
11801:    +'ndexSize : DWORD; wChunkGranularity : WORD; fUsingDOSMemory : BOOL; wNumVi'
11802:    +'deoRequested : WORD; fCaptureAudio : BOOL; wNumAudioRequested : WORD; vKey'
11803:    +'Abort : WORD; fAbortLeftMouse : BOOL; fAbortRightMouse : BOOL; fLimitEnabl'
11804:    +'ed : BOOL; wTimeLimit : WORD; fMCIControl : BOOL; fStepMCIDevice : BOOL; d'
11805:    +'wMCIStartTime : DWORD; dwMCIStopTime : DWORD; fStepCaptureAt2x : BOOL; wSt'
11806:    +'epCaptureAverageFrames : WORD; dwAudioBufferSize : DWORD; fDisableWriteCac'
11807:    +'he : BOOL; AVStreamMaster : WORD; end
11808:  // PCapInfoChunk', '^TCapInfoChunk // will not work
11809:   //TCapInfoChunk', 'record fccInfoID : FOURCC; lpData : LongInt; cbData : LongInt; end
11810:  'CONTROLCALLBACK_PREROLL','LongInt'( 1);
11811:  'CONTROLCALLBACK_CAPTURING','LongInt'( 2);
11812:  Function capCreateCaptureWindow( lpszWindowName: PChar; dwStyle : DWord; x, y : Integer; nWidth, nHeight
       : Integer; hwndParent : THandle; nID : Integer) : THandle
```

```
11813:  Function
        capGetDriverDescription(wDriverIndex:DWord;lpszName:PChar;cbName:Integer;lpszVer:PChar;cbVer:Int):Bool;
11814:  'IDS_CAP_BEGIN','LongInt'( 300);
11815:  'IDS_CAP_END','LongInt'( 301);
11816:  'IDS_CAP_INFO','LongInt'( 401);
11817:  'IDS_CAP_OUTOFMEM','LongInt'( 402);
11818:  'IDS_CAP_FILEEXISTS','LongInt'( 403);
11819:  'IDS_CAP_ERRORPALOPEN','LongInt'( 404);
11820:  'IDS_CAP_ERRORPALSAVE','LongInt'( 405);
11821:  'IDS_CAP_ERRORDIBSAVE','LongInt'( 406);
11822:  'IDS_CAP_DEFAVIEXT','LongInt'( 407);
11823:  'IDS_CAP_DEFPALEXT','LongInt'( 408);
11824:  'IDS_CAP_CANTOPEN','LongInt'( 409);
11825:  'IDS_CAP_SEQ_MSGSTART','LongInt'( 410);
11826:  'IDS_CAP_SEQ_MSGSTOP','LongInt'( 411);
11827:  'IDS_CAP_VIDEDITERR','LongInt'( 412);
11828:  'IDS_CAP_READONLYFILE','LongInt'( 413);
11829:  'IDS_CAP_WRITEERROR','LongInt'( 414);
11830:  'IDS_CAP_NODISKSPACE','LongInt'( 415);
11831:  'IDS_CAP_SETFILESIZE','LongInt'( 416);
11832:  'IDS_CAP_SAVEASPERCENT','LongInt'( 417);
11833:  'IDS_CAP_DRIVER_ERROR','LongInt'( 418);
11834:  'IDS_CAP_WAVE_OPEN_ERROR','LongInt'( 419);
11835:  'IDS_CAP_WAVE_ALLOC_ERROR','LongInt'( 420);
11836:  'IDS_CAP_WAVE_PREPARE_ERROR','LongInt'( 421);
11837:  'IDS_CAP_WAVE_ADD_ERROR','LongInt'( 422);
11838:  'IDS_CAP_WAVE_SIZE_ERROR','LongInt'( 423);
11839:  'IDS_CAP_VIDEO_OPEN_ERROR','LongInt'( 424);
11840:  'IDS_CAP_VIDEO_ALLOC_ERROR','LongInt'( 425);
11841:  'IDS_CAP_VIDEO_PREPARE_ERROR','LongInt'( 426);
11842:  'IDS_CAP_VIDEO_ADD_ERROR','LongInt'( 427);
11843:  'IDS_CAP_VIDEO_SIZE_ERROR','LongInt'( 428);
11844:  'IDS_CAP_FILE_OPEN_ERROR','LongInt'( 429);
11845:  'IDS_CAP_FILE_WRITE_ERROR','LongInt'( 430);
11846:  'IDS_CAP_RECORDING_ERROR','LongInt'( 431);
11847:  'IDS_CAP_RECORDING_ERROR2','LongInt'( 432);
11848:  'IDS_CAP_AVI_INIT_ERROR','LongInt'( 433);
11849:  'IDS_CAP_NO_FRAME_CAP_ERROR','LongInt'( 434);
11850:  'IDS_CAP_NO_PALETTE_WARN','LongInt'( 435);
11851:  'IDS_CAP_MCI_CONTROL_ERROR','LongInt'( 436);
11852:  'IDS_CAP_MCI_CANT_STEP_ERROR','LongInt'( 437);
11853:  'IDS_CAP_NO_AUDIO_CAP_ERROR','LongInt'( 438);
11854:  'IDS_CAP_AVI_DRAWDIB_ERROR','LongInt'( 439);
11855:  'IDS_CAP_COMPRESSOR_ERROR','LongInt'( 440);
11856:  'IDS_CAP_AUDIO_DROP_ERROR','LongInt'( 441);
11857:  'IDS_CAP_STAT_LIVE_MODE','LongInt'( 500);
11858:  'IDS_CAP_STAT_OVERLAY_MODE','LongInt'( 501);
11859:  'IDS_CAP_STAT_CAP_INIT','LongInt'( 502);
11860:  'IDS_CAP_STAT_CAP_FINI','LongInt'( 503);
11861:  'IDS_CAP_STAT_PALETTE_BUILD','LongInt'( 504);
11862:  'IDS_CAP_STAT_OPTPAL_BUILD','LongInt'( 505);
11863:  'IDS_CAP_STAT_I_FRAMES','LongInt'( 506);
11864:  'IDS_CAP_STAT_L_FRAMES','LongInt'( 507);
11865:  'IDS_CAP_STAT_CAP_L_FRAMES','LongInt'( 508);
11866:  'IDS_CAP_STAT_CAP_AUDIO','LongInt'( 509);
11867:  'IDS_CAP_STAT_VIDEOCURRENT','LongInt'( 510);
11868:  'IDS_CAP_STAT_VIDEOAUDIO','LongInt'( 511);
11869:  'IDS_CAP_STAT_VIDEOONLY','LongInt'( 512);
11870:  'IDS_CAP_STAT_FRAMESDROPPED','LongInt'( 513);
11871:  'AVICAP32','String 'AVICAP32.dll
11872: end;
11873:
11874: procedure SIRegister_ALFcnMisc(CL: TPSPascalCompiler);
11875: begin
11876:  Function AlBoolToInt( Value : Boolean) : Integer
11877:  Function ALMediumPos( LTotal, LBorder, LObject : integer) : Integer
11878:  Function AlIsValidEmail( const Value : AnsiString) : boolean
11879:  Function AlLocalDateTimeToGMTDateTime( const aLocalDateTime : TDateTime) : TdateTime
11880:  Function ALInc( var x : integer; Count : integer) : Integer
11881:  Function ALCopyStr(const aSourceString: AnsiString; aStart, aLength: Integer): AnsiString
11882:  function ALGetStringFromFile(filename: AnsiString; const ShareMode: Word = fmShareDenyWrite):AnsiString;
11883:  procedure ALSaveStringtoFile(Str: AnsiString; filename: AnsiString);
11884:  Function ALIsInteger(const S: AnsiString): Boolean;
11885:  function ALIsDecimal(const S: AnsiString): boolean;
11886:  Function ALStringToWideString(const S: AnsiString; const aCodePage: Word): WideString;
11887:  function AlWideStringToString(const WS: WideString; const aCodePage: Word): AnsiString;
11888:  function  ALQuotedStr(const S: AnsiString; const Quote: AnsiChar = ''''): AnsiString;
11889:  function  ALDequotedStr(const S: AnsiString; AQuote: AnsiChar): AnsiString;
11890:  function  AlUTF8removeBOM(const S: AnsiString): AnsiString;
11891:  Function ALRandomStr1(const aLength: Longint; const aCharset: Array of Char): AnsiString;
11892:  Function ALRandomStr(const aLength: Longint): AnsiString;
11893:  Function ALRandomStrU1(const aLength: Longint; const aCharset: Array of Char): String;
11894:  Function ALRandomStrU(const aLength: Longint): String;
11895: end;
11896:
11897: procedure SIRegister_ALJSONDoc(CL: TPSPascalCompiler);
11898: begin
11899:  Procedure ALJSONToTStrings(const AJsonStr:AnsiString;aLst:TALStrings; const aNullStr:AnsiString;const
        aTrueStr: AnsiString; const aFalseStr : AnsiString)
```

```
11900: end;
11901:
11902: procedure SIRegister_ALWindows(CL: TPSPascalCompiler);
11903: begin
11904:   _ALMEMORYSTATUSEX', 'record dwLength : DWORD; dwMemoryLoad : DWO'
11905:    +'RD; ullTotalPhys : Int64; ullAvailPhys : Int64; ullTotalPageFile : Int64; '
11906:    +'ullAvailPageFile : Int64; ullTotalVirtual : Int64; ullAvailVirtual : Int64'
11907:    +'; ullAvailExtendedVirtual : Int64; end
11908:   TALMemoryStatusEx', '_ALMEMORYSTATUSEX
11909:  Function ALGlobalMemoryStatusEx( var lpBuffer : TALMEMORYSTATUSEX) : BOOL
11910:  Function ALInterlockedExchange64( var Target : LONGlONG; Value : LONGLONG) : LONGLONG
11911:  'INVALID_SET_FILE_POINTER','LongInt'( DWORD ( - 1 ));
11912:  'QUOTA_LIMITS_HARDWS_MIN_DISABLE','LongWord').SetUInt( $2);
11913:  'QUOTA_LIMITS_HARDWS_MIN_ENABLE','LongWord').SetUInt( $1);
11914:  'QUOTA_LIMITS_HARDWS_MAX_DISABLE','LongWord').SetUInt( $8);
11915:  'QUOTA_LIMITS_HARDWS_MAX_ENABLE','LongWord').SetUInt( $4);
11916: end;
11917:
11918: procedure SIRegister_IPCThrd(CL: TPSPascalCompiler);
11919: begin
11920:   SIRegister_THandledObject(CL);
11921:   SIRegister_TEvent(CL);
11922:   SIRegister_TMutex(CL);
11923:   SIRegister_TSharedMem(CL);
11924:  'TRACE_BUF_SIZE','LongInt'( 200 * 1024);
11925:  'TRACE_BUFFER','String 'TRACE_BUFFER
11926:  'TRACE_MUTEX','String 'TRACE_MUTEX
11927:   //PTraceEntry', '^TTraceEntry // will not work
11928:   SIRegister_TIPCTracer(CL);
11929:  'MAX_CLIENTS','LongInt'( 6);
11930:  'IPCTIMEOUT','LongInt'( 2000);
11931:  'IPCBUFFER_NAME','String 'BUFFER_NAME
11932:  'BUFFER_MUTEX_NAME','String 'BUFFER_MUTEX
11933:  'MONITOR_EVENT_NAME','String 'MONITOR_EVENT
11934:  'CLIENT_EVENT_NAME','String 'CLIENT_EVENT
11935:  'CONNECT_EVENT_NAME','String 'CONNECT_EVENT
11936:  'CLIENT_DIR_NAME','String 'CLIENT_DIRECTORY
11937:  'CLIENT_DIR_MUTEX','String 'DIRECTORY_MUTEX
11938:   FindClass('TOBJECT'),'EMonitorActive
11939:   FindClass('TOBJECT'),'TIPCThread
11940:   TEventKind', '( evMonitorAttach, evMonitorDetach, evMonitorSigna'
11941:    +'l, evMonitorExit, evClientStart, evClientStop, evClientAttach, evClientDet'
11942:    +'ach, evClientSwitch, evClientSignal, evClientExit )
11943:   TClientFlag', '( cfError, cfMouseMove, cfMouseDown, cfResize, cfAttach )
11944:   TClientFlags', 'set of TClientFlag
11945:   //PEventData', '^TEventData // will not work
11946:   TEventData', 'record X : SmallInt; Y : SmallInt; Flag : TClientF'
11947:    +'lag; Flags : TClientFlags; end
11948:   TConnectEvent', 'Procedure ( Sender : TIPCThread; Connecting : Boolean)
11949:   TDirUpdateEvent', 'Procedure ( Sender : TIPCThread)
11950:   TIPCNotifyEvent', 'Procedure ( Sender : TIPCThread; Data : TEventData)
11951:   //PIPCEventInfo', '^TIPCEventInfo // will not work
11952:   TIPCEventInfo','record FID:Integer;FKind:TEventKind;FData:TEventData;end
11953:   SIRegister_TIPCEvent(CL);
11954:   //PClientDirRecords', '^TClientDirRecords // will not work
11955:   SIRegister_TClientDirectory(CL);
11956:   TIPCState', '( stInActive, stDisconnected, stConnected )
11957:   SIRegister_TIPCThread(CL);
11958:   SIRegister_TIPCMonitor(CL);
11959:   SIRegister_TIPCClient(CL);
11960:  Function IsMonitorRunning( var Hndl : THandle) : Boolean
11961: end;
11962:
11963: (*----------------------------------------------------------------------------*)
11964: procedure SIRegister_ALGSMComm(CL: TPSPascalCompiler);
11965: begin
11966:   SIRegister_TAlGSMComm(CL);
11967:  Function AlGSMComm_BuildPDUMessage( aSMSCenter, aSMSAddress, aMessage : AnsiString) : AnsiString
11968:  Procedure AlGSMComm_DecodePDUMessage(aPDUMessage:AnsiString;var aSMSCenter,aSMSAddress,
      AMessage:AnsiString);
11969:  Function AlGSMComm_UnicodeToGSM7BitDefaultAlphabet( aMessage : WideString) : AnsiString
11970:  Function AlGSMComm_GSM7BitDefaultAlphabetToUnicode(aMess:AnsiString;const
      UseGreekAlphabet:Bool):Widestring;
11971:  function ALMatchesMask(const Filename, Mask: AnsiString): Boolean;
11972:  end;
11973:
11974: procedure SIRegister_ALHttpCommon(CL: TPSPascalCompiler);
11975: begin
11976:   TALHTTPPropertyChangeEvent','Procedure(sender:Tobject;const PropertyIndex:Integer;
11977:   TALHTTPProtocolVersion', '( HTTPpv_1_0, HTTPpv_1_1 )
11978:   TALHTTPMethod','(HTTPmt_Get,HTTPmt_Post,HTTPmt_Head,HTTPmt_Trace,HTTPmt_Put,HTTPmt_Delete);
11979:   TInternetScheme', 'integer
11980:   TALIPv6Binary', 'array[1..16] of Char;
11981:  // TALIPv6Binary = array[1..16] of ansiChar;
11982:  //   TInternetScheme = Integer;
11983:   SIRegister_TALHTTPRequestHeader(CL);
11984:   SIRegister_TALHTTPCookie(CL);
11985:   SIRegister_TALHTTPCookieCollection(CL);
11986:   SIRegister_TALHTTPResponseHeader(CL);
```

```
11987:  Function ALHTTPDecode( const AStr : AnsiString) : AnsiString
11988:  Procedure ALHTTPEncodeParamNameValues( ParamValues : TALStrings)
11989: // Procedure ALExtractHTTPFields(Separators, WhiteSpace, Quotes:TSysCharSet;
       Content:PAnsiChar;Strings:TALStrings;StripQuotes:Boolean;
11990: // Procedure ALExtractHeaderFields( Separators,WhiteSpace, Quotes : TSysCharSet; Content : PAnsiChar;
       Strings : TALStrings; Decode : Boolean; StripQuotes : Boolean)
11991: // Procedure ALExtractHeaderFieldsWithQuoteEscaped(Separators,WhiteSpace,
       Quotes:TSysCharSet;Content:PAnsiChar;Strings : TALStrings; Decode : Boolean; StripQuotes : Boolean)
11992:  Function AlRemoveShemeFromUrl( aUrl : AnsiString) : ansiString
11993:  Function AlExtractShemeFromUrl( aUrl : AnsiString) : TInternetScheme
11994:  Function AlExtractHostNameFromUrl( aUrl : AnsiString) : AnsiString
11995:  Function AlExtractDomainNameFromUrl( aUrl : AnsiString) : AnsiString
11996:  Function AlExtractUrlPathFromUrl( aUrl : AnsiString) : AnsiString
11997:  Function AlInternetCrackUrl( aUrl : AnsiString; var SchemeName,HostName,UserName,Password,UrlPath,
       ExtraInfo : AnsiString; var PortNumber : integer) : Boolean;
11998:  Function AlInternetCrackUrl1( aUrl : AnsiString; var SchemeName, HostName, UserName, Password,UrlPath,
       Anchor : AnsiString; Query : TALStrings; var PortNumber : integer) : Boolean;
11999:  Function AlInternetCrackUrl2(var Url:AnsiString;var Anchor:AnsiString;Query:TALStrings):Boolean;
12000:  Function AlRemoveAnchorFromUrl( aUrl : AnsiString; var aAnchor : AnsiString) : AnsiString;
12001:  Function AlRemoveAnchorFromUrl1( aUrl : AnsiString) : AnsiString;
12002:  Function AlCombineUrl( RelativeUrl, BaseUrl : AnsiString) : AnsiString;
12003:  Function AlCombineUrl1(RelativeUrl, BaseUrl, Anchor : AnsiString; Query:TALStrings) : AnsiString;
12004:  Function ALGmtDateTimeToRfc822Str( const aValue : TDateTime) : AnsiString
12005:  Function ALDateTimeToRfc822Str( const aValue : TDateTime) : AnsiString
12006:  Function ALTryRfc822StrToGMTDateTime( const S : AnsiString; out Value : TDateTime) : Boolean
12007:  Function ALRfc822StrToGMTDateTime( const s : AnsiString) : TDateTime
12008:  Function ALTryIPV4StrToNumeric( aIPv4Str : ansiString; var aIPv4Num : Cardinal) : Boolean
12009:  Function ALIPV4StrToNumeric( aIPv4 : ansiString) : Cardinal
12010:  Function ALNumericToIPv4Str( aIPv4 : Cardinal) : ansiString
12011:  Function ALZeroIpV6 : TALIPv6Binary
12012:  Function ALTryIPV6StrToBinary( aIPv6Str : ansiString; var aIPv6Bin : TALIPv6Binary) : Boolean
12013:  Function ALIPV6StrTobinary( aIPv6 : ansiString) : TALIPv6Binary
12014:  Function ALBinaryToIPv6Str( aIPv6 : TALIPv6Binary) : ansiString
12015:  Function ALBinaryStrToIPv6Binary( aIPV6BinaryStr : ansiString) : TALIPv6Binary
12016: end;
12017:
12018: procedure SIRegister_ALFcnHTML(CL: TPSPascalCompiler);
12019: begin
12020:  Procedure ALUTF8ExtractHTMLText(HtmlCont:AnsiStr;LstExtractedResourceText:TALStrings;const
       DecodeHTMLText:Bool;
12021:  Function ALUTF8ExtractHTMLText1(HtmlContent:AnsiString;const DecodeHTMLText:Boolean): AnsiString;
12022:  Function ALXMLCDataElementEncode( Src : AnsiString) : AnsiString
12023:  Function ALXMLTextElementEncode(Src : AnsiString; const useNumericReference : boolean) : AnsiString
12024:  Function ALUTF8XMLTextElementDecode( const Src : AnsiString) : AnsiString
12025:  Function ALUTF8HTMLEncode(const Src:AnsiStr;const EncodeASCIIHtmlEntities:Bool;const
       useNumRef:bool):AnsiString);
12026:  Function ALUTF8HTMLDecode( const Src : AnsiString) : AnsiString
12027:  Function ALJavascriptEncode( const Src : AnsiString; const useNumericReference : boolean) : AnsiString
12028:  Function ALUTF8JavascriptDecode( const Src : AnsiString) : AnsiString
12029:  Procedure ALHideHtmlUnwantedTagForHTMLHandleTagfunct(var HtmlContent:AnsiString; const
       DeleteBodyOfUnwantedTag : Boolean; const ReplaceUnwantedTagCharBy : AnsiChar)
12030:  Procedure ALCompactHtmlTagParams( TagParams : TALStrings)
12031: end;
12032:
12033: procedure SIRegister_ALInternetMessageCommon(CL: TPSPascalCompiler);
12034: begin
12035:   SIRegister_TALEMailHeader(CL);
12036:   SIRegister_TALNewsArticleHeader(CL);
12037:  Function AlParseEmailAddress(FriendlyEmail:AnsiString;var RealName:AString;const
       decodeRealName:Bool):AnsiString;
12038:  Function AlExtractEmailAddress( FriendlyEmail : AnsiString) : AnsiString
12039:  Function ALMakeFriendlyEmailAddress( aRealName, aEmail : AnsiString) : AnsiString
12040:  Function ALEncodeRealName4FriendlyEmailAddress( aRealName : AnsiString) : AnsiString
12041:  Function AlGenerateInternetMessageID : AnsiString;
12042:  Function AlGenerateInternetMessageID1( ahostname : AnsiString) : AnsiString;
12043:  Function ALDecodeQuotedPrintableString( src : AnsiString) : AnsiString
12044:  Function AlDecodeInternetMessageHeaderInUTF8(aHeaderStr:AnsiString;aDefaultCodePage:Integer):AnsiString;
12045: end;
12046:
12047: (*----------------------------------------------------------------------------*)
12048: procedure SIRegister_ALFcnWinSock(CL: TPSPascalCompiler);
12049: begin
12050:  Function ALHostToIP( HostName : AnsiString; var Ip : AnsiString):Boolean
12051:  Function ALIPAddrToName( IPAddr : AnsiString) : AnsiString
12052:  Function ALgetLocalIPs : TALStrings
12053:  Function ALgetLocalHostName : AnsiString
12054: end;
12055:
12056: procedure SIRegister_ALFcnCGI(CL: TPSPascalCompiler);
12057: begin
12058:  Procedure AlCGIInitDefaultServerVariablesFromWebRequest(WebRequest :
       TALWebRequest;ServerVariables:TALStrings);
12059:  Procedure AlCGIInitDefaultServerVariablesFromWebRequest1(WebRequest: TALWebRequest; ServerVariables :
       TALStrings; ScriptName, ScriptFileName : AnsiString; Url : AnsiString);
12060:  Procedure ALCGIInitDefaultServerVariables( ServerVariables : TALStrings);
12061:  Procedure AlCGIInitDefaultServerVariables1(ServerVars:TALStrings;ScriptName,
       ScriptFileName:AnsiString;Url:AnsiStr;
12062:  Procedure AlCGIInitServerVariablesFromWebRequest( WebRequest:TALWebRequest; ServerVariables : TALStrings;
       ScriptName, ScriptFileName : AnsiString; Url : AnsiString);
```

```
12063:  Procedure AlCGIExec( InterpreterFilename : AnsiString; ServerVariables : TALStrings; RequestContentStream
       : Tstream; ResponseContentStream : Tstream; ResponseHeader : TALHTTPResponseHeader);
12064:  Procedure AlCGIExec1(ScriptName,ScriptFileName, Url, X_REWRITE_URL, InterpreterFilename:AnsiString;
       WebRequest : TALIsapiRequest;
       overloadedCookies:AnsiString;overloadedQueryString:AnsiString;overloadedReferer: AnsiString;'
12065:  +'overloadedRequestContentStream:Tstream;var
       ResponseContentStr:AnsiString;ResponseHeader:TALHTTPResponseHeader;
12066:  Procedure AlCGIExec2(ScriptName,ScriptFileName,Url,X_REWRITE_URL,
       InterpreterFilename:AnsiString;WebRequest: TALIsapiRequest; var ResponseContentString : AnsiString;
       ResponseHeader : TALHTTPResponseHeader);
12067: end;
12068:
12069: procedure SIRegister_ALFcnExecute(CL: TPSPascalCompiler);
12070: begin
12071:   TStartupInfoA', 'TStartupInfo
12072:  'SE_CREATE_TOKEN_NAME','String'( 'SeCreateTokenPrivilege
12073:  SE_ASSIGNPRIMARYTOKEN_NAME','String 'SeAssignPrimaryTokenPrivilege
12074:  SE_LOCK_MEMORY_NAME','String')( 'SeLockMemoryPrivilege
12075:  SE_INCREASE_QUOTA_NAME','String 'SeIncreaseQuotaPrivilege
12076:  SE_UNSOLICITED_INPUT_NAME','String 'SeUnsolicitedInputPrivilege
12077:  SE_MACHINE_ACCOUNT_NAME','String 'SeMachineAccountPrivilege
12078:  SE_TCB_NAME','String 'SeTcbPrivilege
12079:  SE_SECURITY_NAME','String 'SeSecurityPrivilege
12080:  SE_TAKE_OWNERSHIP_NAME','String 'SeTakeOwnershipPrivilege
12081:  SE_LOAD_DRIVER_NAME','String 'SeLoadDriverPrivilege
12082:  SE_SYSTEM_PROFILE_NAME','String 'SeSystemProfilePrivilege
12083:  SE_SYSTEMTIME_NAME','String 'SeSystemtimePrivilege
12084:  SE_PROF_SINGLE_PROCESS_NAME','String 'SeProfileSingleProcessPrivilege
12085:  SE_INC_BASE_PRIORITY_NAME','String 'SeIncreaseBasePriorityPrivilege
12086:  SE_CREATE_PAGEFILE_NAME','String 'SeCreatePagefilePrivilege
12087:  SE_CREATE_PERMANENT_NAME','String 'SeCreatePermanentPrivilege
12088:  SE_BACKUP_NAME','String 'SeBackupPrivilege
12089:  SE_RESTORE_NAME','String 'SeRestorePrivilege
12090:  SE_SHUTDOWN_NAME','String 'SeShutdownPrivilege
12091:  SE_DEBUG_NAME','String 'SeDebugPrivilege
12092:  SE_AUDIT_NAME','String 'SeAuditPrivilege
12093:  SE_SYSTEM_ENVIRONMENT_NAME','String 'SeSystemEnvironmentPrivilege
12094:  SE_CHANGE_NOTIFY_NAME','String 'SeChangeNotifyPrivilege
12095:  SE_REMOTE_SHUTDOWN_NAME','String 'SeRemoteShutdownPrivilege
12096:  SE_UNDOCK_NAME','String 'SeUndockPrivilege
12097:  SE_SYNC_AGENT_NAME','String 'SeSyncAgentPrivilege
12098:  SE_ENABLE_DELEGATION_NAME','String 'SeEnableDelegationPrivilege
12099:  SE_MANAGE_VOLUME_NAME','String 'SeManageVolumePrivilege
12100:  Function AlGetEnvironmentString : AnsiString
12101:  Function ALWinExec32(const FileName,CurrentDir,
       Environment:AnsiString;InStream:Tstream;OutStream:TStream):Dword;
12102:  Function ALWinExec321(const FileName:AnsiString; InputStream:Tstream;OutputStream:TStream):Dword;
12103:  Function ALWinExecAndWait32( FileName : AnsiString; Visibility : integer) : DWORD
12104:  Function ALWinExecAndWait32V2( FileName : AnsiString; Visibility : integer) : DWORD
12105:  Function ALNTSetPrivilege( sPrivilege : AnsiString; bEnabled : Boolean) : Boolean
12106: end;
12107:
12108: procedure SIRegister_ALFcnFile(CL: TPSPascalCompiler);
12109: begin
12110:  Function AlEmptyDirectory(Directory:ansiString;SubDirectory:Bool;IgnoreFiles:array of AnsiString; const
       RemoveEmptySubDirectory : Boolean; const FileNameMask : ansiString; const MinFileAge : TdateTime):Boolean;
12111:  Function AlEmptyDirectory1( Directory : ansiString; SubDirectory : Boolean; const
       RemoveEmptySubDirectory:Bool; const FileNameMask : ansiString; const MinFileAge : TdateTime) : Boolean;
12112:  Function AlCopyDirectory( SrcDirectory, DestDirectory : ansiString; SubDirectory : Boolean; const
       FileNameMask : ansiString; const FailIfExists : Boolean) : Boolean
12113:  Function ALGetModuleName : ansistring
12114:  Function ALGetModuleFileNameWithoutExtension : ansistring
12115:  Function ALGetModulePath : ansiString
12116:  Function AlGetFileSize( const AFileName : ansistring) : int64
12117:  Function AlGetFileVersion( const AFileName : ansistring) : ansiString
12118:  Function ALGetFileCreationDateTime( const aFileName : Ansistring) : TDateTime
12119:  Function ALGetFileLastWriteDateTime( const aFileName : Ansistring) : TDateTime
12120:  Function ALGetFileLastAccessDateTime( const aFileName : Ansistring) : TDateTime
12121:  Procedure ALSetFileCreationDateTime( const aFileName : Ansistring; const aCreationDateTime : TDateTime)
12122:  Function ALIsDirectoryEmpty( const directory : ansiString) : boolean
12123:  Function ALFileExists( const Path : ansiString) : boolean
12124:  Function ALDirectoryExists( const Directory : Ansistring) : Boolean
12125:  Function ALCreateDir( const Dir : Ansistring) : Boolean
12126:  Function ALRemoveDir( const Dir : Ansistring) : Boolean
12127:  Function ALDeleteFile( const FileName : Ansistring) : Boolean
12128:  Function ALRenameFile( const OldName, NewName : ansistring) : Boolean
12129: end;
12130:
12131: procedure SIRegister_ALFcnMime(CL: TPSPascalCompiler);
12132: begin
12133:   NativeInt', 'Integer
12134:   NativeUInt', 'Cardinal
12135:  Function ALMimeBase64EncodeString( const S : AnsiString) : AnsiString
12136:  Function ALMimeBase64EncodeStringNoCRLF( const S : AnsiString) : AnsiString
12137:  Function ALMimeBase64DecodeString( const S : AnsiString) : AnsiString
12138:  Function ALMimeBase64EncodedSize( const InputSize : NativeInt) : NativeInt
12139:  Function ALMimeBase64EncodedSizeNoCRLF( const InputSize : NativeInt) : NativeInt
12140:  Function ALMimeBase64DecodedSize( const InputSize : NativeInt) : NativeInt
12141:  Procedure ALMimeBase64Encode( const InputBuffer : TByteDynArray; InputOffset : NativeInt; const
       InputByteCount : NativeInt; out OutputBuffer : TByteDynArray; OutputOffset : NativeInt)
```

```
12142:  Procedure ALMimeBase64EncodeNoCRLF( const InputBuffer : TByteDynArray; InputOffset : NativeInt; const
       InputByteCount : NativeInt; out OutputBuffer : TByteDynArray; OutputOffset : NativeInt)
12143:  Procedure ALMimeBase64EncodeFullLines( const InputBuffer : TByteDynArray; InputOffset : NativeInt; const
       InputByteCount : NativeInt; out OutputBuffer : TByteDynArray; OutputOffset : NativeInt)
12144:  Function ALMimeBase64Decode( const InputBuffer : TByteDynArray; InputOffset : NativeInt; const
       InputByteCount : NativeInt; out OutputBuffer : TByteDynArray; OutputOffset : NativeInt) : NativeInt;
12145:  Function ALMimeBase64DecodePartial( const InputBuffer : TByteDynArray; InputOffset : NativeInt; const
       InputByteCount : NativeInt; out OutputBuffer : TByteDynArray; OutputOffset : NativeInt;'
12146:  + 'var ByteBuffer : Cardinal; var ByteBufferSpace : Cardinal) : NativeInt;
12147:  Function ALMimeBase64DecodePartialEnd( out OutputBuffer : TByteDynArray; OutputOffset : NativeInt; const
       ByteBuffer : Cardinal; const ByteBufferSpace : Cardinal) : NativeInt;
12148:  Procedure ALMimeBase64Encode(const InputBuf:TByteDynArray;const InputByteCnt:NatInt;out
       OutputBuf:TByteDynArray);
12149:  Procedure ALMimeBase64EncodeNoCRLF(const InputBuffer:TByteDynArray; const InputByteCount:NativeInt;out
       OutputBuffer:TByteDynArray);
12150:  Procedure ALMimeBase64EncodeFullLines(const InputBuffer:TByteDynArray;const InputByteCount:NativeInt;out
       OutputBuffer:TByteDynArray);
12151:  Function ALMimeBase64Decode1(const InputBuffer:TByteDynArray;const InputByteCount:NativeInt;out
       OutputBuffer:TByteDynArray):NativeInt;
12152:  Function ALMimeBase64DecodePartial1(const InputBuffer:TByteDynArray;const InputByteCount:NativeInt;out
       OutputBuffer: TByteDynArray; var ByteBuffer : Cardinal; var ByteBufferSpace : Cardinal) : NativeInt;
12153:  Function ALMimeBase64DecodePartialEnd1(out OutputBuffer:TByteDynArray;const ByteBuffer:Cardinal;const
       ByteBufferSpace:Cardinal):NativeInt;
12154:  Procedure ALMimeBase64EncodeFile( const InputFileName, OutputFileName : TFileName)
12155:  Procedure ALMimeBase64EncodeFileNoCRLF( const InputFileName, OutputFileName : TFileName)
12156:  Procedure ALMimeBase64DecodeFile( const InputFileName, OutputFileName : TFileName)
12157:  Procedure ALMimeBase64EncodeStream( const InputStream : TStream; const OutputStream : TStream)
12158:  Procedure ALMimeBase64EncodeStreamNoCRLF( const InputStream : TStream; const OutputStream : TStream)
12159:  Procedure ALMimeBase64DecodeStream( const InputStream : TStream; const OutputStream : TStream)
12160:  'cALMimeBase64_ENCODED_LINE_BREAK','LongInt'( 76);
12161:  'cALMimeBase64_DECODED_LINE_BREAK','LongInt'( cALMimeBase64_ENCODED_LINE_BREAK div 4 * 3);
12162:  'cALMimeBase64_BUFFER_SIZE','LongInt'( cALMimeBase64_DECODED_LINE_BREAK * 3 * 4 * 4);
12163:  Procedure ALFillMimeContentTypeByExtList( AMIMEList : TALStrings)
12164:  Procedure ALFillExtByMimeContentTypeList( AMIMEList : TALStrings)
12165:  Function ALGetDefaultFileExtFromMimeContentType( aContentType : AnsiString) : AnsiString
12166:  Function ALGetDefaultMIMEContentTypeFromExt( aExt : AnsiString) : AnsiString
12167: end;
12168:
12169: procedure SIRegister_ALXmlDoc(CL: TPSPascalCompiler);
12170: begin
12171:  'cALXMLNodeMaxListSize','LongInt'( Maxint div 16);
12172:   FindClass('TOBJECT'),'TALXMLNode
12173:   FindClass('TOBJECT'),'TALXMLNodeList
12174:   FindClass('TOBJECT'),'TALXMLDocument
12175:   TAlXMLParseProcessingInstructionEvent','Procedure (Sender:TObject; const Target,Data:AnsiString)
12176:   TAlXMLParseTextEvent', 'Procedure ( Sender : TObject; const str: AnsiString)
12177:   TAlXMLParseStartElementEvent', 'Procedure ( Sender : TObject; co'
12178:    +'nst Name : AnsiString; const Attributes : TALStrings)
12179:   TAlXMLParseEndElementEvent', 'Procedure ( Sender : TObject; const Name : AnsiString)
12180:   TALXmlNodeType', '( ntReserved, ntElement, ntAttribute, ntText, '
12181:    +'ntCData, ntEntityRef, ntEntity, ntProcessingInstr, ntComment, ntDocument, '
12182:    +'ntDocType, ntDocFragment, ntNotation )
12183:   TALXMLDocOption', '( doNodeAutoCreate, doNodeAutoIndent )
12184:   TALXMLDocOptions', 'set of TALXMLDocOption
12185:   TALXMLParseOption', '( poPreserveWhiteSpace, poIgnoreXMLReferences )
12186:   TALXMLParseOptions', 'set of TALXMLParseOption
12187:   TALXMLPrologItem', '( xpVersion, xpEncoding, xpStandalone )
12188:   PALPointerXMLNodeList', '^TALPointerXMLNodeList // will not work
12189:   SIRegister_EALXMLDocError(CL);
12190:   SIRegister_TALXMLNodeList(CL);
12191:   SIRegister_TALXMLNode(CL);
12192:   SIRegister_TALXmlElementNode(CL);
12193:   SIRegister_TALXmlAttributeNode(CL);
12194:   SIRegister_TALXmlTextNode(CL);
12195:   SIRegister_TALXmlDocumentNode(CL);
12196:   SIRegister_TALXmlCommentNode(CL);
12197:   SIRegister_TALXmlProcessingInstrNode(CL);
12198:   SIRegister_TALXmlCDataNode(CL);
12199:   SIRegister_TALXmlEntityRefNode(CL);
12200:   SIRegister_TALXmlEntityNode(CL);
12201:   SIRegister_TALXmlDocTypeNode(CL);
12202:   SIRegister_TALXmlDocFragmentNode(CL);
12203:   SIRegister_TALXmlNotationNode(CL);
12204:   SIRegister_TALXMLDocument(CL);
12205:  cAlXMLUTF8EncodingStr','String 'UTF-8
12206:  cALXmlUTF8HeaderStr','String'<?xmlversion="1.0"encoding="UTF-8"standalone="yes"?>'+#13#10);
12207:  CALNSDelim','String ':
12208:  CALXML','String 'xml
12209:  CALVersion','String 'version
12210:  CALEncoding','String 'encoding
12211:  CALStandalone','String 'standalone
12212:  CALDefaultNodeIndent','String '
12213:  CALXmlDocument','String 'DOCUMENT
12214:  Function ALCreateEmptyXMLDocument( const Rootname : AnsiString) : TalXMLDocument
12215:  Procedure ALClearXMLDocument(const rootname:AnsiString;xmldoc:TalXMLDocument;const
       EncodingStr:AnsiString);
12216:  Function ALFindXmlNodeByChildNodeValue(xmlrec:TalxmlNode;const ChildNodeName,
       ChildNodeValue:AnsiString;const Recurse: Boolean) : TalxmlNode
12217:  Function ALFindXmlNodeByNameAndChildNodeValue( xmlrec : TalxmlNode; const NodeName : ansiString; const
       ChildNodeName, ChildNodeValue : AnsiString; const Recurse : Boolean) : TalxmlNode
```

```
12218:  Function ALFindXmlNodeByAttribute(xmlrec:TalxmlNode;const AttributeName,AttributeValue:AnsiString;const
       Recurse: Boolean):TalxmlNode
12219:  Function ALFindXmlNodeByNameAndAttribute( xmlrec : TalxmlNode; const NodeName : ansiString; const
       AttributeName, AttributeValue : AnsiString; const Recurse : Boolean) : TalxmlNode
12220:  Function ALExtractAttrValue( const AttrName, AttrLine : AnsiString; const Default : AnsiString) :
       AnsiString
12221: end;
12222:
12223: procedure SIRegister_TeCanvas(CL: TPSPascalCompiler);
12224: //based on TEEProc, TeCanvas, TEEngine, TChart
12225: begin
12226:  'TeePiStep','Double').setExtended( Pi / 180.0);
12227:  'TeeDefaultPerspective','LongInt'( 100);
12228:  'TeeMinAngle','LongInt'( 270);
12229:  'teeclMoneyGreen','LongWord').SetUInt( TColor ( $C0DCC0 ));
12230:  'teeclSkyBlue','LongWord').SetUInt( TColor ( $F0CAA6 ));
12231:  'teeclCream','LongWord( TColor ( $F0FBFF ));
12232:  'teeclMedGray','LongWord').SetUInt( TColor ( $A4A0A0 ));
12233:  'teeclMoneyGreen','LongWord').SetUInt( TColor ( $C0DCC0 ));
12234:  'teeclSkyBlue','LongWord').SetUInt( TColor ( $F0CAA6 ));
12235:  'teeclCream','LongWord').SetUInt( TColor ( $F0FBFF ));
12236:  'teeclMedGray','LongWord').SetUInt( TColor ( $A4A0A0 ));
12237:  'TA_LEFT','LongInt'( 0);
12238:  'TA_RIGHT','LongInt'( 2);
12239:  'TA_CENTER','LongInt'( 6);
12240:  'TA_TOP','LongInt'( 0);
12241:  'TA_BOTTOM','LongInt'( 8);
12242:  'teePATCOPY','LongInt'( 0);
12243:  'NumCirclePoints','LongInt'( 64);
12244:  'teeDEFAULT_CHARSET','LongInt'( 1);
12245:  'teeANTIALIASED_QUALITY','LongInt'( 4);
12246:  'TA_LEFT','LongInt'( 0);
12247:  'bs_Solid','LongInt'( 0);
12248:  'teepf24Bit','LongInt'( 0);
12249:  'teepfDevice','LongInt'( 1);
12250:  'CM_MOUSELEAVE','LongInt'( 10000);
12251:  'CM_SYSCOLORCHANGE','LongInt'( 10001);
12252:  'DC_BRUSH','LongInt'( 18);
12253:  'DC_PEN','LongInt'( 19);
12254:   teeCOLORREF', 'LongWord
12255:   TLogBrush', 'record lbStyle : Integer; lbColor : TColor; lbHatch: Integer; end
12256:   //TNotifyEvent', 'Procedure ( Sender : TObject)
12257:   SIRegister_TFilterRegion(CL);
12258:   SIRegister_IFormCreator(CL);
12259:   SIRegister_TTeeFilter(CL);
12260:   //TFilterClass', 'class of TTeeFilter
12261:   SIRegister_TFilterItems(CL);
12262:   SIRegister_TConvolveFilter(CL);
12263:   SIRegister_TBlurFilter(CL);
12264:   SIRegister_TTeePicture(CL);
12265:   TPenEndStyle', '( esRound, esSquare, esFlat )
12266:   SIRegister_TChartPen(CL);
12267:   SIRegister_TChartHiddenPen(CL);
12268:   SIRegister_TDottedGrayPen(CL);
12269:   SIRegister_TDarkGrayPen(CL);
12270:   SIRegister_TWhitePen(CL);
12271:   SIRegister_TChartBrush(CL);
12272:   TTeeView3DScrolled', 'Procedure ( IsHoriz : Boolean)
12273:   TTeeView3DChangedZoom', 'Procedure ( NewZoom : Integer)
12274:   SIRegister_TView3DOptions(CL);
12275:   FindClass('TOBJECT'),'TTeeCanvas
12276:   TTeeTransparency', 'Integer
12277:   SIRegister_TTeeBlend(CL);
12278:   FindClass('TOBJECT'),'TCanvas3D
12279:   SIRegister_TTeeShadow(CL);
12280:   teeTGradientDirection','(gdTopBottom, gdBottomTop, gdLeftRight, gdRightLeft, gdFromCenter, gdFromTopLeft,
      gdFromBottomLeft, gdRadial,gdDiagonalUp,gdDiagonalDown )
12281:   FindClass('TOBJECT'),'TSubGradient
12282:   SIRegister_TCustomTeeGradient(CL);
12283:   SIRegister_TSubGradient(CL);
12284:   SIRegister_TTeeGradient(CL);
12285:   SIRegister_TTeeFontGradient(CL);
12286:   SIRegister_TTeeFont(CL);
12287:   TCanvasBackMode', '( cbmNone, cbmTransparent, cbmOpaque )
12288:   TCanvasTextAlign', 'Integer
12289:   TTeeCanvasHandle', 'HDC
12290:   SIRegister_TTeeCanvas(CL);
12291:   TPoint3DFloat', 'record X : Double; Y : Double; Z : Double; end
12292:   SIRegister_TFloatXYZ(CL);
12293:   TPoint3D', 'record x : integer; y : integer; z : Integer; end
12294:   TRGB', 'record blue: byte; green: byte; red: byte; end
12295:   {TRGB=packed record
12296:     Blue  : Byte;
12297:     Green : Byte;
12298:     Red   : Byte;
12299:     //$IFDEF CLX  //Alpha : Byte; // Linux  end;}
12300:
12301: TTeeCanvasCalcPoints', 'Function ( x, z : Integer; var P0, P1 : '
12302:    +'TPoint3D; var Color0, Color1 : TColor) : Boolean
```

```
12303: TTeeCanvasSurfaceStyle', '( tcsSolid, tcsWire, tcsDot )
12304: TCanvas3DPlane', '( cpX, cpY, cpZ )
12305:   //IInterface', 'IUnknown
12306:   SIRegister_TCanvas3D(CL);
12307:   SIRegister_TTeeCanvas3D(CL);
12308:   TTrianglePoints', 'Array[0..2] of TPoint;
12309:   TFourPoints', 'Array[0..3] of TPoint;
12310:  Function ApplyDark( Color : TColor; HowMuch : Byte) : TColor
12311:  Function ApplyBright( Color : TColor; HowMuch : Byte) : TColor
12312:  Function Point3D( const x, y, z : Integer) : TPoint3D
12313:  Procedure SwapDouble( var a, b : Double)
12314:  Procedure SwapInteger( var a, b : Integer)
12315:  Procedure RectSize( const R : TRect; var RectWidth, RectHeight : Integer)
12316:  Procedure teeRectCenter( const R : TRect; var X, Y : Integer)
12317:  Function RectFromPolygon( const Points : array of TPoint; NumPoints : Integer): TRect
12318:  Function RectFromTriangle( const Points : TTrianglePoints) : TRect
12319:  Function RectangleInRectangle( const Small, Big : TRect) : Boolean
12320:  Procedure ClipCanvas( ACanvas : TCanvas; const Rect : TRect)
12321:  Procedure UnClipCanvas( ACanvas : TCanvas)
12322:  Procedure ClipEllipse( ACanvas : TTeeCanvas; const Rect : TRect)
12323:  Procedure ClipRoundRectangle(ACanvas:TTeeCanvas;const Rect : TRect; RoundSize : Integer)
12324:  Procedure ClipPolygon(ACanvas:TTeeCanvas;const Points:array of TPoint;NumPoints:Integer)
12325:  'TeeCharForHeight','String 'W
12326:  'DarkerColorQuantity','Byte').SetUInt( 128);
12327:  'DarkColorQuantity','Byte').SetUInt( 64);
12328:   TButtonGetColorProc', 'Function  : TColor
12329:   SIRegister_TTeeButton(CL);
12330:   SIRegister_TButtonColor(CL);
12331:   SIRegister_TComboFlat(CL);
12332:  Procedure TeeSetTeePen(FPen:TPen; APen : TChartPen; AColor : TColor; Handle:TTeeCanvasHandle)
12333:  Function TeePoint( const aX, aY : Integer) : TPoint
12334:  Function TEEPointInRect( const Rect : TRect; const P : TPoint) : Boolean;
12335:  Function PointInRect1( const Rect : TRect; x, y : Integer) : Boolean;
12336:  Function TeeRect( Left, Top, Right, Bottom : Integer) : TRect
12337:  Function OrientRectangle( const R : TRect) : TRect
12338:  Procedure TeeSetBitmapSize( Bitmap : TBitmap; Width, Height : Integer)
12339:  Function PolygonBounds( const P : array of TPoint) : TRect
12340:  Function PolygonInPolygon( const A, B : array of TPoint) : Boolean
12341:  Function RGBValue( const Color : TColor) : TRGB
12342:  Function EditColor( AOwner : TComponent; AColor : TColor) : TColor
12343:  Function EditColorDialog( AOwner : TComponent; var AColor : TColor) : Boolean
12344:  Function PointAtDistance( AFrom, ATo : TPoint; ADist : Integer) : TPoint
12345:  Function TeeCull( const P : TFourPoints) : Boolean;
12346:  Function TeeCull1( const P0, P1, P2 : TPoint) : Boolean;
12347:   TSmoothStretchOption', '( ssBestQuality, ssBestPerformance )
12348:  Procedure SmoothStretch( Src, Dst : TBitmap);
12349:  Procedure SmoothStretch1( Src, Dst : TBitmap; Option : TSmoothStretchOption);
12350:  Function TeeDistance( const x, y : Double) : Double
12351:  Function TeeLoadLibrary( const FileName : String) : HInst
12352:  Procedure TeeFreeLibrary( hLibModule : HMODULE)
12353:  Procedure TeeBlendBitmaps( const Percent : Double; ABitmap, BBitmap : TBitmap; BOrigin : TPoint)
12354:  //Procedure TeeCalcLines( var Lines : TRGBArray; Bitmap : TBitmap)
12355:  Procedure TeeShadowSmooth(Bitmap, Back : TBitmap; Left, Top, Width, Height, horz, vert : Integer;
      Smoothness : Double; FullDraw : Boolean; ACanvas : TCanvas3D; Clip : Boolean)
12356:   SIRegister_ICanvasHyperlinks(CL);
12357:   SIRegister_ICanvasToolTips(CL);
12358:  Function Supports( const Instance : IInterface; const IID : TGUID) : Boolean
12359: end;
12360:
12361: procedure SIRegister_ovcmisc(CL: TPSPascalCompiler);
12362: begin
12363:   TOvcHdc', 'Integer
12364:   TOvcHWND', 'Cardinal
12365:   TOvcHdc', 'HDC
12366:   TOvcHWND', 'HWND
12367:  Function LoadBaseBitmap( lpBitmapName : PChar) : HBITMAP
12368:  Function LoadBaseCursor( lpCursorName : PChar) : HCURSOR
12369:  Function ovCompStruct( const S1, S2, Size : Cardinal) : Integer
12370:  Function DefaultEpoch : Integer
12371:  Function DrawButtonFrame(Canvas:TCanvas;const Client:TRect;IsDown,IsFlat:Bool;Style:TButtonStyle):TRect;
12372:  Procedure FixRealPrim( P : PChar; DC : Char)
12373:  Function GetDisplayString( Canvas : TCanvas; const S : string; MinChars, MaxWidth : Integer) : string
12374:  Function GetLeftButton : Byte
12375:  Function GetNextDlgItem( Ctrl : TOvcHWnd) : hWnd
12376:  Procedure GetRGB( Clr : TColor; var IR, IG, IB : Byte)
12377:  Function GetShiftFlags : Byte
12378:  Function ovCreateRotatedFont( F : TFont; Angle : Integer) : hFont
12379:  Function GetTopTextMargin(Font:TFont;BorderStyle:TBorderStyle; Height:Integer;Ctl3D:Boolean): Integer
12380:  Function ovExtractWord( N : Integer; const S : string; WordDelims : TCharSet) : string
12381:  Function ovIsForegroundTask : Boolean
12382:  Function ovTrimLeft( const S : string) : string
12383:  Function ovTrimRight( const S : string) : string
12384:  Function ovQuotedStr( const S : string) : string
12385:  Function ovWordCount( const S : string; const WordDelims : TCharSet) : Integer
12386:  Function ovWordPosition(const N:Integer;const S: string;const WordDelims : TCharSet) : Integer
12387:  Function PtrDiff( const P1, P2 : PChar) : Word
12388:  Procedure PtrInc( var P, Delta : Word)
12389:  Procedure PtrDec( var P, Delta : Word)
12390:  Procedure FixTextBuffer( InBuf, OutBuf : PChar; OutSize : Integer)
```

```
12391:  Procedure TransStretchBlt( DstDC : TOvcHdc; DstX, DstY, DstW, DstH : Integer; SrcDC : TOvcHdc; SrcX, SrcY,
        SrcW, SrcH : Integer; MaskDC : TOvcHdc; MaskX, MaskY : Integer)
12392:  Function ovMinI( X, Y : Integer) : Integer
12393:  Function ovMaxI( X, Y : Integer) : Integer
12394:  Function ovMinL( X, Y : LongInt) : LongInt
12395:  Function ovMaxL( X, Y : LongInt) : LongInt
12396:  Function GenerateComponentName( PF : TWinControl; const Root : string) : string
12397:  Function PartialCompare( const S1, S2 : string) : Boolean
12398:  Function PathEllipsis( const S : string; MaxWidth : Integer) : string
12399:  Function ovCreateDisabledBitmap( FOriginal : TBitmap; OutlineColor : TColor) : TBitmap
12400:  Procedure ovCopyParentImage( Control : TControl; Dest : TCanvas)
12401:  Procedure ovDrawTransparentBitmap( Dest : TCanvas; X, Y, W, H : Integer; Rect : TRect; Bitmap : TBitmap;
       TransparentColor : TColor)
12402:  Procedure DrawTransparentBitmapPrim(DC:TOvcHdc;Bitmap:HBitmap;xStart,yStart,Width,Height:Int;Rect:TRect;
       TransparentColor : TColorRef)
12403:  Function ovWidthOf( const R : TRect) : Integer
12404:  Function ovHeightOf( const R : TRect) : Integer
12405:  Procedure ovDebugOutput( const S : string)
12406:  Function GetArrowWidth( Width, Height : Integer) : Integer
12407:  Procedure StripCharSeq( CharSeq : string; var Str : string)
12408:  Procedure StripCharFromEnd( aChr : Char; var Str : string)
12409:  Procedure StripCharFromFront( aChr : Char; var Str : string)
12410:  Function SystemParametersInfo( uiAction, uiParam : UINT; pvParam : UINT; fWinIni : UINT) : BOOL
12411:  Function SystemParametersInfoNCM(uiAction,uiParam:UINT;pvParam:TNonClientMetrics;fWinIni:UINT):BOOL;
12412:  Function SystemParametersInfoA( uiAction, uiParam : UINT; pvParam : UINT; fWinIni : UINT) : BOOL
12413:  Function CreateEllipticRgn( p1, p2, p3, p4 : Integer) : HRGN
12414:  Function CreateEllipticRgnIndirect( const p1 : TRect) : HRGN
12415:  Function CreateFontIndirect( const p1 : TLogFont) : HFONT
12416:  Function CreateMetaFile( p1 : PChar) : HDC
12417:  Function DescribePixelFormat(DC: HDC;p2:Int;p3:UINT;var p4:TPixelFormatDescriptor): BOOL
12418:  Function DrawText(hDC:HDC;lpString:PChar;nCount:Integer; var lpRect : TRect;uFormat:UINT):Integer
12419:  Function DrawTextS(hDC:HDC;lpString:string;nCount:Integer; var lpRect:TRect;uFormat:UINT):Integer
12420:  Function SetMapperFlags( DC : HDC; Flag : DWORD) : DWORD
12421:  Function SetGraphicsMode( hdc : HDC; iMode : Integer) : Integer
12422:  Function SetMapMode( DC : HDC; p2 : Integer) : Integer
12423:  Function SetMetaFileBitsEx( Size : UINT; const Data : PChar) : HMETAFILE
12424:  //Function SetPaletteEntries(Palette:HPALETTE;StartIndex,NumEntries:UINT;var PaletteEntries):UINT
12425:  Function SetPixel( DC : HDC; X, Y : Integer; Color : COLORREF) : COLORREF
12426:  Function SetPixelV( DC : HDC; X, Y : Integer; Color : COLORREF) : BOOL
12427:  //Function SetPixelFormat( DC : HDC; PixelFormat : Integer; FormatDef : PPixelFormatDescriptor) : BOOL
12428:  Function SetPolyFillMode( DC : HDC; PolyFillMode : Integer) : Integer
12429:  Function StretchBlt(DestDC:HDC;X,Y,Width,Height:Int;SrcDC:HDC;XSrc,YSrc,SrcWidth,
       SrcHeight:Int;Rop:DWORD):BOOL
12430:  Function SetRectRgn( Rgn : HRgn; X1, Y1, X2, Y2 : Integer) : BOOL
12431:  Function StretchDIBits(DC : HDC; DestX,DestY,DestWidth,DestHeight,SrcX,SrcY,SrcWidth,
       SrcHeight:Int;Bits:int; var BitsInfo : TBitmapInfo; Usage : UINT; Rop : DWORD) : Integer
12432:  Function SetROP2( DC : HDC; p2 : Integer) : Integer
12433:  Function SetStretchBltMode( DC : HDC; StretchMode : Integer) : Integer
12434:  Function SetSystemPaletteUse( DC : HDC; p2 : UINT) : UINT
12435:  Function SetTextCharacterExtra( DC : HDC; CharExtra : Integer) : Integer
12436:  Function SetTextColor( DC : HDC; Color : COLORREF) : COLORREF
12437:  Function SetTextAlign( DC : HDC; Flags : UINT) : UINT
12438:  Function SetTextJustification( DC : HDC; BreakExtra, BreakCount : Integer) : Integer
12439:  Function UpdateColors( DC : HDC) : BOOL
12440:  Function GetViewportExtEx( DC : HDC; var Size : TSize) : BOOL
12441:  Function GetViewportOrgEx( DC : HDC; var Point : TPoint) : BOOL
12442:  Function GetWindowExtEx( DC : HDC; var Size : TSize) : BOOL
12443:  Function GetWindowOrgEx( DC : HDC; var Point : TPoint) : BOOL
12444:  Function IntersectClipRect( DC : HDC; X1, Y1, X2, Y2 : Integer) : Integer
12445:  Function InvertRgn( DC : HDC; p2 : HRGN) : BOOL
12446:  Function MaskBlt(DestDC:HDC; XDest,YDest,Width,Height:Integer; SrcDC : HDC; XScr, YScr : Integer; Mask :
       HBITMAP; xMask, yMask : Integer; Rop : DWORD) : BOOL
12447:  Function PlgBlt(DestDC:HDC;const PtsArray,SrcDC:HDC;XSrc,YSrc,Widt,Heigh:Int;Mask:HBITMAP;xMask,
       yMask:Int):BOOL;
12448:  Function OffsetClipRgn( DC : HDC; XOffset, YOffset : Integer) : Integer
12449:  Function OffsetRgn( RGN : HRGN; XOffset, YOffset : Integer) : Integer
12450:  Function PatBlt( DC : HDC; X, Y, Width, Height : Integer; Rop : DWORD) : BOOL
12451:  Function Pie( DC : HDC; X1, Y1, X2, Y2, X3, Y3, X4, Y4 : Integer) : BOOL
12452:  Function PlayMetaFile( DC : HDC; MF : HMETAFILE) : BOOL
12453:  Function PaintRgn( DC : HDC; RGN : HRGN) : BOOL
12454:  Function PtInRegion( RGN : HRGN; X, Y : Integer) : BOOL
12455:  Function PtVisible( DC : HDC; X, Y : Integer) : BOOL
12456:  Function RectInRegion( RGN : HRGN; const Rect : TRect) : BOOL
12457:  Function RectVisible( DC : HDC; const Rect : TRect) : BOOL
12458:  Function Rectangle( DC : HDC; X1, Y1, X2, Y2 : Integer) : BOOL
12459:  Function RestoreDC( DC : HDC; SavedDC : Integer) : BOOL
12460: end;
12461:
12462: procedure SIRegister_ovcfiler(CL: TPSPascalCompiler);
12463: begin
12464:   SIRegister_TOvcAbstractStore(CL);
12465:   //PExPropInfo', '^TExPropInfo // will not work
12466: //  TExPropInfo', 'record PI : TPropInfo; AObject : TObject; end
12467:   SIRegister_TOvcPropertyList(CL);
12468:   SIRegister_TOvcDataFiler(CL);
12469:  Procedure UpdateStoredList( AForm : TWinControl; AStoredList : TStrings; FromForm : Boolean)
12470:  Procedure UpdateStoredList1( AForm : TCustomForm; AStoredList : TStrings; FromForm : Boolean)
12471:  Function CreateStoredItem( const CompName, PropName : string) : string
12472:  Function ParseStoredItem( const Item : string; var CompName, PropName : string) : Boolean
```

```
12473:  //Function GetPropType( PropInfo : PExPropInfo) : PTypeInfo
12474: end;
12475:
12476: procedure SIRegister_ovccoco(CL: TPSPascalCompiler);
12477: begin
12478:  'ovsetsize','LongInt'( 16);
12479:  'etSyntax','LongInt'( 0);
12480:  'etSymantic','LongInt'( 1);
12481:  'chCR','Char #13);
12482:  'chLF','Char #10);
12483:  'chLineSeparator',' chCR);
12484:   SIRegister_TCocoError(CL);
12485:   SIRegister_TCommentItem(CL);
12486:   SIRegister_TCommentList(CL);
12487:   SIRegister_TSymbolPosition(CL);
12488: TGenListType', '( glNever, glAlways, glOnError )
12489: TovBitSet', 'set of Integer
12490:   //PStartTable', '^TStartTable // will not work
12491: 'TovCharSet', 'set of AnsiChar
12492: TAfterGenListEvent', 'Procedure ( Sender : TObject; var PrintErrorCount : boolean)
12493: TCommentEvent', 'Procedure ( Sender : TObject; CommentList : TCommentList)
12494: TCustomErrorEvent', 'Function(Sender:TObject;const ErrorCode: longint;const Data:string): string
12495: TovErrorEvent', 'Procedure ( Sender : TObject; Error : TCocoError)
12496: TovErrorProc', 'Procedure ( ErrorCode : integer; Symbol : TSymbolP'
12497:    +'osition; const Data : string; ErrorType : integer)
12498: TFailureEvent', 'Procedure ( Sender : TObject; NumErrors : integer)
12499: TGetCH', 'Function ( pos : longint) : char
12500: TStatusUpdateProc', 'Procedure ( Sender : TObject; Status: string; LineNum:integer)
12501:   SIRegister_TCocoRScanner(CL);
12502:   SIRegister_TCocoRGrammar(CL);
12503:  '_EF','Char #0);
12504:  '_TAB','Char').SetString( #09);
12505:  '_CR','Char').SetString( #13);
12506:  '_LF','Char').SetString( #10);
12507:  '_EL','').SetString( _CR);
12508:  '_EOF','Char').SetString( #26);
12509:  'LineEnds','TCharSet'(ord(_CR) or ord(_LF) or ord(_EF));
12510:  'minErrDist','LongInt'( 2);
12511:  Function ovPadL( S : string; ch : char; L : integer) : string
12512: end;
12513:
12514:   TFormatSettings = record
12515:     CurrencyFormat: Byte;
12516:     NegCurrFormat: Byte;
12517:     ThousandSeparator: Char;
12518:     DecimalSeparator: Char;
12519:     CurrencyDecimals: Byte;
12520:     DateSeparator: Char;
12521:     TimeSeparator: Char;
12522:     ListSeparator: Char;
12523:     CurrencyString: string;
12524:     ShortDateFormat: string;
12525:     LongDateFormat: string;
12526:     TimeAMString: string;
12527:     TimePMString: string;
12528:     ShortTimeFormat: string;
12529:     LongTimeFormat: string;
12530:     ShortMonthNames: array[1..12] of string;
12531:     LongMonthNames: array[1..12] of string;
12532:     ShortDayNames: array[1..7] of string;
12533:     LongDayNames: array[1..7] of string;
12534:     TwoDigitYearCenturyWindow: Word;
12535:   end;
12536:
12537: procedure SIRegister_OvcFormatSettings(CL: TPSPascalCompiler);
12538: begin
12539:  Function ovFormatSettings : TFormatSettings
12540: end;
12541:
12542: procedure SIRegister_ovcstr(CL: TPSPascalCompiler);
12543: begin
12544:   TOvcCharSet', 'set of Char
12545:   ovBTable', 'array[0..255] of Byte
12546:   //BTable = array[0..{$IFDEF UNICODE}{$IFDEF
      HUGE_UNICODE_BMTABLE}$FFFF{$ELSE}$FF{$ENDIF}{$ELSE}$FF{$ENDIF}] of Byte;
12547:  Function BinaryBPChar( Dest : PChar; B : Byte) : PChar
12548:  Function BinaryLPChar( Dest : PChar; L : LongInt) : PChar
12549:  Function BinaryWPChar( Dest : PChar; W : Word) : PChar
12550:  Procedure BMMakeTable( MatchString : PChar; var BT : ovBTable)
12551:  Function BMSearch(var Buffer,BufLength:Cardinal;var BT:ovBTable; MatchString:PChar;var Pos:Cardinal):Bool;
12552:  Function BMSearchUC(var Buffer,BufLength:Card; var BT:ovBTable;MatchString:PChar; var Pos: Card):Boolean
12553:  Function CharStrPChar( Dest : PChar; C : Char; Len : Cardinal) : PChar
12554:  Function DetabPChar( Dest : PChar; Src : PChar; TabSize : Byte) : PChar
12555:  Function HexBPChar( Dest : PChar; B : Byte) : PChar
12556:  Function HexLPChar( Dest : PChar; L : LongInt) : PChar
12557:  Function HexPtrPChar( Dest : PChar; P : TObject) : PChar
12558:  Function HexWPChar( Dest : PChar; W : Word) : PChar
12559:  Function LoCaseChar( C : Char) : Char
12560:  Function OctalLPChar( Dest : PChar; L : LongInt) : PChar
```

```
12561:  Function StrChDeletePrim( P : PChar; Pos : Cardinal) : PChar
12562:  Function StrChInsertPrim( Dest : PChar; C : Char; Pos: Cardinal) : PChar
12563:  Function StrChPos( P : PChar; C : Char; var Pos : Cardinal) : Boolean
12564:  Procedure StrInsertChars( Dest : PChar; Ch : Char; Pos, Count : Word)
12565:  Function StrStCopy( Dest, S : PChar; Pos, Count : Cardinal) : PChar
12566:  Function StrStDeletePrim( P : PChar; Pos, Count : Cardinal) : PChar
12567:  Function StrStInsert( Dest, S1, S2 : PChar; Pos : Cardinal) : PChar
12568:  Function StrStInsertPrim( Dest, S : PChar; Pos : Cardinal) : PChar
12569:  Function StrStPos( P, S : PChar; var Pos : Cardinal) : Boolean
12570:  Function StrToLongPChar( S : PChar; var I : LongInt) : Boolean
12571:  Procedure TrimAllSpacesPChar( P : PChar)
12572:  Function TrimEmbeddedZeros( const S : string) : string
12573:  Procedure TrimEmbeddedZerosPChar( P : PChar)
12574:  Function TrimTrailPrimPChar( S : PChar) : PChar
12575:  Function TrimTrailPChar( Dest, S : PChar) : PChar
12576:  Function TrimTrailingZeros( const S : string) : string
12577:  Procedure TrimTrailingZerosPChar( P : PChar)
12578:  Function UpCaseChar( C : Char) : Char
12579:  Function ovcCharInSet( C : Char; const CharSet : TOvcCharSet) : Boolean
12580:  Function ovc32StringIsCurrentCodePage( const S : WideString) : Boolean;
12581:  //Function ovc32StringIsCurrentCodePage1( const S:PWideChar; CP : Cardinal) : Boolean;
12582: end;
12583:
12584: procedure SIRegister_AfUtils(CL: TPSPascalCompiler);
12585: begin
12586:   //PRaiseFrame', '^TRaiseFrame // will not work
12587:   TRaiseFrame', 'record NextRaise : PRaiseFrame; ExceptAddr : ___Poin'
12588:    +'ter; ExceptObject : TObject; ExceptionRecord : PExceptionRecord; end
12589:  Procedure SafeCloseHandle( var Handle : THandle)
12590:  Procedure ExchangeInteger( X1, X2 : Integer)
12591:  Procedure FillInteger( const Buffer, Size, Value : Integer)
12592:  Function LongMulDiv( Mult1, Mult2, Div1 : Longint) : Longint
12593:  Function afCompareMem( P1, P2 : TObject; Length : Integer) : Boolean
12594:
12595: FILENAME_ADVAPI32     = 'ADVAPI32.DLL';
12596:     function AbortSystemShutdown; external advapi32 name 'AbortSystemShutdownW';
12597: function AbortSystemShutdown(lpMachineName: PKOLChar): BOOL; stdcall;
12598:     function AccessCheckAndAuditAlarm(SubsystemName: PKOLChar;
12599:       HandleId: Pointer; ObjectTypeName, ObjectName: PKOLChar;
12600:       SecurityDescriptor: PSecurityDescriptor; DesiredAccess: DWORD;
12601:       const GenericMapping: TGenericMapping;  ObjectCreation: BOOL;
12602:       var GrantedAccess: DWORD; var AccessStatus, pfGenerateOnClose: BOOL): BOOL; stdcall;
12603:     function AccessCheckByTypeAndAuditAlarm(SubsystemName: PKOLChar;
12604:       HandleId: Pointer; ObjectTypeName, ObjectName: PKOLChar;
12605:       SecurityDescriptor: PSecurityDescriptor; PrincipalSelfSid: PSID; DesiredAccess: DWORD;
12606:       AuditType: AUDIT_EVENT_TYPE; Flags: DWORD; ObjectTypeList: PObjectTypeList;
12607:       ObjectTypeListLength: DWORD; const GenericMapping: TGenericMapping;  ObjectCreation: BOOL;
12608:       var GrantedAccess: DWORD; var AccessStatus, pfGenerateOnClose: BOOL): BOOL; stdcall;
12609:     function AccessCheckByTypeResultListAndAuditAlarm(SubsystemName: PKOLChar;
12610:       HandleId: Pointer; ObjectTypeName, ObjectName: PKOLChar;
12611:       SecurityDescriptor: PSecurityDescriptor; PrincipalSelfSid: PSID; DesiredAccess: DWORD;
12612:       AuditType: AUDIT_EVENT_TYPE; Flags: DWORD; ObjectTypeList: PObjectTypeList;
12613:       ObjectTypeListLength: DWORD; const GenericMapping: TGenericMapping;  ObjectCreation: BOOL;
12614:       var GrantedAccess: DWORD; var AccessStatusList:DWORD; var pfGenerateOnClose: BOOL): BOOL; stdcall;
12615:     function BackupEventLog(hEventLog: THandle; lpBackupFileName: PKOLChar): BOOL; stdcall;
12616:     function ClearEventLog(hEventLog: THandle; lpBackupFileName: PKOLChar): BOOL; stdcall;
12617:     function CreateProcessAsUser(hToken: THandle; lpApplicationName: PKOLChar;
12618:       lpCommandLine: PKOLChar; lpProcessAttributes: PSecurityAttributes;
12619:       lpThreadAttributes: PSecurityAttributes; bInheritHandles: BOOL;
12620:       dwCreationFlags: DWORD; lpEnvironment: Pointer; lpCurrentDirectory: PKOLChar;
12621:       const lpStartupInfo: TStartupInfo; var lpProcessInformation: TProcessInformation): BOOL; stdcall;
12622:     function GetCurrentHwProfile(var lpHwProfileInfo: THWProfileInfo): BOOL; stdcall;
12623:     function GetFileSecurity(lpFileName: PKOLChar; RequestedInformation: SECURITY_INFORMATION;
12624:       pSecurityDescriptor: PSecurityDescriptor;nLength:DWORD;var lpnLengthNeeded: DWORD):BOOL; stdcall;
12625:     function GetUserName(lpBuffer: PKOLChar; var nSize: DWORD): BOOL; stdcall;
12626:     function InitiateSystemShutdown(lpMachineName, lpMessage: PKOLChar;
12627:       dwTimeout: DWORD; bForceAppsClosed, bRebootAfterShutdown: BOOL): BOOL; stdcall;
12628:     function LogonUser(lpszUsername, lpszDomain, lpszPassword: PKOLChar;
12629:       dwLogonType, dwLogonProvider: DWORD; var phToken: THandle): BOOL; stdcall;
12630:     function LookupAccountName(lpSystemName, lpAccountName: PKOLChar;
12631:       Sid: PSID; var cbSid: DWORD; ReferencedDomainName: PKOLChar;
12632:       var cbReferencedDomainName: DWORD; var peUse: SID_NAME_USE): BOOL; stdcall;
12633:     function LookupAccountSid(lpSystemName: PKOLChar; Sid: PSID;
12634:       Name: PKOLChar; var cbName: DWORD; ReferencedDomainName: PKOLChar;
12635:       var cbReferencedDomainName: DWORD; var peUse: SID_NAME_USE): BOOL; stdcall;
12636:     function LookupPrivilegeDisplayName(lpSystemName, lpName: PKOLChar;
12637:       lpDisplayName: PKOLChar; var cbDisplayName, lpLanguageId: DWORD): BOOL; stdcall;
12638:     function LookupPrivilegeName(lpSystemName: PKOLChar;
12639:       var lpLuid: TLargeInteger; lpName: PKOLChar; var cbName: DWORD): BOOL; stdcall;
12640:     function LookupPrivilegeValue(lpSystemName, lpName: PKOLChar;
12641:       var lpLuid: TLargeInteger): BOOL; stdcall;
12642:     function ObjectCloseAuditAlarm(SubsystemName: PKOLChar;
12643:       HandleId: Pointer; GenerateOnClose: BOOL): BOOL; stdcall;
12644:     function ObjectDeleteAuditAlarm(SubsystemName: PKOLChar;
12645:       HandleId: Pointer; GenerateOnClose: BOOL): BOOL; stdcall;
12646:     function ObjectOpenAuditAlarm(SubsystemName: PKOLChar; HandleId: Pointer;
12647:       ObjectTypeName: PKOLChar; ObjectName: PKOLChar; pSecurityDescriptor: PSecurityDescriptor;
12648:       ClientToken: THandle; DesiredAccess, GrantedAccess: DWORD;
12649:       var Privileges: TPrivilegeSet; ObjectCreation, AccessGranted: BOOL;
```

```
12650:       var GenerateOnClose: BOOL): BOOL; stdcall;
12651:     function ObjectPrivilegeAuditAlarm(SubsystemName: PKOLChar;
12652:       HandleId: Pointer; ClientToken: THandle; DesiredAccess: DWORD;
12653:       var Privileges: TPrivilegeSet; AccessGranted: BOOL): BOOL; stdcall;
12654:     function OpenBackupEventLog(lpUNCServerName, lpFileName: PKOLChar): THandle; stdcall;
12655:     function OpenEventLog(lpUNCServerName, lpSourceName: PKOLChar): THandle; stdcall;
12656:     function PrivilegedServiceAuditAlarm(SubsystemName, ServiceName: PKOLChar;
12657:       ClientToken: THandle; var Privileges: TPrivilegeSet; AccessGranted: BOOL): BOOL; stdcall;
12658:     function ReadEventLog(hEventLog: THandle; dwReadFlags, dwRecordOffset: DWORD;
12659:       lpBuffer: Pointer; nNumberOfBytesToRead: DWORD;
12660:       var pnBytesRead, pnMinNumberOfBytesNeeded: DWORD): BOOL; stdcall;
12661:     function RegConnectRegistry(lpMachineName: PKOLChar; hKey: HKEY;
12662:       var phkResult: HKEY): Longint; stdcall;
12663:     function RegCreateKey(hKey: HKEY; lpSubKey: PKOLChar;
12664:       var phkResult: HKEY): Longint; stdcall;
12665:     function RegCreateKeyEx(hKey: HKEY; lpSubKey: PKOLChar;
12666:       Reserved: DWORD; lpClass: PKOLChar; dwOptions: DWORD; samDesired: REGSAM;
12667:       lpSecurityAttributes: PSecurityAttributes; var phkResult: HKEY;
12668:       lpdwDisposition: PDWORD): Longint; stdcall;
12669:     function RegDeleteKey(hKey: HKEY; lpSubKey: PKOLChar): Longint; stdcall;
12670:     function RegDeleteValue(hKey: HKEY; lpValueName: PKOLChar): Longint; stdcall;
12671:     function RegEnumKeyEx(hKey: HKEY; dwIndex: DWORD; lpName: PKOLChar;
12672:       var lpcbName: DWORD; lpReserved: Pointer; lpClass: PKOLChar;
12673:       lpcbClass: PDWORD; lpftLastWriteTime: PFileTime): Longint; stdcall;
12674:     function RegEnumKey(hKey:HKEY; dwIndex:DWORD; lpName:PKOLChar; cbName:DWORD):Longint;stdcall;
12675:     function RegEnumValue(hKey: HKEY; dwIndex: DWORD; lpValueName: PKOLChar;
12676:       var lpcbValueName: DWORD; lpReserved: Pointer; lpType: PDWORD;
12677:       lpData: PByte; lpcbData: PDWORD): Longint; stdcall;
12678:     function RegLoadKey(hKey: HKEY; lpSubKey, lpFile: PKOLChar): Longint; stdcall;
12679:     function RegOpenKey(hKey: HKEY; lpSubKey: PKOLChar;var phkResult: HKEY):Longint; stdcall;
12680:     function RegOpenKeyEx(hKey: HKEY; lpSubKey: PKOLChar;
12681:       ulOptions: DWORD; samDesired: REGSAM; var phkResult: HKEY): Longint; stdcall;
12682:     function RegQueryInfoKey(hKey: HKEY; lpClass: PKOLChar;
12683:       lpcbClass: PDWORD; lpReserved: Pointer;
12684:       lpcSubKeys, lpcbMaxSubKeyLen, lpcbMaxClassLen, lpcValues,
12685:       lpcbMaxValueNameLen, lpcbMaxValueLen, lpcbSecurityDescriptor: PDWORD;
12686:       lpftLastWriteTime: PFileTime): Longint; stdcall;
12687:     function RegQueryMultipleValues(hKey: HKEY; var ValList;
12688:       NumVals: DWORD; lpValueBuf: PKOLChar; var ldwTotsize: DWORD): Longint; stdcall;
12689:     function RegQueryValue(hKey: HKEY; lpSubKey: PKOLChar;
12690:       lpValue: PKOLChar; var lpcbValue: Longint): Longint; stdcall;
12691:     function RegQueryValueEx(hKey: HKEY; lpValueName: PKOLChar;
12692:       lpReserved: Pointer; lpType: PDWORD; lpData: PByte; lpcbData: PDWORD): Longint; stdcall;
12693:     function RegReplaceKey(hKey: HKEY; lpSubKey: PKOLChar;
12694:        lpNewFile: PKOLChar; lpOldFile: PKOLChar): Longint; stdcall;
12695:     function RegRestoreKey(hKey: HKEY; lpFile: PKOLChar; dwFlags: DWORD): Longint; stdcall;
12696:     function RegSaveKey(hKey: HKEY; lpFile: PKOLChar;
12697:       lpSecurityAttributes: PSecurityAttributes): Longint; stdcall;
12698:     function RegSetValue(hKey: HKEY; lpSubKey: PKOLChar;
12699:       dwType: DWORD; lpData: PKOLChar; cbData: DWORD): Longint; stdcall;
12700:     function RegSetValueEx(hKey: HKEY; lpValueName: PKOLChar;
12701:       Reserved: DWORD; dwType: DWORD; lpData: Pointer; cbData: DWORD): Longint; stdcall;
12702:     function RegUnLoadKey(hKey: HKEY; lpSubKey: PKOLChar): Longint; stdcall;
12703:     function RegisterEventSource(lpUNCServerName, lpSourceName: PKOLChar): THandle; stdcall;
12704:     function ReportEvent(hEventLog: THandle; wType, wCategory: Word;
12705:       dwEventID: DWORD; lpUserSid: Pointer; wNumStrings: Word;
12706:       dwDataSize: DWORD; lpStrings, lpRawData: Pointer): BOOL; stdcall;
12707:     function SetFileSecurity(lpFileName: PKOLChar; SecurityInformation: SECURITY_INFORMATION;
12708:       pSecurityDescriptor: PSecurityDescriptor): BOOL; stdcall;
12709:
12710:  Function wAddAtom( lpString : PKOLChar) : ATOM
12711:  Function wBeginUpdateResource( pFileName : PKOLChar; bDeleteExistingResources : BOOL) : THandle
12712:  //Function wCallNamedPipe( lpNamedPipeName : PKOLChar; lpInBuffer : Pointer; nInBufferSize : DWORD;
       lpOutBuffer : Pointer; nOutBufferSize : DWORD; var lpBytesRead : DWORD; nTimeOut : DWORD) : BOOL
12713:  //Function wCommConfigDialog( lpszName : PKOLChar; hWnd : HWND; var lpCC : TCommConfig) : BOOL
12714:  Function wCompareString( Locale : LCID; dwCmpFlags : DWORD; lpString1 : PKOLChar; cchCount1 : Integer;
       lpString2 : PKOLChar; cchCount2 : Integer) : Integer
12715:  Function wCopyFile( lpExistingFileName, lpNewFileName : PKOLChar; bFailIfExists : BOOL) : BOOL
12716:  //Function wCopyFileEx( lpExistingFileName, lpNewFileName : PKOLChar; lpProgressRoutine :
       TFNProgressRoutine; lpData : Pointer; pbCancel : PBool; dwCopyFlags : DWORD) : BOOL
12717:  Function wCreateDirectory( lpPathName : PKOLChar; lpSecurityAttributes : PSecurityAttributes) : BOOL
12718:  Function wCreateDirectoryEx(lpTemplateDirectory,
       lpNewDirectory:PKOLChar;lpSecAttrib:PSecurityAttribts):BOOL;
12719:  Function wCreateEvent(lpEventAttribes:PSecurityAttrib;bManualReset,
       bInitialState:BOOL;lpName:PKOLChar):THandle;
12720:  Function wCreateFile( lpFileName : PKOLChar; dwDesiredAccess, dwShareMode : DWORD; lpSecurityAttributes :
       PSecurityAttributes; dwCreationDisposition, dwFlagsAndAttributes:DWORD;hTemplateFile:THandle):THandle
12721:  Function wCreateFileMapping( hFile : THandle; lpFileMappingAttributes : PSecurityAttributes; flProtect,
       dwMaximumSizeHigh, dwMaximumSizeLow : DWORD; lpName : PKOLChar) : THandle
12722:  Function wCreateHardLink(lpFileName,
       lpExistingFileName:PKOLChar;lpSecurityAttributes:PSecurityAttributes):BOOL
12723:  Function
       CreateMailslot(lpName:PKOLChar;MaxMessSize:DWORD;lReadTimeout:DWORD;lpSecurityAttrib:PSecurityAttributes):THandle);
12724:  Function wCreateNamedPipe( lpName : PKOLChar; dwOpenMode, dwPipeMode, nMaxInstances, nOutBufferSize,
       nInBufferSize, nDefaultTimeOut : DWORD; lpSecurityAttributes : PSecurityAttributes) : THandle
12725:  //Function CreateProcess( lpApplicationName : PKOLChar; lpCommandLine : PKOLChar; lpProcessAttributes,
       lpThreadAttributes : PSecurityAttributes; bInheritHandles : BOOL; dwCreationFlags : DWORD; lpEnvironment :
       Pointer;lpCurrentDirectory:PKOLChar;const lpStartupInfo:TStartupInfo;var
       lpProcessInfo:TProcessInformation):BOOL
```

```
12726:  Function wCreateSemaphore(lpSemaphoreAttributes: PSecurityAttributes; lInitialCount, lMaximumCount :
        Longint; lpName : PKOLChar) : THandle
12727:  Function
        wCreateWaitableTimer(lpTimerAttribs:PSecurityAttribs;bManualReset:BOOL;lpTimerName:PKOLChar):THandle);
12728:  Function wDefineDosDevice( dwFlags : DWORD; lpDeviceName, lpTargetPath : PKOLChar) : BOOL
12729:  Function wDeleteFile( lpFileName : PKOLChar) : BOOL
12730:  Function wEndUpdateResource( hUpdate : THandle; fDiscard : BOOL) : BOOL
12731:  //Function
        wEnumCalendarInfo(lpCalInfEnumProc:TFNCalInfEnumProc;Locale:LCID;Calendar:CALID;CalType:CALTYPE):BOOL;
12732:  //Function wEnumDateFormats(lpDateFmtEnumProc: TFNDateFmtEnumProc; Locale : LCID; dwFlags : DWORD) : BOOL
12733:  //Function
        wEnumResourceNames(hModule:HMODULE;lpType:PKOLChar;lpEnumFunc:ENUMRESNAMEPROC;lParam:Longint):BOOL;
12734:  //Function wEnumResourceTypes( hModule:HMODULE; lpEnumFunc:ENUMRESTYPEPROC;lParam:Longint):BOOL;
12735:  //Function wEnumSystemCodePages( lpCodePageEnumProc : TFNCodepageEnumProc; dwFlags : DWORD) : BOOL
12736:  //Function wEnumSystemLocales( lpLocaleEnumProc : TFNLocaleEnumProc; dwFlags : DWORD) : BOOL
12737:  //Function wEnumTimeFormats(lpTimeFmtEnumProc:TFNTimeFmtEnumProc;Locale:LCID;dwFlags:DWORD):BOOL;
12738:  Function wExpandEnvironmentStrings( lpSrc : PKOLChar; lpDst : PKOLChar; nSize : DWORD) : DWORD
12739:  Procedure wFatalAppExit( uAction : UINT; lpMessageText : PKOLChar)
12740:  //Function wFillConsoleOutputCharacter( hConsoleOutput : THandle; cCharacter : KOLChar; nLength : DWORD;
        dwWriteCoord : TCoord; var lpNumberOfCharsWritten : DWORD) : BOOL
12741:  Function wFindAtom( lpString : PKOLChar) : ATOM
12742:  Function
        wFindFirstChangeNotification(lpPathName:PKOLChar;bWatchSubtree:BOOL;dwNotifyFilter:DWORD):THandle;
12743:  Function wFindFirstFile( lpFileName : PKOLChar; var lpFindFileData : TWIN32FindData) : THandle
12744:  //Function wFindFirstFileEx( lpFileName : PKOLChar; fInfoLevelId : TFindexInfoLevels; lpFindFileData :
        Pointer; fSearchOp : TFindexSearchOps; lpSearchFilter : Pointer; dwAdditionalFlags : DWORD) : BOOL
12745:  Function wFindNextFile( hFindFile : THandle; var lpFindFileData : TWIN32FindData) : BOOL
12746:  Function wFindResource( hModule : HMODULE; lpName, lpType : PKOLChar) : HRSRC
12747:  Function wFindResourceEx( hModule : HMODULE; lpType, lpName : PKOLChar; wLanguage : Word) : HRSRC
12748:  Function
        wFoldString(dwMapFlags:DWORD;lpSrcStr:PKOLChar;cchSrc:Int;lpDestStr:PKOLChar;cchDest:Integer):Integer);
12749:  //Function wFormatMessage( dwFlags : DWORD; lpSource : Pointer; dwMessageId : DWORD; dwLanguageId :
        DWORD; lpBuffer : PKOLChar; nSize : DWORD; Arguments : Pointer) : DWORD
12750:  Function wFreeEnvironmentStrings( EnvBlock : PKOLChar) : BOOL
12751:  Function wGetAtomName( nAtom : ATOM; lpBuffer : PKOLChar; nSize : Integer) : UINT
12752:  Function wGetBinaryType( lpApplicationName : PKOLChar; var lpBinaryType : DWORD) : BOOL
12753:  Function wGetCommandLine : PKOLChar
12754:  //Function wGetCompressedFileSize( lpFileName : PKOLChar; lpFileSizeHigh : PDWORD) : DWORD
12755:  Function wGetComputerName( lpBuffer : PKOLChar; var nSize : DWORD) : BOOL
12756:  Function wGetConsoleTitle( lpConsoleTitle : PKOLChar; nSize : DWORD) : DWORD
12757:  //Function wGetCurrencyFormat( Locale : LCID; dwFlags : DWORD; lpValue : PKOLChar; lpFormat :
        PCurrencyFmt; lpCurrencyStr : PKOLChar; cchCurrency : Integer) : Integer
12758:  Function wGetCurrentDirectory( nBufferLength : DWORD; lpBuffer : PKOLChar) : DWORD
12759:  //Function wGetDateFormat( Locale : LCID; dwFlags : DWORD; lpDate : PSystemTime; lpFormat : PKOLChar;
        lpDateStr : PKOLChar; cchDate : Integer) : Integer
12760:  //Function wGetDefaultCommConfig( lpszName:PKOLChar;var lpCC : TCommConfig;var lpdwSize:DWORD):BOOL
12761:  Function wGetDiskFreeSpace( lpRootPathName : PKOLChar; var lpSectorsPerCluster, lpBytesPerSector,
        lpNumberOfFreeClusters, lpTotalNumberOfClusters : DWORD) : BOOL
12762:  //Function wGetDiskFreeSpaceEx( lpDirectoryName : PKOLChar; var lpFreeBytesAvailableToCaller,
        lpTotalNumberOfBytes, lpTotalNumberOfFreeBytes : PLargeInteger) : BOOL
12763:  Function wGetDriveType( lpRootPathName : PKOLChar) : UINT
12764:  Function wGetEnvironmentStrings : PKOLChar
12765:  Function wGetEnvironmentVariable( lpName : PKOLChar; lpBuffer : PKOLChar; nSize : DWORD) : DWORD;
12766:  Function wGetFileAttributes( lpFileName : PKOLChar) : DWORD
12767:  //Function
        wGetFileAttributesEx(lpFileName:PKOLChar;fInfoLevelId:TGetFileExInfoLevs;lpFileInform:Pointer):BOOL;
12768:  Function wGetFullPathName(lpFileName:PKOLChar;nBufferLeng:WORD;lpBuffer:PKOLChar;var
        lpFilePart:PKOLChar):DWORD;
12769:  //Function wGetLocaleInfo(Locale:LCID; LCType:LCTYPE;lpLCData:PKOLChar;cchData:Integer): Integer
12770:  Function wGetLogicalDriveStrings( nBufferLength : DWORD; lpBuffer : PKOLChar) : DWORD
12771:  Function wGetModuleFileName( hModule : HINST; lpFilename : PKOLChar; nSize : DWORD) : DWORD
12772:  Function wGetModuleHandle( lpModuleName : PKOLChar) : HMODULE
12773:  //Function wGetNamedPipeHandleState( hNamedPipe : THandle; lpState, lpCurInstances, lpMaxCollectionCount,
        lpCollectDataTimeout : PDWORD; lpUserName : PKOLChar; nMaxUserNameSize : DWORD) : BOOL
12774:  //Function wGetNumberFormat( Locale : LCID; dwFlags:DWORD; lpValue:PKOLChar; lpFormat:PNumberFmt;
        lpNumberStr : PKOLChar; cchNumber : Integer) : Integer
12775:  Function wGetPrivateProfileInt(lpAppName,lpKeyName:PKOLChar;nDefault:Integer;lpFileName:PKOLChar):UINT;
12776:  Function
        wGetPrivateProfileSection(lpAppName:PKOLChar;lpRetrStr:PKOLChar;nSize:DWORD;pFileName:PKOLChar):DWORD;
12777:  Function wGetPrivateProfileSectionNames(lpszReturnBuffer:PKOLChar;nSize:DWORD;lpFileName:PKOLChar):DWORD;
12778:  Function wGetPrivateProfileString( lpAppName, lpKeyName, lpDefault : PKOLChar;lpReturnedStr: PKOLChar;
        nSize:DWORD; lpFileName : PKOLChar) : DWORD
12779:  Function wGetProfileInt( lpAppName, lpKeyName : PKOLChar; nDefault : Integer) : UINT
12780:  Function wGetProfileSection( lpAppName : PKOLChar; lpReturnedString : PKOLChar; nSize : DWORD) : DWORD
12781:  Function wGetProfileString(lpAppName,lpKeyName,
        lpDefault:PKOLChar;lpReturnedStr:PKOLChar;nSize:DWORD):DWORD;
12782:  Function wGetShortPathName( lpszLongPath:PKOLChar;lpszShortPath: PKOLChar; cchBuffer : DWORD) : DWORD
12783:  //Procedure wGetStartupInfo( var lpStartupInfo : TStartupInfo)
12784: // Function wGetStringTypeEx(Locale:LCID; dwInfoType:DWORD;lpSrcStr:PKOLChar;cchSrc:Integer;var
        lpCharType):BOOL
12785:  Function wGetSystemDirectory( lpBuffer : PKOLChar; uSize : UINT) : UINT
12786:  Function wGetTempFileName( lpPathName, lpPrefixString: PKOLChar;uUnique:UINT;lpTempFileName:PKOLChar):UINT
12787:  Function wGetTempPath( nBufferLength : DWORD; lpBuffer : PKOLChar) : DWORD
12788: //Function
        wGetTimeFormat(Loc:LCID;dwFlgs:DWORD;lpTime:PSystemTime;lpFrm:PKOLChar;lpTimeStr:PKOLChar;cTime:Int):Int
12789: //Function wGetVersionEx( var lpVersionInformation : TOSVersionInfo) : BOOL
12790: //Function GetVolumeInformation( lpRootPathName : PKOLChar; lpVolumeNameBuffer : PKOLChar; nVolumeNameSize
        : DWORD; lpVolumeSerialNumber : PDWORD; var lpMaximumComponentLength, lpFileSystemFlags : DWORD;
        lpFileSystemNameBuffer : PKOLChar; nFileSystemNameSize : DWORD) : BOOL
```

```
12791:  Function wGetWindowsDirectory( lpBuffer : PKOLChar; uSize : UINT) : UINT
12792:  Function wGlobalAddAtom( lpString : PKOLChar) : ATOM
12793:  Function wGlobalFindAtom( lpString : PKOLChar) : ATOM
12794:  Function wGlobalGetAtomName( nAtom : ATOM; lpBuffer : PKOLChar; nSize : Integer) : UINT
12795:  Function wIsBadStringPtr( lpsz : PKOLChar; ucchMax : UINT) : BOOL
12796:  Function
       wLCMapString(Loc:LCID;dwMapFlgs:DWORD;lpSrcStr:PKOLChar;cchSrc:Int;lpDestStr:PKOLChar;cchDest:Int):Int;
12797:  Function wLoadLibrary( lpLibFileName : PKOLChar) : HMODULE
12798:  Function wLoadLibraryEx( lpLibFileName : PKOLChar; hFile : THandle; dwFlags : DWORD) : HMODULE
12799:  Function wMoveFile( lpExistingFileName, lpNewFileName : PKOLChar) : BOOL
12800:  Function wMoveFileEx( lpExistingFileName, lpNewFileName : PKOLChar; dwFlags : DWORD) : BOOL
12801:  //Function wMoveFileWithProgress( lpExistingFileName, lpNewFileName : PKOLChar; lpProgressRoutine :
       TFNProgressRoutine; lpData : Pointer; dwFlags : DWORD) : BOOL
12802:  Function wOpenEvent( dwDesiredAccess : DWORD; bInheritHandle : BOOL;lpName:PKOLChar) : THandle
12803:  Function wOpenFileMapping( dwDesiredAccess : DWORD; bInheritHandle:BOOL;lpName: PKOLChar):THandle
12804:  Function wOpenMutex( dwDesiredAccess : DWORD; bInheritHandle : BOOL; lpName : PKOLChar) : THandle
12805:  Function wOpenSemaphore( dwDesiredAccess : DWORD; bInheritHandle : BOOL; lpName : PKOLChar):THandle
12806:  Function wOpenWaitableTimer(dwDesiredAccess:DWORD;bInheritHandle:BOOL;lpTimerName:PKOLChar):THandle
12807:  Procedure wOutputDebugString( lpOutputString : PKOLChar)
12808:  //Function wPeekConsoleInput(hConsoleInput:THandle;var lpBuffer:TInputRecord;nLength:DWORD;var
       lpNumberOfEventsRead:DWORD):BOOL;
12809:  Function wQueryDosDevice( lpDeviceName : PKOLChar; lpTargetPath : PKOLChar; ucchMax : DWORD) : DWORD
12810:  //Function wQueryRecoveryAgents(p1:PKOLChar;var p2:Pointer;var p3:TRecoveryAgentInformation):DWORD
12811:  //Function wReadConsole( hConsoleInput : THandle; lpBuffer : Pointer; nNumberOfCharsToRead : DWORD; var
       lpNumberOfCharsRead : DWORD; lpReserved : Pointer) : BOOL
12812:  //Function wReadConsoleInput(hConsInp:THandle;var lpBuf:TInpRec;nLength:DWORD;var
       lpNumbOfEventsRead:DWORD):BOOL;
12813:  //Function wReadConsoleOutput( hConsoleOutput : THandle; lpBuffer : Pointer; dwBufferSize, dwBufferCoord
       : TCoord; var lpReadRegion : TSmallRect) : BOOL
12814:  //Function wReadConsoleOutputCharacter( hConsoleOutput : THandle; lpCharacter : PKOLChar; nLength :
       DWORD; dwReadCoord : TCoord; var lpNumberOfCharsRead : DWORD) : BOOL
12815:  Function wRemoveDirectory( lpPathName : PKOLChar) : BOOL
12816:  //Function wScrollConsoleScreenBuffer( hConsoleOutput : THandle; const lpScrollRectangle : TSmallRect;
       lpClipRectangle : PSmallRect; dwDestinationOrigin : TCoord; var lpFill : TCharInfo) : BOOL
12817:  Function wSearchPath( lpPath,lpFileName,lpExtension:PKOLChar;nBufferLength:DWORD;lpBuffer:PKOLChar;var
       lpFilePart:PKOLChar):DWORD;
12818:  Function wSetComputerName( lpComputerName : PKOLChar) : BOOL
12819:  Function wSetConsoleTitle( lpConsoleTitle : PKOLChar) : BOOL
12820:  Function wSetCurrentDirectory( lpPathName : PKOLChar) : BOOL
12821:  //Function wSetDefaultCommConfig( lpszName : PKOLChar; lpCC : PCommConfig; dwSize : DWORD) : BOOL
12822:  Function wSetEnvironmentVariable( lpName, lpValue : PKOLChar) : BOOL
12823:  Function wSetFileAttributes( lpFileName : PKOLChar; dwFileAttributes : DWORD) : BOOL
12824:  //Function wSetLocaleInfo( Locale : LCID; LCType : LCTYPE; lpLCData : PKOLChar) : BOOL
12825:  Function wSetVolumeLabel( lpRootPathName : PKOLChar; lpVolumeName : PKOLChar) : BOOL
12826:  //Function wUpdateResource(hUpdate:THandle;lpType,
       lpName:PKOLChar;wLanguage:Word;lpData:Ptr;cbData:DWORD):BOOL
12827:  Function wVerLanguageName( wLang : DWORD; szLang : PKOLChar; nSize : DWORD) : DWORD
12828:  Function wWaitNamedPipe( lpNamedPipeName : PKOLChar; nTimeOut : DWORD) : BOOL
12829:  //Function wWriteConsole( hConsoleOutput : THandle; const lpBuffer : Pointer; nNumberOfCharsToWrite :
       DWORD; var lpNumberOfCharsWritten : DWORD; lpReserved : Pointer) : BOOL
12830:  //Function wWriteConsoleInput( hConsoleInput : THandle; const lpBuffer : TInputRecord; nLength : DWORD;
       var lpNumberOfEventsWritten : DWORD) : BOOL
12831:  //Function wWriteConsoleOutput(hConsoleOutput:THandle; lpBuffer:Pointer; dwBufferSize,dwBufferCoord :
       TCoord; var lpWriteRegion : TSmallRect) : BOOL
12832:  //Function wWriteConsoleOutputCharacter( hConsoleOutput : THandle; lpCharacter : PKOLChar; nLength :
       DWORD; dwWriteCoord : TCoord; var lpNumberOfCharsWritten : DWORD) : BOOL
12833:  Function wWritePrivateProfileSection( lpAppName, lpString, lpFileName : PKOLChar) : BOOL
12834:  Function wWritePrivateProfileString( lpAppName, lpKeyName, lpString, lpFileName : PKOLChar) : BOOL
12835:  Function wWriteProfileSection( lpAppName, lpString : PKOLChar) : BOOL
12836:  Function wWriteProfileString( lpAppName, lpKeyName, lpString : PKOLChar) : BOOL
12837:  Function wlstrcat( lpString1, lpString2 : PKOLChar) : PKOLChar
12838:  Function wlstrcmp( lpString1, lpString2 : PKOLChar) : Integer
12839:  Function wlstrcmpi( lpString1, lpString2 : PKOLChar) : Integer
12840:  Function wlstrcpy( lpString1, lpString2 : PKOLChar) : PKOLChar
12841:  Function wlstrcpyn( lpString1, lpString2 : PKOLChar; iMaxLength : Integer) : PKOLChar
12842:  Function wlstrlen( lpString : PKOLChar) : Integer
12843:  //Function wMultinetGetConnectionPerformance( lpNetResource : PNetResource; lpNetConnectInfoStruc :
       PNetConnectInfoStruct) : DWORD
12844:  //Function wWNetAddConnection2(var lpNetResource:TNetResource;lpPassw,
       lpUserName:PKOLChar;dwFlags:DWORD):DWORD;
12845:  //Function wWNetAddConnection3( hwndOwner : HWND; var lpNetResource:TNetResource;lpPassword,
       lpUserName:PKOLChar; dwFlags : DWORD) : DWORD
12846:  Function wWNetAddConnection( lpRemoteName, lpPassword, lpLocalName : PKOLChar) : DWORD
12847:  Function wWNetCancelConnection2( lpName : PKOLChar; dwFlags : DWORD; fForce : BOOL) : DWORD
12848:  Function wWNetCancelConnection( lpName : PKOLChar; fForce : BOOL) : DWORD
12849:  //Function wWNetConnectionDialog1( var lpConnDlgStruct : TConnectDlgStruct) : DWORD
12850:  //Function wWNetDisconnectDialog1( var lpConnDlgStruct : TDiscDlgStruct) : DWORD
12851:  //Function wWNetEnumResource(hEnum:THandle;var lpcCount:DWORD;lpBuffer:Ptr;var lpBufferSize:DWORD):DWORD;
12852:  Function wWNetGetConnection(lpLocalName:PKOLChar;lpRemoteName:PKOLChar; var lpnLength:DWORD):DWORD;
12853:  Function wWNetGetLastError( var lpError : DWORD; lpErrorBuf : PKOLChar; nErrorBufSize : DWORD; lpNameBuf
       : PKOLChar; nNameBufSize : DWORD) : DWORD
12854:  //Function wWNetGetNetworkInformation(lpProvider:PKOLChar;var lpNetInfoStruct:TNetInfoStruct):DWORD;
12855:  Function wWNetGetProviderName(dwNetType:DWORD;lpProviderName:PKOLChar;var lpBufferSize:DWORD):DWORD;
12856:  //Function wWNetGetResourceParent(lpNetResource:PNetResource;lpBuffer:Pointer;var cbBuffer:DWORD):DWORD;
12857: //Function wWNetGetUniversalName(lpLocalPath:PKOLChar;dwInfoLevel:DWORD;lpBuffer:Ptr;var
       lpBufferSize:DWORD):DWORD;
12858:  Function wWNetGetUser( lpName : PKOLChar; lpUserName : PKOLChar; var lpnLength : DWORD) : DWORD
12859: // Function wWNetOpenEnum(dwScope,dwType,dwUsage:DWORD;lpNetResource:PNetRes;var lphEnum:THandle):DWORD;
12860: // Function wWNetSetConnection( lpName : PKOLChar; dwProperties : DWORD; pvValues : Pointer) : DWORD
```

```
12861:  //Function wWNetUseConnection(hwndOwner:HWND;var
        lpNetResource:TNetResource;lpUserID:PKOLChar;lpPassword:PKOLChar; dwFlags:DWORD;lpAccessName:PKOLChar;var
        lpBufferSize:DWORD;var lpResult:DWORD):DWORD
12862:  Function wGetFileVersionInfo(lptstrFilename:PKOLChar;dwHandle,dwLen:DWORD;lpData:Pointer):BOOL;
12863:  Function wGetFileVersionInfoSize( lptstrFilename : PKOLChar; var lpdwHandle : DWORD) : DWORD
12864:  Function wVerFindFile( uFlags : DWORD; szFileName, szWinDir, szAppDir, szCurDir : PKOLChar; var
        lpuCurDirLen : UINT; szDestDir : PKOLChar; var lpuDestDirLen : UINT) : DWORD
12865:  Function wVerInstallFile( uFlags : DWORD; szSrcFileName, szDestFileName, szSrcDir, szDestDir, szCurDir,
        szTmpFile : PKOLChar; var lpuTmpFileLen : UINT) : DWORD
12866: //Function wVerQueryValue(pBlock:Pointer;lpSubBlock:PKOLChar;var lplpBuffer:Ptr;var puLen:UINT):BOOL;
12867: //Func wGetPrivateProfileStruct(lpszSection,
        lpszKey:PKOLChar;lpStruct:Ptr;uSizeStruct:UINT;szFile:PKOLChar):BOOL;
12868: //Func wWritePrivateProfileStruct(lpszSection,
        lpszKey:PKOLChar;lpStruct:Ptr;uSizeStruct:UINT;szFile:PKOLChar):BOOL;
12869:  Function wAddFontResource( FileName : PKOLChar) : Integer
12870:  //Function wAddFontResourceEx( p1 : PKOLChar; p2 : DWORD; p3 : PDesignVector) : Integer
12871:  Function wCopyEnhMetaFile( p1 : HENHMETAFILE; p2 : PKOLChar) : HENHMETAFILE
12872:  Function wCopyMetaFile( p1 : HMETAFILE; p2 : PKOLChar) : HMETAFILE
12873:  //Function wCreateColorSpace( var ColorSpace : TLogColorSpace) : HCOLORSPACE
12874:  //Function wCreateDC( lpszDriver, lpszDevice, lpszOutput : PKOLChar; lpdvmInit : PDeviceMode) : HDC
12875: // Function wCreateEnhMetaFile( DC : HDC; FileName : PKOLChar; Rect : PRect; Desc : PKOLChar) : HDC
12876:  Function wCreateFont( nHeight, nWidth, nEscapement, nOrientaion, fnWeight : Integer; fdwItalic,
        fdwUnderline, fdwStrikeOut,fdwCharSet,fdwOutputPrec,fdwClipPrecision,fdwQualy,
        fdwPitchAndFamily:DWORD;lpszFace:PKOLChar):HFONT;
12877:  Function wCreateFontIndirect( const p1 : TLogFont) : HFONT
12878:  //Function wCreateFontIndirectEx( const p1 : PEnumLogFontExDV) : HFONT
12879: // Function wCreateIC( lpszDriver, lpszDevice, lpszOutput : PKOLChar; lpdvmInit : PDeviceMode) : HDC
12880:  Function wCreateMetaFile( p1 : PKOLChar) : HDC
12881:  Function wCreateScalableFontResource( p1 : DWORD; p2, p3, p4 : PKOLChar) : BOOL
12882: //Function wDeviceCapabilities(pDriverNa,pDeviceNam,
        pPort:PKOLChar;iIdx:Int;pOut:PKOLChar;DevMod:PDeviceMode):Int;
12883: // Function wEnumFontFamilies( DC : HDC; p2 : PKOLChar; p3 : TFNFontEnumProc; p4 : LPARAM) : BOOL
12884:  //Function wEnumFontFamiliesEx(DC:HDC;var p2:TLogFont;p3:TFNFontEnumProc;p4:LPARAM;p5:DWORD):BOOL);
12885:  //Function wEnumFonts(DC:HDC;lpszFace:PKOLChar;fntenmprc:TFNFontEnumProc;lpszData:PKOLChar):Integer;
12886:  //Function wEnumICMProfiles( DC : HDC; ICMProc : TFNICMEnumProc; p3 : LPARAM) : Integer
12887:  //Function wExtTextOut(DC:HDC;X,
        Y:Int;Options:Longint;Rect:PRect;Str:PKOLChar;Count:Longint;Dx:PInteger:BOOL
12888:  //Function wGetCharABCWidths( DC : HDC; FirstChar, LastChar : UINT; const ABCStructs) : BOOL
12889:  //Function wGetCharABCWidthsFloat( DC : HDC; FirstChar, LastChar : UINT; const ABCFloatSturcts) : BOOL
12890:  //Function wGetCharWidth32( DC : HDC; FirstChar, LastChar : UINT; const Widths) : BOOL
12891:  //Function wGetCharWidth( DC : HDC; FirstChar, LastChar : UINT; const Widths) : BOOL
12892: // Function wGetCharWidthFloat( DC : HDC; FirstChar, LastChar : UINT; const Widths) : BOOL
12893: // Function wGetCharacterPlacement(DC:HDC;p2:PKOLChar;p3,p4:BOOL;var p5:TGCPResults;p6:DWORD):DWORD
12894:  Function wGetEnhMetaFile( p1 : PKOLChar) : HENHMETAFILE
12895:  Function wGetEnhMetaFileDescription( p1 : HENHMETAFILE; p2 : UINT; p3 : PKOLChar) : UINT
12896: // Function wGetGlyphIndices( DC : HDC; p2 : PKOLChar; p3 : Integer; p4 : PWORD; p5 : DWORD) : DWORD
12897: // Function wGetGlyphOutline( DC : HDC; uChar,uFormat:UINT;const lpgm:TGlyphMetrics; cbBuffer : DWORD;
        lpvBuffer : Pointer; const lpmat2 : TMat2) : DWORD
12898:  Function wGetICMProfile( DC : HDC; var Size : DWORD; Name : PKOLChar) : BOOL
12899: // Function wGetLogColorSpace( p1 : HCOLORSPACE; var ColorSpace : TLogColorSpace; Size : DWORD) : BOOL
12900:  Function wGetMetaFile( p1 : PKOLChar) : HMETAFILE
12901: // Function wGetObject( p1 : HGDIOBJ; p2 : Integer; p3 : Pointer) : Integer
12902:  //Function wGetOutlineTextMetrics( DC : HDC; p2 : UINT; OTMetricStructs : Pointer) : UINT
12903:  //Function wGetTextExtentExPoint(DC:HDC;p2:PKOLChar; p3,p4:Integer;p5,p6:PInteger;var p7:TSize):BOOL
12904:  Function wGetTextExtentPoint32( DC : HDC; Str : PKOLChar; Count : Integer; var Size : TSize) : BOOL
12905:  Function wGetTextExtentPoint( DC : HDC; Str : PKOLChar; Count : Integer; var Size : TSize) : BOOL
12906:  Function wGetTextFace( DC : HDC; Count : Integer; Buffer : PKOLChar) : Integer
12907:  //Function wGetTextMetrics( DC : HDC; var TM : TTextMetric) : BOOL
12908:  Function wPolyTextOut( DC : HDC; const PolyTextArray, Strings : Integer) : BOOL
12909:  Function wRemoveFontResource( FileName : PKOLChar) : BOOL
12910:  //Function wRemoveFontResourceEx( p1 : PKOLChar; p2 : DWORD; p3 : PDesignVector) : BOOL
12911:  //Function wResetDC( DC : HDC; const InitData : TDeviceMode) : HDC
12912:  Function wSetICMProfile( DC : HDC; Name : PKOLChar) : BOOL
12913:  //Function wStartDoc( DC : HDC; const p2 : TDocInfo) : Integer
12914:  Function wTextOut( DC : HDC; X, Y : Integer; Str : PKOLChar; Count : Integer) : BOOL
12915:  Function wUpdateICMRegKey( p1 : DWORD; p2, p3 : PKOLChar; p4 : UINT) : BOOL
12916:  Function wwglUseFontBitmaps( DC : HDC; p2, p3, p4 : DWORD) : BOOL
12917:  //Function wwglUseFontOutlines(p1:HDC; p2,p3,p4:DWORD;p5,p6:Single;p7:Int;p8:PGlyphMetricsFloat):BOOL
12918:  Function wAppendMenu( hMenu : HMENU; uFlags, uIDNewItem : UINT; lpNewItem : PKOLChar) : BOOL
12919:  Function wCallMsgFilter( var lpMsg : TMsg; nCode : Integer) : BOOL
12920:  //Function
        wCallWindowProc(lpPrevWndFunc:TFNWndProc;hWnd:HWND;Msg:UINT;wParam:WPARAM;lParam:LPARAM):LRESULT
12921:  //Function wChangeDisplaySettings( var lpDevMode : TDeviceMode; dwFlags : DWORD) : Longint
12922: // Function wChangeDisplaySettingsEx( lpszDeviceName:PKOLChar;var lpDevMode: TDeviceMode; wnd : HWND;
        dwFlags : DWORD; lParam : Pointer) : Longint
12923:  Function wChangeMenu(hMenu:HMENU;cmd:UINT;lpszNewItem:PKOLChar;cmdInsert:UINT;flags:UINT):BOOL;
12924:  Function wCharLower( lpsz : PKOLChar) : PKOLChar
12925:  Function wCharLowerBuff( lpsz : PKOLChar; cchLength : DWORD) : DWORD
12926:  Function wCharNext( lpsz : PKOLChar) : PKOLChar
12927:  //Function wCharNextEx( CodePage : Word; lpCurrentChar : LPCSTR; dwFlags : DWORD) : LPSTR
12928:  Function wCharPrev( lpszStart : PKOLChar; lpszCurrent : PKOLChar) : PKOLChar
12929: // Function wCharPrevEx( CodePage : Word; lpStart, lpCurrentChar : LPCSTR; dwFlags : DWORD) : LPSTR
12930:  Function wCharToOem( lpszSrc : PKOLChar; lpszDst : PKOLChar) : BOOL
12931:  Function wCharToOemBuff( lpszSrc : PKOLChar; lpszDst : PKOLChar; cchDstLength : DWORD) : BOOL
12932:  Function wCharUpper( lpsz : PKOLChar) : PKOLChar
12933:  Function wCharUpperBuff( lpsz : PKOLChar; cchLength : DWORD) : DWORD
12934:  Function wCopyAcceleratorTable( hAccelSrc : HACCEL; var lpAccelDst, cAccelEntries : Integer) : Integer
12935:  Function wCreateAcceleratorTable( var Accel, Count : Integer) : HACCEL
12936:  //Function wCreateDesktop(lpszDesktop,
        lpszDevice:PKOLChar;pDevmode:PDeviceMode;dwFlags:DWORD;dwDesiredAccess:DWORD;lpsa:PSecurityAttribs):HDESK
```

```
12937:  //Function wCreateDialogIndirectParam( hInstance : HINST; const lpTemplate : TDlgTemplate; hWndParent :
        HWND; lpDialogFunc : TFNDlgProc; dwInitParam : LPARAM) : HWND
12938:  //Function wCreateDialogParam( hInstance : HINST; lpTemplateName : PKOLChar; hWndParent : HWND;
        lpDialogFunc : TFNDlgProc; dwInitParam : LPARAM) : HWND
12939:  Function wCreateMDIWindow( lpClassName, lpWindowName:PKOLChar;dwStyle: DWORD; X,Y,nWidth,nHeight:Integer;
        hWndParent : HWND; hInstance : HINST; lParam : LPARAM) : HWND
12940: //Function wCreateWindowEx(dwExStyle:DWORD;lpClassName:PKOLChar;lpWindowName:PKOLChar;dwStyle DWORD;X,Y,
        nWidth, nHeight:Int WndParent:HWND;hMenu:HMENU;hInstance:HINST;lpParam:Pointer):HWND
12941:  //Function wCreateWindowStation(lpwinsta:PKOLChar;dwReserv,
        dwDesiredAccess:DWORD;lpsa:PSecurityAttribs):HWINSTA;
12942:  Function wDefDlgProc( hDlg : HWND; Msg : UINT; wParam : WPARAM; lParam : LPARAM) : LRESULT
12943:  Function wDefFrameProc(hWnd,hWndMDIClient:HWND;uMsg:UINT;wParam:WPARAM;lParam:LPARAM):LRESULT;
12944:  Function wDefMDIChildProc( hWnd : HWND; uMsg : UINT; wParam : WPARAM; lParam: LPARAM):LRESULT;
12945:  Function wDefWindowProc( hWnd : HWND; Msg : UINT; wParam : WPARAM; lParam:LPARAM): LRESULT
12946:  //Function wDialogBoxIndirectParam( hInstance : HINST; const lpDialogTemplate : TDlgTemplate; hWndParent
        : HWND; lpDialogFunc : TFNDlgProc; dwInitParam : LPARAM) : Integer
12947:  //Function wDialogBoxParam( hInstance : HINST; lpTemplateName : PKOLChar; hWndParent : HWND; lpDialogFunc
        : TFNDlgProc; dwInitParam : LPARAM) : Integer
12948:  Function wDispatchMessage( const lpMsg : TMsg) : Longint
12949:  Function wDlgDirList(hDlg:HWND;lpPathSpec:PKOLChar;nIDListBox,
        nIDStaticPath:Integer;uFileType:UINT):Integer;
12950:  Function wDlgDirListComboBox(hDlg:HWND;lpPathSpec:PKOLChar;nIDComboBox,
        nIDStaticPath:Int;uFiletype:UINT):Int;
12951:  Function wDlgDirSelectComboBoxEx( hDlg : HWND; lpString:PKOLChar;nCount,nIDComboBox:Integer): BOOL
12952:  Function wDlgDirSelectEx( hDlg : HWND; lpString : PKOLChar; nCount, nIDListBox : Integer) : BOOL
12953: //FuncwDrawState(DC:HDC;Brush:HBRUSH;CBFunc:TFNDrawStateProc;lData:LPARA;wDat:WPARA;x,y,cx,
        cy:Int;Flags:UINT):BOOL;
12954:  Function wDrawText(hDC:HDC;lpString:PKOLChar;nCount:Integer;var lpRect:TRect;uFormat:UINT):Integer;
12955:  Function wFindWindow( lpClassName, lpWindowName : PKOLChar) : HWND
12956:  Function wFindWindowEx( Parent, Child : HWND; ClassName, WindowName : PKOLChar) : HWND
12957:  //Function wGetAltTabInfo(hwnd:HWND;iItem:Int;var
        pati:TAltTabInfo;pszItemText:PKOLChar;cchItemText:UINT):BOOL;
12958: // Function wGetClassInfo( hInstance : HINST; lpClassName : PKOLChar; var lpWndClass : TWndClass) : BOOL
12959:  //Function wGetClassInfoEx( Instance : HINST; Classname : PKOLChar; var WndClass : TWndClassEx) : BOOL
12960:  Function wGetClassLong( hWnd : HWND; nIndex : Integer) : DWORD
12961:  Function wGetClassName( hWnd : HWND; lpClassName : PKOLChar; nMaxCount : Integer) : Integer
12962:  Function wGetClipboardFormatName( format : UINT; lpszFormatName:PKOLChar;cchMaxCount:Integer):Integer;
12963:  Function wGetDlgItemText( hDlg: HWND;nIDDlgItem:Integer;lpString:PKOLChar;nMaxCount:Integer):UINT
12964:  Function wGetKeyNameText( lParam : Longint; lpString : PKOLChar; nSize : Integer) : Integer
12965:  Function wGetKeyboardLayoutName( pwszKLID : PKOLChar) : BOOL
12966:  //Function wGetMenuItemInfo( p1 : HMENU; p2 : UINT; p3 : BOOL; var p4 : TMenuItemInfo) : BOOL
12967:  Function wGetMenuString(hMenu:HMENU;uIDItem:UINT;lpString:PKOLChar;nMaxCount:Integer;uFlag:UINT):Integer;
12968:  Function wGetMessage( var lpMsg : TMsg; hWnd : HWND; wMsgFilterMin, wMsgFilterMax : UINT) : BOOL
12969:  Function wGetProp( hWnd : HWND; lpString : PKOLChar) : THandle
12970:  //Function wGetTabbedTextExtent( hDC : HDC; lpString : PKOLChar; nCount, nTabPositions : Integer; var
        lpnTabStopPositions) : DWORD
12971: //Function wGetUserObjectInform(hObj:THandle;nIndex:Int;pvInfo:Ptr;nLength:DWORD;var
        lpnLengthNeed:DWORD)BOOL;
12972:  Function wGetWindowLong( hWnd : HWND; nIndex : Integer) : Longint
12973:  Function wGetWindowModuleFileName( hwnd : HWND; pszFileName : PKOLChar; cchFileNameMax : UINT) : UINT
12974:  Function wGetWindowText( hWnd : HWND; lpString : PKOLChar; nMaxCount : Integer) : Integer
12975:  Function wGetWindowTextLength( hWnd : HWND) : Integer
12976: //Function wGrayString(hDC:HDC;hBrush:HBRUSH;lpOutFunc:TFNGrayStrProc;lpDat:LPARA;nCnt,X,Y,nWidt,
        nHeigt:Int):BOOL;
12977:  Function wInsertMenu( hMenu : HMENU; uPosition, uFlags, uIDNewItem : UINT; lpNewItem : PKOLChar) : BOOL
12978:  //Function wInsertMenuItem( p1 : HMENU; p2 : UINT; p3 : BOOL; const p4 : TMenuItemInfo) : BOOL
12979:  Function wIsCharAlpha( ch : KOLChar) : BOOL
12980:  Function wIsCharAlphaNumeric( ch : KOLChar) : BOOL
12981:  Function wIsCharLower( ch : KOLChar) : BOOL
12982:  Function wIsCharUpper( ch : KOLChar) : BOOL
12983:  Function wIsDialogMessage( hDlg : HWND; var lpMsg : TMsg) : BOOL
12984:  Function wLoadAccelerators( hInstance : HINST; lpTableName : PKOLChar) : HACCEL
12985:  Function wLoadBitmap( hInstance : HINST; lpBitmapName : PKOLChar) : HBITMAP
12986:  Function wLoadCursor( hInstance : HINST; lpCursorName : PKOLChar) : HCURSOR
12987:  Function wLoadCursorFromFile( lpFileName : PKOLChar) : HCURSOR
12988:  Function wLoadIcon( hInstance : HINST; lpIconName : PKOLChar) : HICON
12989:  Function wLoadImage(hInst:HINST;ImageName:PKOLChar;ImageType:UINT;X,Y:Integer;Flags:UINT): THandle
12990:  Function wLoadKeyboardLayout( pwszKLID : PKOLChar; Flags : UINT) : HKL
12991:  Function wLoadMenu( hInstance : HINST; lpMenuName : PKOLChar) : HMENU
12992:  //Function wLoadMenuIndirect( lpMenuTemplate : Pointer) : HMENU
12993:  Function wLoadString(hInstance:HINST;uID: UINT; lpBuffer :PKOLChar;nBufferMax:Integer):Integer
12994:  Function wMapVirtualKey( uCode, uMapType : UINT) : UINT
12995:  Function wMapVirtualKeyEx( uCode, uMapType : UINT; dwhkl : HKL) : UINT
12996:  Function wMessageBox( hWnd : HWND; lpText, lpCaption : PKOLChar; uType : UINT) : Integer
12997:  Function wMessageBoxEx( hWnd:HWND; lpText,lpCaption:PKOLChar;uType:UINT;wLanguageId:Word): Integer
12998:  //Function wMessageBoxIndirect( const MsgBoxParams : TMsgBoxParams) : BOOL
12999:  Function wModifyMenu( hMnu : HMENU; uPosition, uFlags, uIDNewItem : UINT; lpNewItem : PKOLChar) : BOOL
13000:  //Function wOemToAnsi( const lpszSrc : LPCSTR; lpszDst : LPSTR) : BOOL
13001:  //7Function wOemToAnsiBuff( lpszSrc : LPCSTR; lpszDst : LPSTR; cchDstLength : DWORD) : BOOL
13002:  //Function wOemToChar( lpszSrc : PKOLChar; lpszDst : PKOLChar) : BOOL
13003:  Function wOemToCharBuff( lpszSrc : PKOLChar; lpszDst : PKOLChar; cchDstLength : DWORD) : BOOL
13004:  Function wOpenDesktop(lpszDesktop:PKOLChar;dwFlags:DWORD;fInherit:BOOL;dwDesiredAccess:DWORD): HDESK
13005:  Function wOpenWindowStation( lpszWinSta : PKOLChar; fInherit : BOOL; dwDesiredAccess : DWORD): HWINSTA
13006:  Function wPeekMessage( var lpMsg : TMsg; hWnd: HWND;wMsgFilterMin,wMsgFilterMax, wRemoveMsg:UINT):BOOL
13007:  Function wPostMessage( hWnd : HWND; Msg : UINT; wParam : WPARAM; lParam : LPARAM) : BOOL
13008:  Function wPostThreadMessage(idThread:DWORD;Msg : UINT; wParam : WPARAM; lParam : LPARAM) : BOOL
13009:  Function wRealGetWindowClass( hwnd : HWND; pszType : PKOLChar; cchType : UINT) : UINT
13010: // Function wRegisterClass( const lpWndClass : TWndClass) : ATOM
13011: // Function wRegisterClassEx( const WndClass : TWndClassEx) : ATOM
```

```
13012:  Function wRegisterClipboardFormat( lpszFormat : PKOLChar) : UINT
13013: // Function wRegisterDeviceNotification(hRecipient:THandle;NotificFilter:Pointer;Flags:DWORD):HDEVNOTIFY
13014:  Function wRegisterWindowMessage( lpString : PKOLChar) : UINT
13015:  Function wRemoveProp( hWnd : HWND; lpString : PKOLChar) : THandle
13016:  Function wSendDlgItemMessage(hDlg:HWND;nIDDlgItem:Integer;Msg:UINT;wParam:WPARAM;lParam:LPARAM):Longint;
13017:  Function wSendMessage( hWnd : HWND; Msg : UINT; wParam : WPARAM; lParam : LPARAM) : LRESULT
13018:  //Function wSendMessageCallback( hWnd : HWND; Msg : UINT; wParam : WPARAM; lParam:LPARAM;
        lpResultCallBack : TFNSendAsyncProc; dwData : DWORD) : BOOL
13019:  Function wSendMessageTimeout(hWnd:HWND;Msg:UINT;wParam:WPARAM;lParam:LPARAM; fuFlags,uTimeout:UINT;var
        lpdwResult:DWORD): LRESULT
13020:  Function wSendNotifyMessage( hWnd : HWND; Msg : UINT; wParam : WPARAM; lParam : LPARAM) : BOOL
13021:  Function wSetClassLong( hWnd : HWND; nIndex : Integer; dwNewLong : Longint) : DWORD
13022:  Function wSetDlgItemText( hDlg : HWND; nIDDlgItem : Integer; lpString : PKOLChar) : BOOL
13023:  //Function wSetMenuItemInfo( p1 : HMENU; p2 : UINT; p3 : BOOL; const p4 : TMenuItemInfo) : BOOL
13024:  Function wSetProp( hWnd : HWND; lpString : PKOLChar; hData : THandle) : BOOL
13025: // Function wSetUserObjectInformation(hObj:THandle;nIndex:Integer;pvInfo:Pointer;nLength:DWORD):BOOL
13026:  Function wSetWindowLong( hWnd : HWND; nIndex : Integer; dwNewLong : Longint) : Longint
13027:  Function wSetWindowText( hWnd : HWND; lpString : PKOLChar) : BOOL
13028:  //Function wSetWindowsHook( nFilterType : Integer; pfnFilterProc : TFNHookProc) : HHOOK
13029:  //Function wSetWindowsHookEx(idHook:Integer;lpfn:TFNHookProc;hmod:HINST;dwThreadId:DWORD):HHOOK;
13030: // Function wSystemParametersInfo( uiAction, uiParam : UINT; pvParam : Pointer; fWinIni: UINT):BOOL
13031:  Function wTabbedTextOut(hDC:HDC;X,Y:Int;lpString:PKOLChar;nCount,nTabPositions:Int;var
        lpnTabStopPositions,nTabOrigin:Int):Longint;
13032:  Function wTranslateAccelerator( hWnd : HWND; hAccTable : HACCEL; var lpMsg : TMsg) : Integer
13033:  Function wUnregisterClass( lpClassName : PKOLChar; hInstance : HINST) : BOOL
13034:  Function wVkKeyScan( ch : KOLChar) : SHORT
13035:  Function wVkKeyScanEx( ch : KOLChar; dwhkl : HKL) : SHORT
13036:  Function wWinHelp( hWndMain : HWND; lpszHelp : PKOLChar; uCommand : UINT; dwData : DWORD) : BOOL
13037:  Function wwsprintf( Output : PKOLChar; Format : PKOLChar) : Integer
13038:  Function wwvsprintf( Output : PKOLChar; Format : PKOLChar; arglist : va_list) : Integer
13039:
13040: //TestDrive!
13041: 'SID_REVISION','LongInt'(1);'FILENAME_ADVAPI32','String').SetString('ADVAPI32.DLL
13042:  'PROC_CONVERTSIDTOSTRINGSIDA','String').SetString( 'ConvertSidToStringSidA
13043:  Function GetDomainUserSidS(const domainName:String;const userName:String; var foundDomain:String):String;
13044:  Function GetLocalUserSidStr( const UserName : string) : string
13045:  Function getPid4user( const domain : string; const user : string; var pid : dword) : boolean
13046:  Function Impersonate2User( const domain : string; const user : string) : boolean
13047:  Function GetProcessUserBypid( pid : DWORD; var UserName, Domain : AnsiString) : Boolean
13048:  Function KillProcessbyname( const exename : string; var found : integer) : integer
13049:  Function getWinProcessList : TStringList
13050:  function WaitTilClose(hWnd: Integer): Integer;
13051:  function DoUserMsgs: Boolean;
13052:  function MsgFunc(hWnd,Msg,wParam,lParam:Integer):Integer; stdcall;
13053:  procedure ShowMsg(hParent: Integer; const Mess, Title: String);  //modal but NOT blockable
13054:  procedure DeleteMsgForm(Handle: Integer);
13055:  procedure DisableForms;
13056:  function FoundTopLevel(hWnd, LParam: Integer): BOOL; StdCall;
13057: end;
13058:
13059: procedure SIRegister_AfSafeSync(CL: TPSPascalCompiler);
13060: begin
13061:  'AfMaxSyncSlots','LongInt'( 64);
13062:  'AfSynchronizeTimeout','LongInt'( 2000);
13063:   TAfSyncSlotID', 'DWORD
13064:   TAfSyncStatistics','record MessagesCount:Int;TimeoutMessages:Int;DisabledMessages:Int;end;
13065:   TAfSafeSyncEvent', 'Procedure ( ID : TAfSyncSlotID)
13066:   TAfSafeDirectSyncEvent', 'Procedure
13067:  Function AfNewSyncSlot( const AEvent : TAfSafeSyncEvent) : TAfSyncSlotID
13068:  Function AfReleaseSyncSlot( const ID : TAfSyncSlotID) : Boolean
13069:  Function AfEnableSyncSlot( const ID : TAfSyncSlotID; Enable : Boolean) : Boolean
13070:  Function AfValidateSyncSlot( const ID : TAfSyncSlotID) : Boolean
13071:  Function AfSyncEvent( const ID : TAfSyncSlotID; Timeout : DWORD) : Boolean
13072:  Function AfDirectSyncEvent( Event : TAfSafeDirectSyncEvent; Timeout : DWORD) : Boolean
13073:  Function AfIsSyncMethod : Boolean
13074:  Function AfSyncWnd : HWnd
13075:  Function AfSyncStatistics : TAfSyncStatistics
13076:  Procedure AfClearSyncStatistics
13077: end;
13078:
13079: procedure SIRegister_AfComPortCore(CL: TPSPascalCompiler);
13080: begin
13081:  'fBinary','LongWord')( $00000001);
13082:  'fParity','LongWord'( $00000002);
13083:  'fOutxCtsFlow','LongWord').SetUInt( $00000004);
13084:  'fOutxDsrFlow','LongWord')( $00000008);
13085:  'fDtrControl','LongWord')( $00000030);
13086:  'fDtrControlDisable','LongWord')( $00000000);
13087:  'fDtrControlEnable','LongWord')( $00000010);
13088:  'fDtrControlHandshake','LongWord')( $00000020);
13089:  'fDsrSensitivity','LongWord')( $00000040);
13090:  'fTXContinueOnXoff','LongWord')( $00000080);
13091:  'fOutX','LongWord')( $00000100);
13092:  'fInX','LongWord')( $00000200);
13093:  'fErrorChar','LongWord')( $00000400);
13094:  'fNull','LongWord')( $00000800);
13095:  'fRtsControl','LongWord')( $00003000);
13096:  'fRtsControlDisable','LongWord')( $00000000);
13097:  'fRtsControlEnable','LongWord')( $00001000);
```

```
13098:  'fRtsControlHandshake','LongWord')( $00002000);
13099:  'fRtsControlToggle','LongWord')( $00003000);
13100:  'fAbortOnError','LongWord')( $00004000);
13101:  'fDummy2','LongWord')( $FFFF8000);
13102:   TAfCoreEvent', '( ceOutFree, ceLineEvent, ceNeedReadData, ceException )
13103:   FindClass('TOBJECT'),'EAfComPortCoreError
13104:   FindClass('TOBJECT'),'TAfComPortCore
13105:   TAfComPortCoreEvent', 'Procedure ( Sender : TAfComPortCore; Even'
13106:    +'tKind : TAfCoreEvent; Data : DWORD)
13107:   SIRegister_TAfComPortCoreThread(CL);
13108:   SIRegister_TAfComPortEventThread(CL);
13109:   SIRegister_TAfComPortWriteThread(CL);
13110:   SIRegister_TAfComPortCore(CL);
13111:  Function FormatDeviceName( PortNumber : Integer) : string
13112: end;
13113:
13114: procedure SIRegister_ApplicationFileIO(CL: TPSPascalCompiler);
13115: begin
13116:   TAFIOFileStreamEvent', 'Function ( const fileName : String; mode: Word) : TStream
13117:   TAFIOFileStreamExistsEvent', 'Function ( const fileName : String) : Boolean
13118:   SIRegister_TApplicationFileIO(CL);
13119:   TDataFileCapability', '( dfcRead, dfcWrite )
13120:   TDataFileCapabilities', 'set of TDataFileCapability
13121:   SIRegister_TDataFile(CL);
13122:   //TDataFileClass', 'class of TDataFile
13123:  Function ApplicationFileIODefined : Boolean
13124:  Function CreateFileStream(const fileName: String; mode: WordfmShareDenyNone):TStream
13125:  Function FileStreamExists(const fileName: String) : Boolean
13126:  //Procedure Register
13127: end;
13128:
13129: procedure SIRegister_ALFBXLib(CL: TPSPascalCompiler);
13130: begin
13131:   TALFBXFieldType', '( uftUnKnown, uftNumeric, uftChar, uftVarchar'
13132:    +', uftCstring, uftSmallint, uftInteger, uftQuad, uftFloat, uftDoublePrecisi'
13133:    +'on, uftTimestamp, uftBlob, uftBlobId, uftDate, uftTime, uftInt64, uftArray, uftNull )
13134:   TALFBXScale', 'Integer
13135:   FindClass('TOBJECT'),'EALFBXConvertError
13136:   SIRegister_EALFBXError(CL);
13137:   SIRegister_EALFBXException(CL);
13138:   FindClass('TOBJECT'),'EALFBXGFixError
13139:   FindClass('TOBJECT'),'EALFBXDSQLError
13140:   FindClass('TOBJECT'),'EALFBXDynError
13141:   FindClass('TOBJECT'),'EALFBXGBakError
13142:   FindClass('TOBJECT'),'EALFBXGSecError
13143:   FindClass('TOBJECT'),'EALFBXLicenseError
13144:   FindClass('TOBJECT'),'EALFBXGStatError
13145:   //EALFBXExceptionClass', 'class of EALFBXError
13146:   TALFBXCharacterSet', '( csNONE, csASCII, csBIG_5, csCYRL, csDOS4'
13147:    +'37, csDOS850, csDOS852, csDOS857, csDOS860, csDOS861, csDOS863, csDOS865, '
13148:    +'csEUCJ_0208, csGB_2312, csISO8859_1, csISO8859_2, csKSC_5601, csNEXT, csOC'
13149:    +'TETS, csSJIS_0208, csUNICODE_FSS, csUTF8, csWIN1250, csWIN1251, csWIN1252,'
13150:    +' csWIN1253, csWIN1254, csDOS737, csDOS775, csDOS858, csDOS862, csDOS864, c'
13151:    +'sDOS866, csDOS869, csWIN1255, csWIN1256, csWIN1257, csISO8859_3, csISO8859'
13152:    +'_4, csISO8859_5, csISO8859_6, csISO8859_7, csISO8859_8, csISO8859_9, csISO'
13153:    +'8859_13, csKOI8R, csKOI8U, csWIN1258, csTIS620, csGBK, csCP943C )
13154:   TALFBXTransParam', '( tpConsistency, tpConcurrency, tpShared, tp'
13155:    +'Protected, tpExclusive, tpWait, tpNowait, tpRead, tpWrite, tpLockRead, tpL'
13156:    +'ockWrite, tpVerbTime, tpCommitTime, tpIgnoreLimbo, tpReadCommitted, tpAuto'
13157:    +'Commit, tpRecVersion, tpNoRecVersion, tpRestartRequests, tpNoAutoUndo, tpLockTimeout )
13158:   TALFBXTransParams', 'set of TALFBXTransParam
13159:  Function ALFBXStrToCharacterSet( const CharacterSet : AnsiString) : TALFBXCharacterSet
13160:  Function ALFBXCreateDBParams( Params : AnsiString; Delimiter : Char) : AnsiString
13161:  Function ALFBXCreateBlobParams( Params : AnsiString; Delimiter : Char) : AnsiString
13162:  'cALFBXMaxParamLength','LongInt'( 125);
13163:   TALFBXParamsFlag', '( pfNotInitialized, pfNotNullable )
13164:   TALFBXParamsFlags', 'set of TALFBXParamsFlag
13165:   //PALFBXSQLVar', '^TALFBXSQLVar // will not work
13166:   //PALFBXSQLDaData', '^TALFBXSQLDaData // will not work
13167:   TALFBXStatementType', '( stSelect, stInsert, stUpdate, stDelete,'
13168:    +' stDDL, stGetSegment, stPutSegment, stExecProcedure, stStartTrans, stCommi'
13169:    +'t, stRollback, stSelectForUpdate, stSetGenerator, stSavePoint )
13170:   SIRegister_TALFBXSQLDA(CL);
13171:   //PALFBXPtrArray', '^TALFBXPtrArray // will not work
13172:   SIRegister_TALFBXPoolStream(CL);
13173:   //PALFBXBlobData', '^TALFBXBlobData // will not work
13174:   TALFBXBlobData', 'record Size : Integer; Buffer : string; end
13175:   //PALFBXArrayDesc', '^TALFBXArrayDesc // will not work
13176:   //TALFBXArrayDesc', 'TISCArrayDesc
13177:   //TALFBXBlobDesc', 'TISCBlobDesc
13178:   //PALFBXArrayInfo', '^TALFBXArrayInfo // will not work
13179:   //TALFBXArrayInfo', 'record index : Integer; size : integer; info: TALFBXArrayDesc; end
13180:   SIRegister_TALFBXSQLResult(CL);
13181:   //TALFBXSQLResultClass', 'class of TALFBXSQLResult
13182:   SIRegister_TALFBXSQLParams(CL);
13183:   //TALFBXSQLParamsClass', 'class of TALFBXSQLParams
13184:   TALFBXDSQLInfoData', 'record InfoCode : byte; InfoLen : Word; St'
13185:    +'atementType : TALFBXStatementType; end
13186:   FindClass('TOBJECT'),'TALFBXLibrary
```

```
13187:   //PALFBXStatusVector', '^TALFBXStatusVector // will not work
13188:   TALFBXOnConnectionLost', 'Procedure ( Lib : TALFBXLibrary)
13189:   //TALFBXOnGetDBExceptionClass', 'Procedure ( Number : Integer; out'
13190:    //+' Excep : EALFBXExceptionClass)
13191:   SIRegister_TALFBXLibrary(CL);
13192:  'cAlFBXDateOffset','LongInt'( 15018);
13193:  'cALFBXTimeCoeff','LongInt'( 864000000);
13194:  //Procedure ALFBXDecodeTimeStamp( v : PISCTimeStamp; out DateTime : Double);
13195:  //Procedure ALFBXDecodeTimeStamp1( v : PISCTimeStamp; out TimeStamp : TTimeStamp);
13196:  //Function ALFBXDecodeTimeStamp2( v : PISCTimeStamp) : Double;
13197:  Procedure ALFBXDecodeSQLDate( v : Integer; out Year : SmallInt; out Month, Day : Word)
13198:  Procedure ALFBXDecodeSQLTime(v:Cardinal;out Hour,Minute,Second:Word; out Fractions: LongWord)
13199:  //Procedure ALFBXEncodeTimeStamp( const DateTime : TDateTime; v : PISCTimeStamp);
13200:  //Procedure ALFBXEncodeTimeStamp1( const Date : Integer; v : PISCTimeStamp);
13201:  //Procedure ALFBXEncodeTimeStamp2( const Time : Cardinal; v : PISCTimeStamp);
13202:  Function ALFBXEncodeSQLDate( Year : Integer; Month, Day : Integer) : Integer
13203:  Function ALFBXEncodeSQLTime( Hour, Minute, Second : Word; var Fractions : LongWord): Cardinal
13204:   TALFBXParamType', '( prNone, prByte, prShrt, prCard, prStrg, prIgno )
13205:   TALFBXDPBInfo', 'record Name : AnsiString; ParamType : TALFBXParamType; end
13206:  Function ALFBXSQLQuote( const name : AnsiString) : AnsiString
13207:  Function ALFBXSQLUnQuote( const name : AnsiString) : AnsiString
13208: end;
13209:
13210: procedure SIRegister_ALFBXClient(CL: TPSPascalCompiler);
13211: begin
13212:   TALFBXClientSQLParam', 'record Value : AnsiString; IsNull : Boolean; end
13213:   TALFBXClientSQLParams', 'array of TALFBXClientSQLParam
13214:   TALFBXClientSelectDataSQL', 'record SQL : AnsiString; Params : T'
13215:    +'ALFBXClientSQLParams; RowTag : AnsiString; ViewTag : AnsiString; Skip : in'
13216:    +'teger; First : Integer; CacheThreshold : Integer; end
13217:   TALFBXClientSelectDataSQLs', 'array of TALFBXClientSelectDataSQL
13218:   TALFBXClientUpdateDataSQL', 'record SQL : AnsiString; Params: TALFBXClientSQLParams; end
13219:   TALFBXClientUpdateDataSQLs', 'array of TALFBXClientUpdateDataSQL
13220:   TALFBXClientMonitoringIOStats', 'record page_reads : int64; page'
13221:    +'_writes : int64; page_fetches : int64; page_marks : int64; end
13222:   SIRegister_TALFBXClient(CL);
13223:   SIRegister_TALFBXConnectionStatementPoolBinTreeNode(CL);
13224:   SIRegister_TALFBXConnectionStatementPoolBinTree(CL);
13225:   SIRegister_TALFBXConnectionWithStmtPoolContainer(CL);
13226:   SIRegister_TALFBXConnectionWithoutStmtPoolContainer(CL);
13227:   SIRegister_TALFBXReadTransactionPoolContainer(CL);
13228:   SIRegister_TALFBXReadStatementPoolContainer(CL);
13229:   SIRegister_TALFBXStringKeyPoolBinTreeNode(CL);
13230:   SIRegister_TALFBXConnectionPoolClient(CL);
13231:   SIRegister_TALFBXEventThread(CL);
13232:   Function AlMySqlClientSlashedStr( const Str : AnsiString) : AnsiString
13233: end;
13234:
13235: procedure SIRegister_ovcBidi(CL: TPSPascalCompiler);
13236: begin
13237: _OSVERSIONINFOA = record
13238:     dwOSVersionInfoSize: DWORD;
13239:     dwMajorVersion: DWORD;
13240:     dwMinorVersion: DWORD;
13241:     dwBuildNumber: DWORD;
13242:     dwPlatformId: DWORD;
13243:     szCSDVersion: array[0..127] of AnsiChar; { Maintenance AnsiString for PSS usage }
13244:   end;
13245:  TOSVersionInfoA', '_OSVERSIONINFOA
13246:   TOSVersionInfo', 'TOSVersionInfoA
13247:  'WS_EX_RIGHT','LongWord')( $00001000);
13248:  'WS_EX_LEFT','LongWord')( $00000000);
13249:  'WS_EX_RTLREADING','LongWord')( $00002000);
13250:  'WS_EX_LTRREADING','LongWord')( $00000000);
13251:  'WS_EX_LEFTSCROLLBAR','LongWord')( $00004000);
13252:  'WS_EX_RIGHTSCROLLBAR','LongWord')( $00000000);
13253:  Function SetProcessDefaultLayout( dwDefaultLayout : DWORD) : BOOL
13254:  'LAYOUT_RTL','LongWord')( $00000001);
13255:  'LAYOUT_BTT','LongWord')( $00000002);
13256:  'LAYOUT_VBH','LongWord')( $00000004);
13257:  'LAYOUT_BITMAPORIENTATIONPRESERVED','LongWord')( $00000008);
13258:  'NOMIRRORBITMAP','LongWord')( DWORD ( $80000000 ));
13259:  Function SetLayout( dc : HDC; dwLayout : DWORD) : DWORD
13260:  Function GetLayout( dc : hdc) : DWORD
13261:  Function IsBidi : Boolean
13262:  Function GetCurrentHwProfile( var lpHwProfileInfo : THWProfileInfo) : BOOL
13263:  Function GetVersionEx( var lpVersionInformation : TOSVersionInfo) : BOOL
13264:  Function SetPriorityClass( hProcess : THandle; dwPriorityClass: DWORD) : BOOL
13265:  Function GetPriorityClass( hProcess : THandle) : DWORD
13266:  Function OpenClipboard( hWndNewOwner : HWND) : BOOL
13267:  Function CloseClipboard : BOOL
13268:  Function GetClipboardSequenceNumber : DWORD
13269:  Function GetClipboardOwner : HWND
13270:  Function SetClipboardViewer( hWndNewViewer : HWND) : HWND
13271:  Function GetClipboardViewer : HWND
13272:  Function ChangeClipboardChain( hWndRemove, hWndNewNext : HWND) : BOOL
13273:  Function SetClipboardData( uFormat : UINT; hMem : THandle) : THandle
13274:  Function GetClipboardData( uFormat : UINT) : THandle
13275:  Function RegisterClipboardFormat( lpszFormat : PChar) : UINT
```

```
13276:  Function CountClipboardFormats : Integer
13277:  Function EnumClipboardFormats( format : UINT) : UINT
13278:  Function GetClipboardFormatName(format:UINT;lpszFormatName:PChar;cchMaxCount:Integer):Integer
13279:  Function EmptyClipboard : BOOL
13280:  Function IsClipboardFormatAvailable( format : UINT) : BOOL
13281:   Function GetPriorityClipboardFormat( var paFormatPriorityList, cFormats : Integer) : Integer
13282:  Function GetOpenClipboardWindow : HWND
13283:  Function EndDialog( hDlg : HWND; nResult : Integer) : BOOL
13284:  Function GetDlgItem( hDlg : HWND; nIDDlgItem : Integer) : HWND
13285:  Function SetDlgItemInt( hDlg : HWND; nIDDlgItem : Integer; uValue : UINT; bSigned: BOOL): BOOL
13286:  Function GetDlgItemInt(hDlg:HWND;nIDDlgItem:Integer;var lpTranslated:BOOL;bSigned: BOOL): UINT
13287:  Function SetDlgItemText( hDlg : HWND; nIDDlgItem : Integer; lpString : PChar) : BOOL
13288:  Function CheckDlgButton( hDlg : HWND; nIDButton : Integer; uCheck : UINT) : BOOL
13289:  Function CheckRadioButton( hDlg : HWND; nIDFirstButton, nIDLastButton,nIDCheckButton:Integer) : BOOL
13290:  Function IsDlgButtonChecked( hDlg : HWND; nIDButton : Integer) : UINT
13291:  Function SendDlgItemMessage(hDlg:HWND;nIDDlgItem:Int;Msg:UINT;wParam:WPARAM;lParam:LPARAM):Longint;
13292: end;
13293:
13294: procedure SIRegister_DXPUtils(CL: TPSPascalCompiler);
13295: begin
13296:  Function glExecuteAndWait(cmdLine:String;visibility:Word;timeout:Cardinal;killAppOnTimeOut:Bool):Int;
13297:  Function GetTemporaryFilesPath : String
13298:  Function GetTemporaryFileName : String
13299:  Function FindFileInPaths( const fileName, paths : String) : String
13300:  Function PathsToString( const paths : TStrings) : String
13301:  Procedure StringToPaths( const pathsString : String; paths : TStrings)
13302:  //Function MacroExpandPath( const aPath : String) : String
13303: end;
13304:
13305: procedure SIRegister_ALMultiPartBaseParser(CL: TPSPascalCompiler);
13306: begin
13307:   SIRegister_TALMultiPartBaseContent(CL);
13308:   SIRegister_TALMultiPartBaseContents(CL);
13309:   SIRegister_TAlMultiPartBaseStream(CL);
13310:   SIRegister_TALMultipartBaseEncoder(CL);
13311:   SIRegister_TALMultipartBaseDecoder(CL);
13312:  Function ALMultipartExtractBoundaryFromContentType( aContentType : AnsiString) : AnsiString
13313:  Function ALMultipartExtractSubValueFromHeaderLine(aHeaderLine:AnsiString;aName:AnsiString):AnsiString;
13314:  Function ALMultipartSetSubValueInHeaderLine(aHeaderLine:AnsiString;aName,AValue:AnsiString):AnsiString;
13315: end;
13316:
13317: procedure SIRegister_SmallUtils(CL: TPSPascalCompiler);
13318: begin
13319:   TdriveSize', 'record FreeS : Int64; TotalS : Int64; end
13320:   TWinVerRec', 'record WinPlatform : Integer; WinMajorVersion : In'
13321:    +teger; WinMinorVersion :Integer; WinBuildNumber : Integer; WinCSDVersion: String; end
13322:  Function aAllocPadedMem( Size : Cardinal) : TObject
13323:  Procedure aFreePadedMem( var P : TObject);
13324:  Procedure aFreePadedMem1( var P : PChar);
13325:  Function aCheckPadedMem( P : Pointer) : Byte
13326:  Function aGetPadMemSize( P : Pointer) : Cardinal
13327:  Function aAllocMem( Size : Cardinal) : Pointer
13328:  Function aStrLen( const Str : PChar) : Cardinal
13329:  Function aStrLCopy( Dest : PChar; const Source : PChar; MaxLen : Cardinal) : PChar
13330:  Function aStrECopy( Dest : PChar; const Source : PChar) : PChar
13331:  Function aStrCopy( Dest : PChar; const Source : PChar) : PChar
13332:  Function aStrEnd( const Str : PChar) : PChar
13333:  Function aStrScan( const Str : PChar; aChr : Char) : PChar
13334:  Function aStrMove( Dest : PChar; const Source : PChar; Count : Cardinal) : PChar
13335:  Function aPCharLength( const Str : PChar) : Cardinal
13336:  Function aPCharUpper( Str : PChar) : PChar
13337:  Function aPCharLower( Str : PChar) : PChar
13338:  Function aStrCat( Dest : PChar; const Source : PChar) : PChar
13339:  Function aLastDelimiter( const Delimiters, S : String) : Integer
13340:  Function aCopyTail( const S : String; Len : Integer) : String
13341:  Function aInt2Thos( I : Int64) : String
13342:  Function aUpperCase( const S : String) : String
13343:  Function aLowerCase( const S : string) : String
13344:  Function aCompareText( const S1, S2 : string) : Integer
13345:  Function aSameText( const S1, S2 : string) : Boolean
13346:  Function aInt2Str( Value : Int64) : String
13347:  Function aStr2Int( const Value : String) : Int64
13348:  Function aStr2IntDef( const S : string; Default : Int64) : Int64
13349:  Function aGetFileExt( const FileName : String) : String
13350:  Function aGetFilePath( const FileName : String) : String
13351:  Function aGetFileName( const FileName : String) : String
13352:  Function aChangeExt( const FileName, Extension : String) : String
13353:  Function aAdjustLineBreaks( const S : string) : string
13354:  Function aGetWindowStr( WinHandle : HWND) : String
13355:  Function aDiskSpace( Drive : String) : TdriveSize
13356:  Function aFileExists( FileName : String) : Boolean
13357:  Function aFileSize( FileName : String) : Int64
13358:  Function aDirectoryExists( const Name : string) : Boolean
13359:  Function aSysErrorMessage( ErrorCode : Integer) : string
13360:  Function aShortPathName( const LongName : string) : string
13361:  Function aGetWindowVer : TWinVerRec
13362:  procedure InitDriveSpacePtr;
13363: end;
13364:
```

```
13365: procedure SIRegister_MakeApp(CL: TPSPascalCompiler);
13366: begin
13367:  aZero','LongInt'( 0);
13368:  'makeappDEF','LongInt'( - 1);
13369:   'CS_VREDRAW','LongInt'( DWORD ( 1 ));
13370:  'CS_HREDRAW','LongInt'( DWORD ( 2 ));
13371:  'CS_KEYCVTWINDOW','LongInt'( 4);
13372:  'CS_DBLCLKS','LongInt'( 8);
13373:  'CS_OWNDC','LongWord')( $20);
13374:  'CS_CLASSDC','LongWord')( $40);
13375:  'CS_PARENTDC','LongWord')( $80);
13376:  'CS_NOKEYCVT','LongWord')( $100);
13377:  'CS_NOCLOSE','LongWord')( $200);
13378:  'CS_SAVEBITS','LongWord')( $800);
13379:  'CS_BYTEALIGNCLIENT','LongWord')( $1000);
13380:  'CS_BYTEALIGNWINDOW','LongWord')( $2000);
13381:  'CS_GLOBALCLASS','LongWord')( $4000);
13382:  'CS_IME','LongWord')( $10000);
13383:  'CS_DROPSHADOW','LongWord')( $20000);
13384:   //PPanelFunc', '^TPanelFunc // will not work
13385:   TPanelStyle', '(psEdge, psTabEdge, psBorder, psTabBorder, psTab, psNone )
13386:   TFontLook', '( flBold, flItalic, flUnderLine, flStrikeOut )
13387:   TFontLooks', 'set of TFontLook
13388:  TMessagefunc','function(hWnd,iMsg,wParam,lParam:Integer):Integer)
13389:  Function SetWinClass(const ClassName:String; pMessFunc: Tmessagefunc; wcStyle : Integer): Word
13390:  Function SetWinClassO( const ClassName : String; pMessFunc : TObject; wcStyle : Integer): Word
13391:  Function SetWinClass( const ClassName : String; pMessFunc : TObject; wcStyle : Integer) : Word
13392:  Function MakeForm(Left,Top,Width,Height:Integer;const Caption:String;WinStyle:Integer):Integer
13393:  Procedure RunMsgLoop( Show : Boolean)
13394:  Function MakeFont(Height,Width:Integer; const FontName:String; Look:TFontLooks; Roman:Boolean): Integer
13395:  Function MakeButton(Left,Top,Width,Height:Integer;pCaption:PChar;hParent,
       ID_Number:Cardinal;hFont:Int):Int;
13396:  Function MakeListBox(Left,Top,Width,Height,Parent:Integer;const ListItems:String;WinStyle:Integer):Integer
13397:  Function MakeComboBox(Left,Top,Width,Height,Parent:Integer;const ListItems:String;WinStyle:Integer):Int
13398:  Function MakePanel(Left,Top,Width,Height,
       hParent:Int;WndFunc:TPanelFunc;ID_Number:Card;Style:TPanelStyle):Int;
13399:  Function MakeSubMenu(const ItemList : String; ID1, ID2 : Cardinal; hMenu : Integer) : Integer
13400:  Function id4menu( a, b : Byte; c : Byte; d : Byte) : Cardinal
13401:  Procedure DoInitMakeApp   //set first to init formclasscontrol!
13402: end;
13403:
13404: procedure SIRegister_ScreenSaver(CL: TPSPascalCompiler);
13405: begin
13406:   TScreenSaverOption', '( ssoAutoAdjustFormProperties, ssoAutoHook'
13407:    +'KeyboardEvents, ssoAutoHookMouseEvents, ssoEnhancedMouseMoveDetection )
13408:   TScreenSaverOptions', 'set of TScreenSaverOption
13409:  'cDefaultScreenSaverOptions','LongInt').Value.ts32:=ord(ssoAutoAdjustFormProperties) or
       ord(ssoAutoHookKeyboardEvents) or ord(ssoEnhancedMouseMoveDetection);
13410:   TScreenSaverPreviewEvent', 'Procedure ( Sender : TObject; previewHwnd: HWND)
13411:   SIRegister_TScreenSaver(CL);
13412:  //Procedure Register
13413:  Procedure SetScreenSaverPassword
13414: end;
13415:
13416: procedure SIRegister_XCollection(CL: TPSPascalCompiler);
13417: begin
13418:   FindClass('TOBJECT'),'TXCollection
13419:   SIRegister_EFilerException(CL);
13420:   SIRegister_TXCollectionItem(CL);
13421:   //TXCollectionItemClass', 'class of TXCollectionItem
13422:   SIRegister_TXCollection(CL);
13423:  Procedure RegisterXCollectionDestroyEvent( notifyEvent : TNotifyEvent)
13424:  Procedure DeRegisterXCollectionDestroyEvent( notifyEvent : TNotifyEvent)
13425:  Procedure RegisterXCollectionItemClass( aClass : TXCollectionItemClass)
13426:  Procedure UnregisterXCollectionItemClass( aClass : TXCollectionItemClass)
13427:  Function FindXCollectionItemClass( const className : String) : TXCollectionItemClass
13428:  Function GetXCollectionItemClassesList( baseClass : TXCollectionItemClass) : TList
13429: end;
13430:
13431: procedure SIRegister_XOpenGL(CL: TPSPascalCompiler);
13432: begin
13433:   TMapTexCoordMode', '(mtcmUndefined, mtcmNull, mtcmMain, mtcmDual, mtcmSecond,mtcmArbitrary);
13434:  Procedure xglMapTexCoordToNull
13435:  Procedure xglMapTexCoordToMain
13436:  Procedure xglMapTexCoordToSecond
13437:  Procedure xglMapTexCoordToDual
13438:  Procedure xglMapTexCoordToArbitrary( const units : array of Cardinal);
13439:  Procedure xglMapTexCoordToArbitrary1( const bitWiseUnits : Cardinal);
13440:  Procedure xglMapTexCoordToArbitraryAdd( const bitWiseUnits : Cardinal)
13441:  Procedure xglBeginUpdate
13442:  Procedure xglEndUpdate
13443:  Procedure xglPushState
13444:  Procedure xglPopState
13445:  Procedure xglForbidSecondTextureUnit
13446:  Procedure xglAllowSecondTextureUnit
13447:  Function xglGetBitWiseMapping : Cardinal
13448: end;
13449:
13450: procedure SIRegister_VectorLists(CL: TPSPascalCompiler);
```

```
13451: begin
13452:   TBaseListOption', '( bloExternalMemory, bloSetCountResetsMemory)
13453:   TBaseListOptions', 'set of TBaseListOption
13454:   SIRegister_TBaseList(CL);
13455:   SIRegister_TBaseVectorList(CL);
13456:   SIRegister_TAffineVectorList(CL);
13457:   SIRegister_TVectorList(CL);
13458:   SIRegister_TTexPointList(CL);
13459:   SIRegister_TXIntegerList(CL);
13460:   //PSingleArrayList', '^TSingleArrayList // will not work
13461:   SIRegister_TSingleList(CL);
13462:   SIRegister_TByteList(CL);
13463:   SIRegister_TQuaternionList(CL);
13464:  Procedure QuickSortLists( startIndex, endIndex : Integer; refList : TSingleList; objList : TList);
13465:  Procedure QuickSortLists1( startIndex, endIndex : Integer; refList : TSingleList; objList : TBaseList);
13466:  Procedure FastQuickSortLists(startIndex,
       endIndex:Integer;refList:TSingleList;objList:TPersistentObjectList);
13467: end;
13468:
13469: procedure SIRegister_MeshUtils(CL: TPSPascalCompiler);
13470: begin
13471:  Procedure ConvertStripToList( const strip : TAffineVectorList; list : TAffineVectorList);
13472:  Procedure ConvertStripToList1( const strip : TIntegerList; list : TIntegerList);
13473:  Procedure ConvertStripToList2(const strip:TAffineVectorList;const
       indices:TIntegerList;list:TAffineVectorList);
13474:  Procedure ConvertIndexedListToList(const data:TAffineVectlist;const
       indices:TIntegerList;list:TAffineVectorList);
13475:  Function BuildVectorCountOptimizedIndices(const vertices:TAffineVectorList; const
       normals:TAffineVectorList; const texCoords : TAffineVectorList) : TIntegerList
13476:  Procedure RemapReferences( reference : TAffineVectorList; const indices : TIntegerList);
13477:  Procedure RemapReferences1( reference : TIntegerList; const indices : TIntegerList);
13478:  Procedure RemapAndCleanupReferences( reference : TAffineVectorList; indices : TIntegerList)
13479:  Function RemapIndicesToIndicesMap( remapIndices : TIntegerList) : TIntegerList
13480:  Procedure RemapTrianglesIndices( indices, indicesMap : TIntegerList)
13481:  Procedure RemapIndices( indices, indicesMap : TIntegerList)
13482:  Procedure UnifyTrianglesWinding( indices : TIntegerList)
13483:  Procedure InvertTrianglesWinding( indices : TIntegerList)
13484:  Function BuildNormals( reference : TAffineVectorList; indices : TIntegerList) : TAffineVectorList
13485:  Function BuildNonOrientedEdgesList(triangleIndices:TIntegerList; triangleEdges : TIntegerList;
       edgesTriangles : TIntegerList) : TIntegerList
13486:  Procedure WeldVertices( vertices : TAffineVectorList; indicesMap : TIntegerList; weldRadius : Single)
13487:  Function StripifyMesh(indices:TIntegerList;maxVertexIndex:Integer;agglomerateLoneTriangles:Boolean):
       TPersistentObjectList;
13488:  Procedure IncreaseCoherency( indices : TIntegerList; cacheSize : Integer)
13489:  Procedure SubdivideTriangles( smoothFactor : Single; vertices : TAffineVectorList; triangleIndices :
       TIntegerList; normals : TAffineVectorList; onSubdivideEdge : TSubdivideEdgeEvent)
13490: end;
13491:
13492: procedure SIRegister_JclSysUtils(CL: TPSPascalCompiler);
13493: begin
13494:  Procedure GetAndFillMem( var P : TObject; const Size : Integer; const Value : Byte)
13495:  Procedure FreeMemAndNil( var P : TObject)
13496:  Function PCharOrNil( const S : string) : PChar
13497:   SIRegister_TJclReferenceMemoryStream(CL);
13498:   FindClass('TOBJECT'),'EJclVMTError
13499:  {Function GetVirtualMethodCount( AClass : TClass) : Integer
13500:  Function GetVirtualMethod( AClass : TClass; const Index : Integer) : Pointer
13501:  Procedure SetVirtualMethod( AClass : TClass; const Index : Integer; const Method:Pointer)
13502:   PDynamicIndexList', '^TDynamicIndexList // will not work
13503:   PDynamicAddressList', '^TDynamicAddressList // will not work
13504:  Function GetDynamicMethodCount( AClass : TClass) : Integer
13505:  Function GetDynamicIndexList( AClass : TClass) : PDynamicIndexList
13506:  Function GetDynamicAddressList( AClass : TClass) : PDynamicAddressList
13507:  Function HasDynamicMethod( AClass : TClass; Index : Integer) : Boolean
13508:  Function GetDynamicMethod( AClass : TClass; Index : Integer) : Pointer
13509:  Function GetInitTable( AClass : TClass) : PTypeInfo
13510:   PFieldEntry', '^TFieldEntry // will not work}
13511:   TFieldEntry', 'record OffSet : Integer; IDX : Word; Name : ShortString; end
13512:  Function JIsClass( Address : Pointer) : Boolean
13513:  Function JIsObject( Address : Pointer) : Boolean
13514:  Function GetImplementorOfInterface( const I : IInterface) : TObject
13515:   TDigitCount', 'Integer
13516:   SIRegister_TJclNumericFormat(CL);
13517:  Function JIntToStrZeroPad( Value, Count : Integer) : AnsiString
13518:   TTextHandler', 'Procedure ( const Text : string)
13519: // 'ABORT_EXIT_CODE','LongInt'( ERROR_CANCELLED 1223);
13520:  Function JExecute(const
       CommandLine:string;OutputLineCallback:TTextHandler;RawOutpt:Bool;AbortPtr:PBool):Card;
13521:  Function JExecute1(const CommandLine:string;var Output:string; RawOutput:Bool; AbortPtr:PBool):Cardinal;
13522:  Function ReadKey : Char   //to and from the DOS console !
13523:   TModuleHandle', 'HINST
13524:   //TModuleHandle', 'Pointer
13525:  'INVALID_MODULEHANDLE_VALUE','LongInt'( TModuleHandle ( 0 ));
13526:  Function LoadModule( var Module : TModuleHandle; FileName : string) : Boolean
13527:  Function LoadModuleEx( var Module : TModuleHandle; FileName : string; Flags : Cardinal) : Boolean
13528:  Procedure UnloadModule( var Module : TModuleHandle)
13529:  Function GetModuleSymbol( Module : TModuleHandle; SymbolName : string) : Pointer
13530:  Function GetModuleSymbolEx( Module : TModuleHandle; SymbolName : string; var Accu : Boolean) : Pointer
13531:  Function ReadModuleData(Module:TModuleHandle;SymbolName:string;var Buffer,Size: Cardinal):Boolean;
```

```
13532:  Function WriteModuleData(Module:TModuleHandle;SymbolName:string;var Buffer,Size:Cardinal):Boolean;
13533:   FindClass('TOBJECT'),'EJclConversionError
13534:  Function JStrToBoolean( const S : string) : Boolean
13535:  Function JBooleanToStr( B : Boolean) : string
13536:  Function JIntToBool( I : Integer) : Boolean
13537:  Function JBoolToInt( B : Boolean) : Integer
13538:  'ListSeparator','String ';
13539:  'ListSeparator1','String ':
13540:  Procedure ListAddItems( var List : string; const Separator, Items : string)
13541:  Procedure ListIncludeItems( var List : string; const Separator, Items : string)
13542:  Procedure ListRemoveItems( var List : string; const Separator, Items : string)
13543:  Procedure ListDelItem( var List : string; const Separator : string; const Index : Integer)
13544:  Function ListItemCount( const List, Separator : string) : Integer
13545:  Function ListGetItem( const List, Separator : string; const Index : Integer) : string
13546:  Procedure ListSetItem(var List:string;const Separator:string;const Index:Integer;const Value:string)
13547:  Function ListItemIndex( const List, Separator, Item : string) : Integer
13548:  Function SystemTObjectInstance : LongWord
13549:  Function IsCompiledWithPackages : Boolean
13550:  Function JJclGUIDToString( const GUID : TGUID) : string
13551:  Function JJclStringToGUID( const S : string) : TGUID
13552:   SIRegister_TJclIntfCriticalSection(CL);
13553:   SIRegister_TJclSimpleLog(CL);
13554:  Procedure InitSimpleLog( const ALogFileName : string)
13555: end;
13556:
13557: procedure SIRegister_JclBorlandTools(CL: TPSPascalCompiler);
13558: begin
13559:   FindClass('TOBJECT'),'EJclBorRADException
13560:   TJclBorRADToolKind', '( brDelphi, brCppBuilder, brBorlandDevStudio )
13561:   TJclBorRADToolEdition', '( deOPEN, dePRO, deSVR )
13562:   TJclBorRADToolEdition', '( deSTD, dePRO, deCSS, deARC )
13563:   TJclBorRADToolPath', 'string
13564:  'SupportedDelphiVersions','LongInt'( 5 or  6 or  7 or  8 or  9 or  10 or  11);
13565:  'SupportedBCBVersions','LongInt'( 5 or  6 or  10 or  11);
13566:  'SupportedBDSVersions','LongInt'( 1 or  2 or  3 or  4 or  5);
13567:  BorRADToolRepositoryPagesSection','String 'Repository Pages
13568:  BorRADToolRepositoryDialogsPage','String 'Dialogs
13569:  BorRADToolRepositoryFormsPage','String 'Forms
13570:  BorRADToolRepositoryProjectsPage','String 'Projects
13571:  BorRADToolRepositoryDataModulesPage','String 'Data Modules
13572:  BorRADToolRepositoryObjectType','String 'Type
13573:  BorRADToolRepositoryFormTemplate','String 'FormTemplate
13574:  BorRADToolRepositoryProjectTemplate','String 'ProjectTemplate
13575:  BorRADToolRepositoryObjectName','String 'Name
13576:  BorRADToolRepositoryObjectPage','String 'Page
13577:  BorRADToolRepositoryObjectIcon','String 'Icon
13578:  BorRADToolRepositoryObjectDescr','String 'Description
13579:  BorRADToolRepositoryObjectAuthor','String 'Author
13580:  BorRADToolRepositoryObjectAncestor','String 'Ancestor
13581:  BorRADToolRepositoryObjectDesigner','String 'Designer
13582:  BorRADToolRepositoryDesignerDfm','String 'dfm
13583:  BorRADToolRepositoryDesignerXfm','String 'xfm
13584:  BorRADToolRepositoryObjectNewForm','String 'DefaultNewForm
13585:  BorRADToolRepositoryObjectMainForm','String 'DefaultMainForm
13586:  SourceExtensionDelphiPackage','String '.dpk
13587:  SourceExtensionBCBPackage','String '.bpk
13588:  SourceExtensionDelphiProject','String '.dpr
13589:  SourceExtensionBCBProject','String '.bpr
13590:  SourceExtensionBDSProject','String '.bdsproj
13591:  SourceExtensionDProject','String '.dproj
13592:  BinaryExtensionPackage','String '.bpl
13593:  BinaryExtensionLibrary','String '.dll
13594:  BinaryExtensionExecutable','String '.exe
13595:  CompilerExtensionDCP','String '.dcp
13596:  CompilerExtensionBPI','String '.bpi
13597:  CompilerExtensionLIB','String '.lib
13598:  CompilerExtensionTDS','String '.tds
13599:  CompilerExtensionMAP','String '.map
13600:  CompilerExtensionDRC','String '.drc
13601:  CompilerExtensionDEF','String '.def
13602:  SourceExtensionCPP','String '.cpp
13603:  SourceExtensionH','String '.h
13604:  SourceExtensionPAS','String '.pas
13605:  SourceExtensionDFM','String '.dfm
13606:  SourceExtensionXFM','String '.xfm
13607:  SourceDescriptionPAS','String 'Pascal source file
13608:  SourceDescriptionCPP','String 'C++ source file
13609:  DesignerVCL','String 'VCL
13610:  DesignerCLX','String 'CLX
13611:  ProjectTypePackage','String 'package
13612:  ProjectTypeLibrary','String 'library
13613:  ProjectTypeProgram','String 'program
13614:  Personality32Bit','String '32 bit
13615:  Personality64Bit','String '64 bit
13616:  PersonalityDelphi','String 'Delphi
13617:  PersonalityDelphiDotNet','String 'Delphi.net
13618:  PersonalityBCB','String 'C++Builder
13619:  PersonalityCSB','String 'C#Builder
13620:  PersonalityVB','String 'Visual Basic
```

```
13621:  PersonalityDesign','String 'Design
13622:  PersonalityUnknown','String 'Unknown personality
13623:  PersonalityBDS','String 'Borland Developer Studio
13624:  DOFDirectoriesSection','String 'Directories
13625:  DOFUnitOutputDirKey','String 'UnitOutputDir
13626:  DOFSearchPathName','String 'SearchPath
13627:  DOFConditionals','String 'Conditionals
13628:  DOFLinkerSection','String 'Linker
13629:  DOFPackagesKey','String 'Packages
13630:  DOFCompilerSection','String 'Compiler
13631:  DOFPackageNoLinkKey','String 'PackageNoLink
13632:  DOFAdditionalSection','String 'Additional
13633:  DOFOptionsKey','String 'Options
13634:   TJclBorPersonality', '( bpDelphi32, bpDelphi64, bpBCBuilder32, b'
13635:    +'pBCBuilder64, bpDelphiNet32, bpDelphiNet64, bpCSBuilder32, bpCSBuilder64, '
13636:    +'bpVisualBasic32, bpVisualBasic64, bpDesign, bpUnknown )
13637:   TJclBorPersonalities', 'set of TJclBorPersonality
13638:   TJclBorDesigner', '( bdVCL, bdCLX )
13639:   TJclBorDesigners', 'set of TJClBorDesigner
13640:   TJclBorPlatform', '( bp32bit, bp64bit )
13641:   FindClass('TOBJECT'),'TJclBorRADToolInstallation
13642:   SIRegister_TJclBorRADToolInstallationObject(CL);
13643:   SIRegister_TJclBorlandOpenHelp(CL);
13644:   TJclHelp2Object', '( hoRegisterSession, hoRegister, hoPlugin )
13645:   TJclHelp2Objects', 'set of TJclHelp2Object
13646:   SIRegister_TJclHelp2Manager(CL);
13647:   SIRegister_TJclBorRADToolIdeTool(CL);
13648:   SIRegister_TJclBorRADToolIdePackages(CL);
13649:   SIRegister_IJclCommandLineTool(CL);
13650:   FindClass('TOBJECT'),'EJclCommandLineToolError
13651:   SIRegister_TJclCommandLineTool(CL);
13652:   SIRegister_TJclBorlandCommandLineTool(CL);
13653:   SIRegister_TJclBCC32(CL);
13654:   SIRegister_TJclDCC32(CL);
13655:   TJclDCC', 'TJclDCC32
13656:   SIRegister_TJclBpr2Mak(CL);
13657:   SIRegister_TJclBorlandMake(CL);
13658:   SIRegister_TJclBorRADToolPalette(CL);
13659:   SIRegister_TJclBorRADToolRepository(CL);
13660:   TCommandLineTool', '( clAsm, clBcc32, clDcc32, clDccIL, clMake,clProj2Mak )
13661:   TCommandLineTools', 'set of TCommandLineTool
13662:   //TJclBorRADToolInstallationClass', 'class of TJclBorRADToolInstallation
13663:   SIRegister_TJclBorRADToolInstallation(CL);
13664:   SIRegister_TJclBCBInstallation(CL);
13665:   SIRegister_TJclDelphiInstallation(CL);
13666:   SIRegister_TJclDCCIL(CL);
13667:   SIRegister_TJclBDSInstallation(CL);
13668:   TTraverseMethod', 'Function ( Installation : TJclBorRADToolInstallation) : Boolean
13669:   SIRegister_TJclBorRADToolInstallations(CL);
13670:  Function BPLFileName( const BPLPath, PackageFileName : string) : string
13671:  Function BinaryFileName( const OutputPath, ProjectFileName : string) : string
13672:  Function IsDelphiPackage( const FileName : string) : Boolean
13673:  Function IsDelphiProject( const FileName : string) : Boolean
13674:  Function IsBCBPackage( const FileName : string) : Boolean
13675:  Function IsBCBProject( const FileName : string) : Boolean
13676:  Procedure GetDPRFileInfo(const DPRFileName:string;out BinaryExtensio:string;const LibSuffx:PString);
13677:  Procedure GetBPRFileInfo(const BPRFileName:string;out BinaryFileName:string;const Descript:PString);
13678:  Procedure GetDPKFileInfo(const DPKFileName:string;out RunOnly:Bool;const LibSuffix:PString;const
       Descript:PString;
13679:  Procedure GetBPKFileInfo(const BPKFileName:string;out RunOnly:Bool;const BinaryFName:PString;const
       Descript:PString
13680:  function SamePath(const Path1, Path2: string): Boolean;
13681: end;
13682:
13683: procedure SIRegister_JclFileUtils_max(CL: TPSPascalCompiler);
13684: begin
13685:  'ERROR_NO_MORE_FILES','LongInt'( 18);
13686:  //Function stat64( FileName: PChar;var StatBuffer : TStatBuf64) : Integer
13687:  //Function fstat64( FileDes: Integer;var StatBuffer : TStatBuf64) : Integer
13688:  //Function lstat64( FileName: PChar;var StatBuffer : TStatBuf64) : Integer
13689:  'LPathSeparator','String '/
13690:  'LDirDelimiter','String '/
13691:  'LDirSeparator','String ':
13692:  'JXPathDevicePrefix','String '\\.\
13693:  'JXPathSeparator','String '\
13694:  'JXDirDelimiter','String '\
13695:  'JXDirSeparator','String ';
13696:  'JXPathUncPrefix','String '\\
13697:  'faNormalFile','LongWord')( $00000080);
13698:  //'faUnixSpecific',' faSymLink);
13699:   JXTCompactPath', '( cpCenter, cpEnd )
13700:     _WIN32_FILE_ATTRIBUTE_DATA', 'record dwFileAttributes : DWORD; f'
13701:    +'tCreationTime : TFileTime; ftLastAccessTime : TFileTime; ftLastWriteTime :'
13702:    +' TFileTime; nFileSizeHigh : DWORD; nFileSizeLow : DWORD; end
13703:   TWin32FileAttributeData', '_WIN32_FILE_ATTRIBUTE_DATA
13704:   WIN32_FILE_ATTRIBUTE_DATA', '_WIN32_FILE_ATTRIBUTE_DATA
13705:
13706:  Function jxPathAddSeparator( const Path : string) : string
13707:  Function jxPathAddExtension( const Path, Extension : string) : string
```

```
13708:  Function jxPathAppend( const Path, Append : string) : string
13709:  Function jxPathBuildRoot( const Drive : Byte) : string
13710:  Function jxPathCanonicalize( const Path : string) : string
13711:  Function jxPathCommonPrefix( const Path1, Path2 : string) : Integer
13712:  Function jxPathCompactPath(const DC:HDC;const Path:string;const Width:Integer;CmpFmt:TCompactPath):string
13713:  Procedure jxPathExtractElements( const Source : string; var Drive, Path, FileName, Ext : string)
13714:  Function jxPathExtractFileDirFixed( const S : string) : string
13715:  Function jxPathExtractFileNameNoExt( const Path : string) : string
13716:  Function jxPathExtractPathDepth( const Path : string; Depth : Integer) : string
13717:  Function jxPathGetDepth( const Path : string) : Integer
13718:  Function jxPathGetLongName( const Path : string) : string
13719:  Function jxPathGetShortName( const Path : string) : string
13720:  Function jxPathGetLongName( const Path : string) : string
13721:  Function jxPathGetShortName( const Path : string) : string
13722:  Function jxPathGetRelativePath( Origin, Destination : string) : string
13723:  Function jxPathGetTempPath : string
13724:  Function jxPathIsAbsolute( const Path : string) : Boolean
13725:  Function jxPathIsChild( const Path, Base : string) : Boolean
13726:  Function jxPathIsDiskDevice( const Path : string) : Boolean
13727:  Function jxPathIsUNC( const Path : string) : Boolean
13728:  Function jxPathRemoveSeparator( const Path : string) : string
13729:  Function jxPathRemoveExtension( const Path : string) : string
13730:  Function jxPathGetPhysicalPath( const LocalizedPath : string) : string
13731:  Function jxPathGetLocalizedPath( const PhysicalPath : string) : string
13732:   JxTFileListOption', '( flFullNames, flRecursive, flMaskedSubfolders)
13733:   JxTFileListOptions', 'set of TFileListOption
13734:   JxTJclAttributeMatch', '( amAny, amExact, amSubSetOf, amSuperSetOf, amCustom )
13735:   TFileHandler', 'Procedure ( const FileName : string)
13736:   TFileHandlerEx', 'Procedure ( const Directory : string; const FileInfo : TSearchRec)
13737:  Function BuildFileList( const Path : string; const Attr : Integer; const List : TStrings) : Boolean
13738:  //Function AdvBuildFileList( const Path : string; const Attr : Integer; const Files : TStrings; const
      AttributeMatch:TJclAttributeMatch;const Optis:TFileListOptions;const SubfoldersMask:string;const
      FileMatchFunc:TFileMatchFunc):Bool;
13739:  Function jxVerifyFileAttributeMask( var RejectedAttributes, RequiredAttributes : Int) : Boolean
13740:  Function jxIsFileAttributeMatch(FileAttributes,RejectedAttributes,RequiredAttributes:Int):Boolean;
13741:  Function jxFileAttributesStr( const FileInfo : TSearchRec) : string
13742:  Function jxIsFileNameMatch(FileName:string;const Mask:string;const CaseSensitive:Boolean):Boolean;
13743:  Procedure jxEnumFiles(const Path:string; HandleFile:TFileHandlerEx;
      RejectedAttributes:Integer;RequiredAttributes : Integer; Abort : TObject)
13744:  Procedure jxEnumDirectories(const Root:string;const HandleDirectory:TFileHandler;const
      IncludeHiddenDirects:Boolean;const SubDirectoriesMask:string;Abort:TObject;ResolveSymLinks:Bool)
13745:  Procedure jxCreateEmptyFile( const FileName : string)
13746:  Function jxCloseVolume( var Volume : THandle) : Boolean
13747:  Function jxDeleteDirectory( const DirectoryName : string; MoveToRecycleBin : Boolean) : Boolean
13748:  Function jxCopyDirectory( ExistingDirectoryName, NewDirectoryName : string) : Boolean
13749:  Function jxMoveDirectory( ExistingDirectoryName, NewDirectoryName : string) : Boolean
13750:  Function jxDelTree( const Path : string) : Boolean
13751:  //Function DelTreeEx(const Path:string;AbortOnFailure:Boolean; Progress:TDelTreeProgress):Boolean
13752:  Function jxDiskInDrive( Drive : Char) : Boolean
13753:  Function jxDirectoryExists( const Name : string; ResolveSymLinks : Boolean) : Boolean
13754:  Function jxFileCreateTemp( var Prefix : string) : THandle
13755:  Function jxFileBackup( const FileName : string; Move : Boolean) : Boolean
13756:  Function jxFileCopy( const ExistingFileName, NewFileName : string; ReplaceExisting : Boolean) : Boolean
13757:  Function jxFileDelete( const FileName : string; MoveToRecycleBin : Boolean) : Boolean
13758:  Function jxFileExists( const FileName : string) : Boolean
13759:  Function jxFileMove( const ExistingFileName, NewFileName : string; ReplaceExisting : Boolean) : Boolean
13760:  Function jxFileRestore( const FileName : string) : Boolean
13761:  Function jxGetBackupFileName( const FileName : string) : string
13762:  Function jxIsBackupFileName( const FileName : string) : Boolean
13763:  Function jxFileGetDisplayName( const FileName : string) : string
13764:  Function jxFileGetGroupName( const FileName : string; ResolveSymLinks : Boolean) : string
13765:  Function jxFileGetOwnerName( const FileName : string; ResolveSymLinks : Boolean) : string
13766:  Function jxFileGetSize( const FileName : string) : Int64
13767:  Function jxFileGetTempName( const Prefix : string) : string
13768:  Function jxFileGetTypeName( const FileName : string) : string
13769:  Function jxFindUnusedFileName(FileName:string; const FileExt : string; NumberPrefix : string) : string
13770:  Function jxForceDirectories( Name : string) : Boolean
13771:  Function jxGetDirectorySize( const Path : string) : Int64
13772:  Function jxGetDriveTypeStr( const Drive : Char) : string
13773:  Function jxGetFileAgeCoherence( const FileName : string) : Boolean
13774:  Procedure jxGetFileAttributeList( const Items : TStrings; const Attr : Integer)
13775:  Procedure jxGetFileAttributeListEx( const Items : TStrings; const Attr : Integer)
13776:  Function jxGetFileInformation( const FileName : string; out FileInfo : TSearchRec) : Boolean;
13777:  Function jxGetFileInformation1( const FileName : string) : TSearchRec;
13778:  //Function GetFileStatus(const FileName:string;out StatBuf:TStatBuf64;const
      ResolveSymLinks:Boolean):Integer
13779:  Function jxGetFileLastWrite( const FName : string) : TFileTime;
13780:  Function jxGetFileLastWrite1( const FName : string; out LocalTime : TDateTime) : Boolean;
13781:  Function jxGetFileLastAccess( const FName : string) : TFileTime;
13782:  Function jxGetFileLastAccess1( const FName : string; out LocalTime : TDateTime) : Boolean;
13783:  Function jxGetFileCreation( const FName : string) : TFileTime;
13784:  Function jxGetFileCreation1( const FName : string; out LocalTime : TDateTime) : Boolean;
13785:  Function jxGetFileLastWrite( const FName : string;out TimeStamp:Integer;ResolveSymLinks : Bool):Bool;
13786:  Function jxGetFileLastWrite1(const FName:string; out LocalTime:TDateTime;ResolveSymLinks:Bool): Bool;
13787:  Function jxGetFileLastWrite2( const FName : string; ResolveSymLinks : Boolean) : Integer;
13788:  Function jxGetFileLastAccess(const FName:string; out TimeStamp:Integer;ResolveSymLinks: Bool): Bool;
13789:  Function jxGetFileLastAccess1(const FName:string; out LocalTime:TDateTime;ResolveSymLinks:Bool):Bool;
13790:  Function jxGetFileLastAccess2(const FName:string; ResolveSymLinks:Boolean): Integer;
13791:  Function jxGetFileLastAttrChange(const FName:string;out TimeStamp:Integer;ResolveSymLinks:Bool): Bool;
```

```
13792:  Function jxGetFileLastAttrChange1(const FName:string; out LocalTime:TDateTime;ResolveSymLinks:Bool):Bool;
13793:  Function jxGetFileLastAttrChange2( const FName : string; ResolveSymLinks:Boolean): Integer;
13794:  Function jxGetModulePath( const Module : HMODULE) : string
13795:  Function jxGetSizeOfFile( const FileName : string) : Int64;
13796:  Function jxGetSizeOfFile1( const FileInfo : TSearchRec) : Int64;
13797:  Function jxGetSizeOfFile2( Handle : THandle) : Int64;
13798:  Function jxGetStandardFileInfo( const FileName : string) : TWin32FileAttributeData
13799:  Function jxIsDirectory( const FileName : string; ResolveSymLinks : Boolean) : Boolean
13800:  Function jxIsRootDirectory( const CanonicFileName : string) : Boolean
13801:  Function jxLockVolume( const Volume : string; var Handle : THandle) : Boolean
13802:  Function jxOpenVolume( const Drive : Char) : THandle
13803:  Function jxSetDirLastWrite( const DirName : string; const DateTime : TDateTime) : Boolean
13804:  Function jxSetDirLastAccess( const DirName : string; const DateTime : TDateTime) : Boolean
13805:  Function jxSetDirCreation( const DirName : string; const DateTime : TDateTime) : Boolean
13806:  Function jxSetFileLastWrite( const FileName : string; const DateTime : TDateTime) : Boolean
13807:  Function jxSetFileLastAccess( const FileName : string; const DateTime : TDateTime) : Boolean
13808:  Function jxSetFileCreation( const FileName : string; const DateTime : TDateTime) : Boolean
13809:  Procedure jxShredFile( const FileName : string; Times : Integer)
13810:  Function jxUnlockVolume( var Handle : THandle) : Boolean
13811:  Function jxCreateSymbolicLink( const Name, Target : string) : Boolean
13812:  Function jxSymbolicLinkTarget( const Name : string) : string
13813:   TAttributeInterest', '( aiIgnored, aiRejected, aiRequired )
13814:   SIRegister_TJclCustomFileAttrMask(CL);
13815:   SIRegister_TJclFileAttributeMask(CL);
13816:   TFileSearchOption', '( fsIncludeSubDirectories, fsIncludeHiddenS'
13817:    +'ubDirectories, fsLastChangeAfter, fsLastChangeBefore, fsMaxSize, fsMinSize)
13818:   TFileSearchOptions', 'set of TFileSearchOption
13819:   TFileSearchTaskID', 'Integer
13820:   TFileSearchTerminationEvent', 'Procedure ( const ID : TFileSearc'
13821:    +'hTaskID; const Aborted : Boolean)
13822:   TFileEnumeratorSyncMode', '( smPerFile, smPerDirectory )
13823:   SIRegister_IJclFileEnumerator(CL);
13824:   SIRegister_TJclFileEnumerator(CL);
13825:  Function JxFileSearch : IJclFileEnumerator
13826:   JxTFileFlag', '( ffDebug, ffInfoInferred, ffPatched,ffPreRelease,ffPrivateBuild, ffSpecialBuild )
13827:   JxTFileFlags', 'set of TFileFlag
13828:   FindClass('TOBJECT'),'EJclFileVersionInfoError
13829:   SIRegister_TJclFileVersionInfo(CL);
13830:  Function jxOSIdentToString( const OSIdent : DWORD) : string
13831:  Function jxOSFileTypeToString( const OSFileType : DWORD; const OSFileSubType : DWORD) : string
13832:  Function jxVersionResourceAvailable( const FileName : string) : Boolean
13833:   TFileVersionFormat', '( vfMajorMinor, vfFull )
13834:  Function jxFormatVersionString( const HiV, LoV : Word) : string;
13835:  Function jxFormatVersionString1( const Major, Minor, Build, Revision : Word) : string;
13836:  //Function FormatVersionString2( const FixedInfo : TVSFixedFileInfo;VersionFormat:TFileVersionFormat):str;
13837:  //Procedure VersionExtractFileInfo(const FixedInfo:TVSFixedFileInfo;var Major,Minor,Build,Revision:Word);
13838:  //Procedure VersionExtractProductInfo(const FixedInfo:TVSFixedFileInfo;var Major,Minor,Build,
      Revision:Word);
13839:  //Function VersionFixedFileInfo( const FileName : string; var FixedInfo : TVSFixedFileInfo) : Boolean
13840:  Function jxVersionFixedFileInfoString( const FileName : string; VersionFormat : TFileVersionFormat; const
      NotAvailableText : string) : string
13841:   SIRegister_TJclTempFileStream(CL);
13842:   FindClass('TOBJECT'),'TJclCustomFileMapping
13843:   SIRegister_TJclFileMappingView(CL);
13844:   TJclFileMappingRoundOffset', '( rvDown, rvUp )
13845:   SIRegister_TJclCustomFileMapping(CL);
13846:   SIRegister_TJclFileMapping(CL);
13847:   SIRegister_TJclSwapFileMapping(CL);
13848:   SIRegister_TJclFileMappingStream(CL);
13849:   TJclMappedTextReaderIndex', '( tiNoIndex, tiFull )
13850:   //PPCharArray', '^TPCharArray // will not work
13851:   SIRegister_TJclMappedTextReader(CL);
13852:   SIRegister_TJclFileMaskComparator(CL);
13853:   FindClass('TOBJECT'),'EJclPathError
13854:   FindClass('TOBJECT'),'EJclFileUtilsError
13855:   FindClass('TOBJECT'),'EJclTempFileStreamError
13856:   FindClass('TOBJECT'),'EJclTempFileStreamError
13857:   FindClass('TOBJECT'),'EJclFileMappingError
13858:   FindClass('TOBJECT'),'EJclFileMappingViewError
13859:  Function jxPathGetLongName2( const Path : string) : string
13860:  Function jxWin32DeleteFile( const FileName : string; MoveToRecycleBin : Boolean) : Boolean
13861:  Function jxWin32MoveFileReplaceExisting( const SrcFileName, DstFileName : string) : Boolean
13862:  Function jxWin32BackupFile( const FileName : string; Move : Boolean) : Boolean
13863:  Function jxWin32RestoreFile( const FileName : string) : Boolean
13864:  Function jxSamePath( const Path1, Path2 : string) : Boolean
13865:  Procedure jxPathListAddItems( var List : string; const Items : string)
13866:  Procedure jxPathListIncludeItems( var List : string; const Items : string)
13867:  Procedure jxPathListDelItems( var List : string; const Items : string)
13868:  Procedure jxPathListDelItem( var List : string; const Index : Integer)
13869:  Function jxPathListItemCount( const List : string) : Integer
13870:  Function jxPathListGetItem( const List : string; const Index : Integer) : string
13871:  Procedure jxPathListSetItem( var List : string; const Index : Integer; const Value : string)
13872:  Function jxPathListItemIndex( const List, Item : string) : Integer
13873:  Function jxParamName(Idx:Int;const Separator:string;const AllowedPrefixChars:string;TrimName:Bool):string;
13874:  Function jxParamValue(Index : Integer; const Separator : string; TrimValue : Boolean) : string;
13875:  Function jxParamValue1(const SearchName:string; const Separator : string; CaseSensitive : Boolean; const
      AllowedPrefixCharacters : string; TrimValue : Boolean) : string;
13876:  Function jxParamPos( const SearchName : string; const Separator : string; CaseSensitive : Boolean; const
      AllowedPrefixCharacters : string) : Integer
```

```
13877: end;
13878:
13879: procedure SIRegister_FileUtil(CL: TPSPascalCompiler);
13880: begin
13881:  'UTF8FileHeader','String #$ef#$bb#$bf);
13882:  Function lCompareFilenames( const Filename1, Filename2 : string) : integer
13883:  Function lCompareFilenamesIgnoreCase( const Filename1, Filename2 : string) : integer
13884:  Function lCompareFilenames( const Filename1, Filename2 : string; ResolveLinks : boolean) : integer
13885:  Function lCompareFilenames(Filename1:PChar;Len1:int;Filename2:PChar;Len2:int;ResolveLinks:boolean):int;
13886:  Function lFilenameIsAbsolute( const TheFilename : string) : boolean
13887:  Function lFilenameIsWinAbsolute( const TheFilename : string) : boolean
13888:  Function lFilenameIsUnixAbsolute( const TheFilename : string) : boolean
13889:  Procedure lCheckIfFileIsExecutable( const AFilename : string)
13890:  Procedure lCheckIfFileIsSymlink( const AFilename : string)
13891:  Function lFileIsReadable( const AFilename : string) : boolean
13892:  Function lFileIsWritable( const AFilename : string) : boolean
13893:  Function lFileIsText( const AFilename : string) : boolean
13894:  Function lFileIsText( const AFilename : string; out FileReadable : boolean) : boolean
13895:  Function lFileIsExecutable( const AFilename : string) : boolean
13896:  Function lFileIsSymlink( const AFilename : string) : boolean
13897:  Function lFileIsHardLink( const AFilename : string) : boolean
13898:  Function lFileSize( const Filename : string) : int64;
13899:  Function lGetFileDescription( const AFilename : string) : string
13900:  Function lReadAllLinks( const Filename : string; ExceptionOnError : boolean) : string
13901:  Function lTryReadAllLinks( const Filename : string) : string
13902:  Function lDirPathExists( const FileName : String) : Boolean
13903:  Function lForceDirectory( DirectoryName : string) : boolean
13904:  Function lDeleteDirectory( const DirectoryName : string; OnlyChildren : boolean) : boolean
13905:  Function lProgramDirectory : string
13906:  Function lDirectoryIsWritable( const DirectoryName : string) : boolean
13907:  Function lExtractFileNameOnly( const AFilename : string) : string
13908:  Function lExtractFileNameWithoutExt( const AFilename : string) : string
13909:  Function lCompareFileExt( const Filename, Ext : string; CaseSensitive : boolean) : integer;
13910:  Function lCompareFileExt( const Filename, Ext : string) : integer;
13911:  Function lFilenameIsPascalUnit( const Filename : string) : boolean
13912:  Function lAppendPathDelim( const Path : string) : string
13913:  Function lChompPathDelim( const Path : string) : string
13914:  Function lTrimFilename( const AFilename : string) : string
13915:  Function lCleanAndExpandFilename( const Filename : string) : string
13916:  Function lCleanAndExpandDirectory( const Filename : string) : string
13917:  Function lCreateAbsoluteSearchPath( const SearchPath, BaseDirectory : string) : string
13918:  Function lCreateRelativePath( const Filename, BaseDirectory : string; UsePointDirectory : boolean;
       AlwaysRequireSharedBaseFolder : Boolean) : string
13919:  Function lCreateAbsolutePath( const Filename, BaseDirectory : string) : string
13920:  Function lFileIsInPath( const Filename, Path : string) : boolean
13921:  Function lFileIsInDirectory( const Filename, Directory : string) : boolean
13922:   TSearchFileInPathFlag', '( sffDontSearchInBasePath, sffSearchLoUpCase )
13923:   TSearchFileInPathFlags', 'set of TSearchFileInPathFlag
13924:  'AllDirectoryEntriesMask','String '*
13925:  Function lGetAllFilesMask : string
13926:  Function lGetExeExt : string
13927:  Function lSearchFileInPath( const Filename, BasePath, SearchPath, Delimiter : string; Flags :
       TSearchFileInPathFlags) : string
13928:  Function lSearchAllFilesInPath( const Filename, BasePath, SearchPath, Delimiter:string;Flags :
       TSearchFileInPathFlags) : TStrings
13929:  Function lFindDiskFilename( const Filename : string) : string
13930:  Function lFindDiskFileCaseInsensitive( const Filename : string) : string
13931:  Function lFindDefaultExecutablePath( const Executable : string; const BaseDir: string):string
13932:  Function lGetDarwinSystemFilename( Filename : string) : string
13933:   SIRegister_TFileIterator(CL);
13934:   TFileFoundEvent', 'Procedure ( FileIterator : TFileIterator)
13935:   TDirectoryFoundEvent', 'Procedure ( FileIterator : TFileIterator)
13936:   TDirectoryEnterEvent', 'Procedure ( FileIterator : TFileIterator)
13937:   SIRegister_TFileSearcher(CL);
13938:  Function lFindAllFiles(const SearchPath:String;SearchMsk:String;SearchSubDirs:Bool):TStringList
13939:  Function lFindAllDirectories( const SearchPath : string; SearchSubDirs : Boolean) : TStringList
13940:  // TCopyFileFlag', '( cffOverwriteFile, cffCreateDestDirectory, cffPreserveTime )
13941:  // TCopyFileFlags', 'set of TCopyFileFlag
13942:  Function lCopyFile( const SrcFilename, DestFilename : string; Flags : TCopyFileFlags) : boolean
13943:  Function lCopyFile( const SrcFilename, DestFilename : string; PreserveTime : boolean) : boolean
13944:  Function lCopyDirTree( const SourceDir, TargetDir : string; Flags : TCopyFileFlags) : Boolean
13945:  Function lReadFileToString( const Filename : string) : string
13946:  Function lGetTempFilename( const Directory, Prefix : string) : string
13947:  {Function NeedRTLAnsi : boolean
13948:  Procedure SetNeedRTLAnsi( NewValue : boolean)
13949:  Function UTF8ToSys( const s : string) : string
13950:  Function SysToUTF8( const s : string) : string
13951:  Function ConsoleToUTF8( const s : string) : string
13952:  Function UTF8ToConsole( const s : string) : string}
13953:  Function FileExistsUTF8( const Filename : string) : boolean
13954:  Function FileAgeUTF8( const FileName : string) : Longint
13955:  Function DirectoryExistsUTF8( const Directory : string) : Boolean
13956:  Function ExpandFileNameUTF8( const FileName : string) : string
13957:  Function ExpandUNCFileNameUTF8( const FileName : string) : string
13958:  Function ExtractShortPathNameUTF8( const FileName : String) : String
13959:  Function FindFirstUTF8(const Path: string; Attr : Longint; out Rslt : TSearchRec) : Longint
13960:  Function FindNextUTF8( var Rslt : TSearchRec) : Longint
13961:  Procedure FindCloseUTF8( var F : TSearchrec)
13962:  Function FileSetDateUTF8( const FileName : String; Age : Longint) : Longint
```

```
13963:  Function FileGetAttrUTF8( const FileName : String) : Longint
13964:  Function FileSetAttrUTF8( const Filename : String; Attr : longint) : Longint
13965:  Function DeleteFileUTF8( const FileName : String) : Boolean
13966:  Function RenameFileUTF8( const OldName, NewName : String) : Boolean
13967:  Function FileSearchUTF8( const Name, DirList : String; ImplicitCurrentDir : Boolean) : String
13968:  Function FileIsReadOnlyUTF8( const FileName : String) : Boolean
13969:  Function GetCurrentDirUTF8 : String
13970:  Function SetCurrentDirUTF8( const NewDir : String) : Boolean
13971:  Function CreateDirUTF8( const NewDir : String) : Boolean
13972:  Function RemoveDirUTF8( const Dir : String) : Boolean
13973:  Function ForceDirectoriesUTF8( const Dir : string) : Boolean
13974:  Function FileOpenUTF8( const FileName : string; Mode : Integer) : THandle
13975:  Function FileCreateUTF8( const FileName : string) : THandle;
13976:  Function FileCreateUTF81( const FileName : string; Rights : Cardinal) : THandle;
13977:  Function ParamStrUTF8( Param : Integer) : string
13978:  Function GetEnvironmentStringUTF8( Index : Integer) : string
13979:  Function GetEnvironmentVariableUTF8( const EnvVar : string) : String
13980:  Function GetAppConfigDirUTF8( Global : Boolean; Create : boolean) : string
13981:  Function GetAppConfigFileUTF8(Global:Boolean; SubDir:boolean; CreateDir : boolean) : string
13982:  Function SysErrorMessageUTF8( ErrorCode : Integer) : String
13983: end;
13984:
13985: procedure SIRegister_Keyboard(CL: TPSPascalCompiler);
13986: begin
13987:   //VK_F23 = 134;
13988:   //{$EXTERNALSYM VK_F24}
13989:   //VK_F24 = 135;
13990:  TVirtualKeyCode', 'Integer
13991:  'VK_MOUSEWHEELUP','integer'(134);
13992:  'VK_MOUSEWHEELDOWN','integer'(135);
13993:  Function glIsKeyDown( c : Char) : Boolean;
13994:  Function glIsKeyDown1( vk : TVirtualKeyCode) : Boolean;
13995:  Function glKeyPressed( minVkCode : TVirtualKeyCode) : TVirtualKeyCode
13996:  Function glVirtualKeyCodeToKeyName( vk : TVirtualKeyCode) : String
13997:  Function glKeyNameToVirtualKeyCode( const keyName : String) : TVirtualKeyCode
13998:  Function glCharToVirtualKeyCode( c : Char) : TVirtualKeyCode
13999:  Procedure glKeyboardNotifyWheelMoved( wheelDelta : Integer)
14000: end;
14001:
14002: procedure SIRegister_GLCrossPlatform(CL: TPSPascalCompiler);
14003: begin
14004:   TGLPoint', 'TPoint
14005:   //PGLPoint', '^TGLPoint // will not work
14006:   TGLRect', 'TRect
14007:   //PGLRect', '^TGLRect // will not work
14008:   TDelphiColor', 'TColor
14009:   TGLPicture', 'TPicture
14010:   TGLGraphic', 'TGraphic
14011:   TGLBitmap', 'TBitmap
14012:   //TGraphicClass', 'class of TGraphic
14013:   TGLTextLayout', '( tlTop, tlCenter, tlBottom )
14014:   TGLMouseButton', '( mbLeft, mbRight, mbMiddle )
14015:   TGLMouseEvent', 'Procedure ( Sender : TObject; Button : TGLMouse'
14016:    +'Button; Shift : TShiftState; X, Y : Integer)
14017:   TGLMouseMoveEvent', 'TMouseMoveEvent
14018:   TGLKeyEvent', 'TKeyEvent
14019:   TGLKeyPressEvent', 'TKeyPressEvent
14020:   EGLOSError', 'EWin32Error
14021:   EGLOSError', 'EWin32Error
14022:   EGLOSError', 'EOSError
14023:  'glsAllFilter','string'All // sAllFilter
14024:  Function GLPoint( const x, y : Integer) : TGLPoint
14025:  Function GLRGB( const r, g, b : Byte) : TColor
14026:  Function GLColorToRGB( color : TColor) : TColor
14027:  Function GLGetRValue( rgb : DWORD) : Byte
14028:  Function GLGetGValue( rgb : DWORD) : Byte
14029:  Function GLGetBValue( rgb : DWORD) : Byte
14030:  Procedure GLInitWinColors
14031:  Function GLRect( const aLeft, aTop, aRight, aBottom : Integer) : TGLRect
14032:  Procedure GLInflateGLRect( var aRect : TGLRect; dx, dy : Integer)
14033:  Procedure GLIntersectGLRect( var aRect : TGLRect; const rect2 : TGLRect)
14034:  Procedure GLInformationDlg( const msg : String)
14035:  Function GLQuestionDlg( const msg : String) : Boolean
14036:  Function GLInputDlg( const aCaption, aPrompt, aDefault : String) : String
14037:  Function GLSavePictureDialog( var aFileName : String; const aTitle : String) : Boolean
14038:  Function GLOpenPictureDialog( var aFileName : String; const aTitle : String) : Boolean
14039:  Function GLApplicationTerminated : Boolean
14040:  Procedure GLRaiseLastOSError
14041:  Procedure GLFreeAndNil( var anObject: TObject)
14042:  Function GLGetDeviceLogicalPixelsX( device : Cardinal) : Integer
14043:  Function GLGetCurrentColorDepth : Integer
14044:  Function GLPixelFormatToColorBits( aPixelFormat : TPixelFormat) : Integer
14045:  Function GLBitmapScanLine( aBitmap : TGLBitmap; aRow : Integer) : Pointer
14046:  Procedure GLSleep( length : Cardinal)
14047:  Procedure GLQueryPerformanceCounter( var val : Int64)
14048:  Function GLQueryPerformanceFrequency( var val : Int64) : Boolean
14049:  Function GLStartPrecisionTimer : Int64
14050:  Function GLPrecisionTimerLap( const precisionTimer : Int64) : Double
14051:  Function GLStopPrecisionTimer( const precisionTimer : Int64) : Double
```

```
14052:  Function GLRDTSC : Int64
14053:  Procedure GLLoadBitmapFromInstance( ABitmap : TBitmap; AName : string)
14054:  Function GLOKMessageBox( const Text, Caption : string) : Integer
14055:  Procedure GLShowHTMLUrl( Url : String)
14056:  Procedure GLShowCursor( AShow : boolean)
14057:  Procedure GLSetCursorPos( AScreenX, AScreenY : integer)
14058:  Procedure GLGetCursorPos( var point : TGLPoint)
14059:  Function GLGetScreenWidth : integer
14060:  Function GLGetScreenHeight : integer
14061:  Function GLGetTickCount : int64
14062:  function RemoveSpaces(const str : String) : String;
14063:   TNormalMapSpace','( nmsObject, nmsTangent )
14064:  Procedure CalcObjectSpaceLightVectors(Light:TAffineVector;Vertices TAffineVectorList;Colors:TVectorList)
14065:  Procedure SetupTangentSpace( Vertices, Normals, TexCoords, Tangents, BiNormals : TAffineVectorList)
14066:  Procedure CalcTangentSpaceLightVectors( Light : TAffineVector; Vertices, Normals, Tangents, BiNormals :
       TAffineVectorList; Colors : TVectorList)
14067:  Function CreateObjectSpaceNormalMap( Width,Height:Integer;HiNormals,
       HiTexCoords:TAffineVectorList):TGLBitmap
14068:  Function CreateTangentSpaceNormalMap( Width, Height : Integer; HiNormals, HiTexCoords, LoNormals,
       LoTexCoords, Tangents, BiNormals : TAffineVectorList) : TGLBitmap
14069: end;
14070:
14071: procedure SIRegister_GLStarRecord(CL: TPSPascalCompiler);
14072: begin
14073:   TGLStarRecord', 'record RA: Word; DEC: SmallInt; BVColorIndex: Byte; VMagnitude: Byte; end
14074:  // PGLStarRecord', '^TGLStarRecord // will not work
14075:  Function StarRecordPositionZUp( const starRecord : TGLStarRecord) : TAffineVector
14076:  Function StarRecordPositionYUp( const starRecord : TGLStarRecord) : TAffineVector
14077:  Function StarRecordColor( const starRecord : TGLStarRecord; bias : Single) : TVector
14078: end;
14079:
14080:
14081: procedure SIRegister_GeometryBB(CL: TPSPascalCompiler);
14082: begin
14083:   TAABB', 'record min : TAffineVector; max : TAffineVector; end
14084:   //PAABB', '^TAABB // will not work
14085:  TBSphere', 'record Center : TAffineVector; Radius : single; end
14086:  TClipRect', 'record Left : Single; Top:Single; Right:Single; Bottom : Single; end
14087:  TSpaceContains', '(scNoOverlap, scContainsFully, scContainsPartially )
14088:  Function AddBB( var c1 : THmgBoundingBox; const c2 : THmgBoundingBox) : THmgBoundingBox
14089:  Procedure AddAABB( var aabb : TAABB; const aabb1 : TAABB)
14090:  Procedure SetBB( var c : THmgBoundingBox; const v : TVector)
14091:  Procedure SetAABB( var bb : TAABB; const v : TVector)
14092:  Procedure BBTransform( var c : THmgBoundingBox; const m : TMatrix)
14093:  Procedure AABBTransform( var bb : TAABB; const m : TMatrix)
14094:  Procedure AABBScale( var bb : TAABB; const v : TAffineVector)
14095:  Function BBMinX( const c : THmgBoundingBox) : Single
14096:  Function BBMaxX( const c : THmgBoundingBox) : Single
14097:  Function BBMinY( const c : THmgBoundingBox) : Single
14098:  Function BBMaxY( const c : THmgBoundingBox) : Single
14099:  Function BBMinZ( const c : THmgBoundingBox) : Single
14100:  Function BBMaxZ( const c : THmgBoundingBox) : Single
14101:  Procedure AABBInclude( var bb : TAABB; const p : TAffineVector)
14102:  Procedure AABBFromSweep( var SweepAABB : TAABB; const Start, Dest : TVector; const Radius : Single)
14103:  Function AABBIntersection( const aabb1, aabb2 : TAABB) : TAABB
14104:  Function BBToAABB( const aBB : THmgBoundingBox) : TAABB
14105:  Function AABBToBB( const anAABB : TAABB) : THmgBoundingBox;
14106:  Function AABBToBB1( const anAABB : TAABB; const m : TMatrix) : THmgBoundingBox;
14107:  Procedure OffsetAABB( var aabb : TAABB; const delta : TAffineVector);
14108:  Procedure OffsetAABB1( var aabb : TAABB; const delta : TVector);
14109:  Function IntersectAABBs( const aabb1, aabb2 : TAABB; const m1To2, m2To1 : TMatrix) : Boolean;
14110:  Function IntersectAABBsAbsoluteXY( const aabb1, aabb2 : TAABB) : Boolean
14111:  Function IntersectAABBsAbsoluteXZ( const aabb1, aabb2 : TAABB) : Boolean
14112:  Function IntersectAABBsAbsolute( const aabb1, aabb2 : TAABB) : Boolean
14113:  Function AABBFitsInAABBAbsolute( const aabb1, aabb2 : TAABB) : Boolean
14114:  Function PointInAABB( const p : TAffineVector; const aabb : TAABB) : Boolean;
14115:  Function PointInAABB1( const p : TVector; const aabb : TAABB) : Boolean;
14116:  Function PlaneIntersectAABB( Normal : TAffineVector; d : single; aabb : TAABB) : boolean
14117:  Function TriangleIntersectAABB( const aabb : TAABB; v1, v2, v3 : TAffineVector) : boolean
14118:  Procedure ExtractAABBCorners( const AABB : TAABB; var AABBCorners : TAABBCorners)
14119:  Procedure AABBToBSphere( const AABB : TAABB; var BSphere : TBSphere)
14120:  Procedure BSphereToAABB( const BSphere : TBSphere; var AABB : TAABB);
14121:  Function BSphereToAABB1( const center : TAffineVector; radius : Single) : TAABB;
14122:  Function BSphereToAABB2( const center : TVector; radius : Single) : TAABB;
14123:  Function AABBContainsAABB( const mainAABB, testAABB : TAABB) : TSpaceContains
14124:  Function BSphereContainsAABB( const mainBSphere : TBSphere; const testAABB : TAABB) : TSpaceContains
14125:  Function BSphereContainsBSphere( const mainBSphere, testBSphere : TBSphere) : TSpaceContains
14126:  Function AABBContainsBSphere( const mainAABB : TAABB; const testBSphere : TBSphere) : TSpaceContains
14127:  Function PlaneContainsBSphere(const Location,Normal:TAffineVector;const
       testBSphere:TBSphere):TSpaceContains
14128:  Function FrustumContainsBSphere( const Frustum : TFrustum; const testBSphere : TBSphere) : TSpaceContains
14129:  Function FrustumContainsAABB( const Frustum : TFrustum; const testAABB : TAABB) : TSpaceContains
14130:  Function ClipToAABB( const v : TAffineVector; const AABB : TAABB) : TAffineVector
14131:  Function BSphereIntersectsBSphere( const mainBSphere, testBSphere : TBSphere) : boolean
14132:  Procedure IncludeInClipRect( var clipRect : TClipRect; x, y : Single)
14133:  Function AABBToClipRect(const aabb:TAABB;modelViewProjection:TMatrix;viewportSizeX,
       viewportSizeY:Int):TClipRect
14134: end;
14135:
```

```
14136: procedure SIRegister_GeometryCoordinates(CL: TPSPascalCompiler);
14137: begin
14138:  Procedure Cylindrical_Cartesian( const r, theta, z1 : single; var x, y, z : single);
14139:  Procedure Cylindrical_Cartesian1( const r, theta, z1 : double; var x, y, z : double);
14140:  Procedure Cylindrical_Cartesian2( const r,theta,z1 : single; var x, y, z : single; var ierr : integer);
14141:  Procedure Cylindrical_Cartesian3( const r,theta,z1 : double; var x, y, z : double; var ierr : integer);
14142:  Procedure Cartesian_Cylindrical( const x, y, z1 : single; var r, theta, z : single);
14143:  Procedure Cartesian_Cylindrical1( const x, y, z1 : double; var r, theta, z : double);
14144:  Procedure Spherical_Cartesian( const r, theta, phi : single; var x, y, z : single);
14145:  Procedure Spherical_Cartesian1( const r, theta, phi : double; var x, y, z : double);
14146:  Procedure Spherical_Cartesian2( const r,theta, phi : single; var x, y, z : single; var ierr : integer);
14147:  Procedure Spherical_Cartesian3( const r,theta, phi : double; var x, y, z : double; var ierr : integer);
14148:  Procedure Cartesian_Spherical( const x, y, z : single; var r, theta, phi : single);
14149:  Procedure Cartesian_Spherical1( const v : TAffineVector; var r, theta, phi : Single);
14150:  Procedure Cartesian_Spherical2( const x, y, z : double; var r, theta, phi : double);
14151:  Procedure ProlateSpheroidal_Cartesian( const xi, eta, phi, a : single; var x, y, z : single);
14152:  Procedure ProlateSpheroidal_Cartesian1( const xi, eta, phi, a : double; var x, y, z : double);
14153:  Procedure ProlateSpheroidal_Cartesian2(const xi,eta,phi,a:single;var x,y,z:single;var ierr: integer);
14154:  Procedure ProlateSpheroidal_Cartesian3(const xi,eta,phi,a:double;var x,y,z:double;var ierr: integer);
14155:  Procedure OblateSpheroidal_Cartesian( const xi, eta, phi, a : single; var x, y, z : single);
14156:  Procedure OblateSpheroidal_Cartesian1( const xi, eta, phi, a : double; var x, y, z : double);
14157:  Procedure OblateSpheroidal_Cartesian2(const xi,eta,phi,a:single; var x,y,z: single;var ierr:integer);
14158:  Procedure OblateSpheroidal_Cartesian3( const xi,eta,phi,a:double; var x,y,z:double;var ierr:integer);
14159:  Procedure BipolarCylindrical_Cartesian( const u, v, z1, a : single; var x, y, z : single);
14160:  Procedure BipolarCylindrical_Cartesian1(const u, v, z1, a : double; var x, y, z : double);
14161:  Procedure BipolarCylindrical_Cartesian2(const u,v,z1,a: single;var x,y,z:single; var ierr : integer);
14162:  Procedure BipolarCylindrical_Cartesian3(const u,v,z1,a: double;var x,y,z:double; var ierr : integer);
14163: end;
14164:
14165: procedure SIRegister_VectorGeometry(CL: TPSPascalCompiler);
14166: begin
14167:  'EPSILON','Single').setExtended( 1e-40);
14168:  'EPSILON2','Single').setExtended( 1e-30);  }
14169:  TRenderContextClippingInfo', 'record origin : TVector; clippingD'
14170:    +'irection : TVector; viewPortRadius : Single; farClippingDistance:Single;frustum:TFrustum; end
14171:  THmgPlane', 'TVector
14172:   TDoubleHmgPlane', 'THomogeneousDblVector
14173:  {TTransType', '( ttScaleX, ttScaleY, ttScaleZ, ttShearXY, ttShear'
14174:    +'XZ, ttShearYZ, ttRotateX, ttRotateY, ttRotateZ, ttTranslateX, ttTranslateY'
14175:    +', ttTranslateZ, ttPerspectiveX, ttPerspectiveY, ttPerspectiveZ, ttPerspectiveW )}
14176:   TSingleArray', 'array of Single
14177:   TTransformations','array [0..15] of Single)
14178:   TPackedRotationMatrix','array [0..2] of Smallint)
14179:   TVertex', 'TAffineVector
14180:   //TVectorGL', 'THomogeneousFltVector
14181:   //TMatrixGL', 'THomogeneousFltMatrix
14182:   //  TPackedRotationMatrix = array [0..2] of SmallInt;
14183:  Function glTexPointMake( const s, t : Single) : TTexPoint
14184:  Function glAffineVectorMake( const x, y, z : Single) : TAffineVector;
14185:  Function glAffineVectorMake1( const v : TVectorGL) : TAffineVector;
14186:  Procedure glSetAffineVector( var v : TAffineVector; const x, y, z : Single);
14187:  Procedure glSetVector( var v : TAffineVector; const x, y, z : Single);
14188:  Procedure glSetVector1( var v : TAffineVector; const vSrc : TVectorGL);
14189:  Procedure glSetVector2( var v : TAffineVector; const vSrc : TAffineVector);
14190:  Procedure glSetVector3( var v : TAffineDblVector; const vSrc : TAffineVector);
14191:  Procedure glSetVector4( var v : TAffineDblVector; const vSrc : TVectorGL);
14192:  Function glVectorMake( const v : TAffineVector; w : Single) : TVectorGL;
14193:  Function glVectorMake1( const x, y, z : Single; w : Single) : TVectorGL;
14194:  Function glPointMake( const x, y, z : Single) : TVectorGL;
14195:  Function glPointMake1( const v : TAffineVector) : TVectorGL;
14196:  Function glPointMake2( const v : TVectorGL) : TVectorGL;
14197:  Procedure glSetVector5( var v : TVectorGL; const x, y, z : Single; w : Single);
14198:  Procedure glSetVector6( var v : TVectorGL; const av : TAffineVector; w : Single);
14199:  Procedure glglSetVector7( var v : TVectorGL; const vSrc : TVectorGL);
14200:  Procedure glMakePoint( var v : TVectorGL; const x, y, z : Single);
14201:  Procedure glMakePoint1( var v : TVectorGL; const av : TAffineVector);
14202:  Procedure glMakePoint2( var v : TVectorGL; const av : TVectorGL);
14203:  Procedure glMakeVector( var v : TAffineVector; const x, y, z : Single);
14204:  Procedure glMakeVector1( var v : TVectorGL; const x, y, z : Single);
14205:  Procedure glMakeVector2( var v : TVectorGL; const av : TAffineVector);
14206:  Procedure glMakeVector3( var v : TVectorGL; const av : TVectorGL);
14207:  Procedure glRstVector( var v : TAffineVector);
14208:  Procedure glRstVector1( var v : TVectorGL);
14209:  Function glVectorAdd( const v1, v2 : TAffineVector) : TAffineVector;
14210:  Procedure glVectorAdd1( const v1, v2 : TAffineVector; var vr : TAffineVector);
14211:  //Procedure VectorAdd2( const v1, v2 : TAffineVector; vr : PAffineVector);
14212:  Function glVectorAdd3( const v1, v2 : TVectorGL) : TVectorGL;
14213:  Procedure glVectorAdd4( const v1, v2 : TVectorGL; var vr : TVectorGL);
14214:  Function glVectorAdd5( const v : TAffineVector; const f : Single) : TAffineVector;
14215:  Function glVectorAdd6( const v : TVectorGL; const f : Single) : TVectorGL;
14216:  Procedure glAddVector7( var v1 : TAffineVector; const v2 : TAffineVector);
14217:  Procedure glAddVector8( var v1 : TAffineVector; const v2 : TVectorGL);
14218:  Procedure glAddVector9( var v1 : TVectorGL; const v2 : TVectorGL);
14219:  Procedure glAddVector10( var v : TAffineVector; const f : Single);
14220:  Procedure glAddVector11( var v : TVectorGL; const f : Single);
14221:  //Procedure TexPointArrayAdd(const src:PTexPointArray;const delta:TTexPoint;const
      nb:Int;dest:PTexPointArray);
14222:  //Procedure TexPointArrayScaleAndAdd(const src:PTexPointArray;const delta:TTexPoint;const
      nb:Integer;const scale: TTexPoint; dest : PTexPointArray);
```

```
14223:  //Procedure VectorArrayAdd(const src:PAffineVectorArray;const delta:TAffineVector;const nb:Integer;dest:
        PAffineVectorArray);
14224:  Function glVectorSubtract( const V1, V2 : TAffineVector) : TAffineVector;
14225:  Procedure glVectorSubtract1( const v1, v2 : TAffineVector; var result : TAffineVector);
14226:  Procedure glVectorSubtract2( const v1, v2 : TAffineVector; var result : TVectorGL);
14227:  Procedure glVectorSubtract3( const v1 : TVectorGL; v2 : TAffineVector; var result : TVectorGL);
14228:  Function glVectorSubtract4( const V1, V2 : TVectorGL) : TVectorGL;
14229:  Procedure glVectorSubtract5( const v1, v2 : TVectorGL; var result : TVectorGL);
14230:  Procedure glVectorSubtract6( const v1, v2 : TVectorGL; var result : TAffineVector);
14231:  Function glVectorSubtract7( const v1 : TAffineVector; delta : Single) : TAffineVector;
14232:  Function glVectorSubtract8( const v1 : TVectorGL; delta : Single) : TVectorGL;
14233:  Procedure glSubtractVector9( var V1 : TAffineVector; const V2 : TAffineVector);
14234:  Procedure glSubtractVector10( var V1 : TVectorGL; const V2 : TVectorGL);
14235:  Procedure glCombineVector( var vr : TAffineVector; const v : TAffineVector; var f : Single);
14236:  //Procedure CombineVector1( var vr : TAffineVector; const v : TAffineVector; pf : PFloat);
14237:  Function glTexPointCombine( const t1, t2 : TTexPoint; f1, f2 : Single) : TTexPoint
14238:  Function glVectorCombine2( const V1, V2 : TAffineVector; const F1, F2 : Single) : TAffineVector;
14239:  Function glVectorCombine33( const V1, V2, V3 : TAffineVector; const F1, F2, F3 : Single) : TAffineVector;
14240:  Procedure glVectorCombine34(const V1,V2,V3:TAffineVector; const F1,F2,F3: Single; var vr : TAffineVector);
14241:  Procedure glCombineVector5( var vr : TVectorGL; const v : TVectorGL; var f : Single);
14242:  Procedure glCombineVector6( var vr : TVectorGL; const v : TAffineVector; var f : Single);
14243:  Function glVectorCombine7( const V1, V2 : TVectorGL; const F1, F2 : Single) : TVectorGL;
14244:  Function glVectorCombine8( const V1 : TVectorGL;const V2: TAffineVector; const F1,F2:Single): TVectorGL;
14245:  Procedure glVectorCombine9(const V1:TVectorGL;const V2:TAffineVector;const F1,F2:Single;var vr:TVectorGL);
14246:  Procedure glVectorCombine10( const V1, V2 : TVectorGL; const F1, F2 : Single; var vr : TVectorGL);
14247:  Procedure glVectorCombine11( const V1, V2 : TVectorGL; const F2 : Single; var vr : TVectorGL);
14248:  Function glVectorCombine3( const V1, V2, V3 : TVectorGL; const F1, F2, F3 : Single) : TVectorGL;
14249:  Procedure glVectorCombine31( const V1, V2, V3 : TVectorGL; const F1, F2, F3:Single; var vr : TVectorGL);
14250:  Function glVectorDotProduct( const V1, V2 : TAffineVector) : Single;
14251:  Function glVectorDotProduct1( const V1, V2 : TVectorGL) : Single;
14252:  Function glVectorDotProduct2( const V1 : TVectorGL; const V2 : TAffineVector) : Single;
14253:  Function glPointProject( const p, origin, direction : TAffineVector) : Single;
14254:  Function glPointProject1( const p, origin, direction : TVectorGL) : Single;
14255:  Function glVectorCrossProduct( const V1, V2 : TAffineVector) : TAffineVector;
14256:  Function glVectorCrossProduct1( const V1, V2 : TVectorGL) : TVectorGL;
14257:  Procedure glVectorCrossProduct2( const v1, v2 : TVectorGL; var vr : TVectorGL);
14258:  Procedure glVectorCrossProduct3( const v1, v2 : TAffineVector; var vr : TVectorGL);
14259:  Procedure glVectorCrossProduct4( const v1, v2 : TVectorGL; var vr : TAffineVector);
14260:  Procedure glVectorCrossProduct5( const v1, v2 : TAffineVector; var vr : TAffineVector);
14261:  Function glLerp( const start, stop, t : Single) : Single
14262:  Function glAngleLerp( start, stop, t : Single) : Single
14263:  Function glDistanceBetweenAngles( angle1, angle2 : Single) : Single
14264:  Function glTexPointLerp( const t1, t2 : TTexPoint; t : Single) : TTexPoint;
14265:  Function glVectorLerp( const v1, v2 : TAffineVector; t : Single) : TAffineVector;
14266:  Procedure glVectorLerp1( const v1, v2 : TAffineVector; t : Single; var vr : TAffineVector);
14267:  Function glVectorLerp2( const v1, v2 : TVectorGL; t : Single) : TVectorGL;
14268:  Procedure glVectorLerp3( const v1, v2 : TVectorGL; t : Single; var vr : TVectorGL);
14269:  Function glVectorAngleLerp( const v1, v2 : TAffineVector; t : Single) : TAffineVector;
14270:  Function glVectorAngleCombine( const v1, v2 : TAffineVector; f : Single) : TAffineVector;
14271: // Procedure VectorArrayLerp( const src1, src2:PVectorArray; t:Single; n:Integer; dest:PVectorArray);
14272: // Procedure VectorArrayLerp1( const src1, src2 : PAffineVectorArray; t : Single; n : Integer; dest :
        PAffineVectorArray);
14273:  Function glVectorLength( const x, y : Single) : Single;
14274:  Function glVectorLength1( const x, y, z : Single) : Single;
14275:  Function glVectorLength2( const v : TAffineVector) : Single;
14276:  Function glVectorLength3( const v : TVectorGL) : Single;
14277:  Function glVectorLength4( const v : array of Single) : Single;
14278:  Function glVectorNorm( const x, y : Single) : Single;
14279:  Function glVectorNorm1( const v : TAffineVector) : Single;
14280:  Function glVectorNorm2( const v : TVectorGL) : Single;
14281:  Function glVectorNorm3( var V : array of Single) : Single;
14282:  Procedure glNormalizeVector( var v : TAffineVector);
14283:  Procedure glNormalizeVector1( var v : TVectorGL);
14284:  Function glVectorNormalize( const v : TAffineVector) : TAffineVector;
14285:  Function glVectorNormalize1( const v : TVectorGL) : TVectorGL;
14286: // Procedure NormalizeVectorArray( list : PAffineVectorArray; n : Integer);
14287:  Function glVectorAngleCosine( const V1, V2 : TAffineVector) : Single
14288:  Function glVectorNegate( const v : TAffineVector) : TAffineVector;
14289:  Function glVectorNegate1( const v : TVectorGL) : TVectorGL;
14290:  Procedure glNegateVector( var V : TAffineVector);
14291:  Procedure glNegateVector2( var V : TVectorGL);
14292:  Procedure glNegateVector3( var V : array of Single);
14293:  Procedure glScaleVector( var v : TAffineVector; factor : Single);
14294:  Procedure glScaleVector1( var v : TAffineVector; const factor : TAffineVector);
14295:  Procedure glScaleVector2( var v : TVectorGL; factor : Single);
14296:  Procedure glScaleVector3( var v : TVectorGL; const factor : TVectorGL);
14297:  Function glVectorScale( const v : TAffineVector; factor : Single) : TAffineVector;
14298:  Procedure glVectorScale1( const v : TAffineVector; factor : Single; var vr : TAffineVector);
14299:  Function glVectorScale2( const v : TVectorGL; factor : Single) : TVectorGL;
14300:  Procedure glVectorScale3( const v : TVectorGL; factor : Single; var vr : TVectorGL);
14301:  Procedure glVectorScale4( const v : TVectorGL; factor : Single; var vr : TAffineVector);
14302:  Procedure glDivideVector( var v : TVectorGL; const divider : TVectorGL);
14303:  Function glVectorEquals( const V1, V2 : TVectorGL) : Boolean;
14304:  Function glVectorEquals1( const V1, V2 : TAffineVector) : Boolean;
14305:  Function glAffineVectorEquals( const V1, V2 : TVectorGL) : Boolean;
14306:  Function glVectorIsNull( const v : TVectorGL) : Boolean;
14307:  Function glVectorIsNull1( const v : TAffineVector) : Boolean;
14308:  Function glVectorSpacing( const v1, v2 : TTexPoint) : Single;
14309:  Function glVectorSpacing1( const v1, v2 : TAffineVector) : Single;
```

```
14310:  Function glVectorSpacing2( const v1, v2 : TVectorGL) : Single;
14311:  Function glVectorDistance( const v1, v2 : TAffineVector) : Single;
14312:  Function glVectorDistance1( const v1, v2 : TVectorGL) : Single;
14313:  Function glVectorDistance2( const v1, v2 : TAffineVector) : Single;
14314:  Function glVectorDistance21( const v1, v2 : TVectorGL) : Single;
14315:  Function glVectorPerpendicular( const V, N : TAffineVector) : TAffineVector
14316:  Function glVectorReflect( const V, N : TAffineVector) : TAffineVector
14317:  Procedure glRotateVector( var vector : TVectorGL; const axis : TAffineVector; angle : Single);
14318:  Procedure glRotateVector1( var vector : TVectorGL; const axis : TVectorGL; angle : Single);
14319:  Procedure glRotateVectorAroundY( var v : TAffineVector; alpha : Single)
14320:  Function glVectorRotateAroundX( const v : TAffineVector; alpha : Single) : TAffineVector;
14321:  Function glVectorRotateAroundY( const v : TAffineVector; alpha : Single) : TAffineVector;
14322:  Procedure glVectorRotateAroundY1(const v : TAffineVector; alpha : Single; var vr : TAffineVector);
14323:  Function glVectorRotateAroundZ( const v : TAffineVector; alpha : Single) : TAffineVector;
14324:  Procedure glAbsVector( var v : TVectorGL);
14325:  Procedure glAbsVector1( var v : TAffineVector);
14326:  Function glVectorAbs( const v : TVectorGL) : TVectorGL;
14327:  Function glVectorAbs1( const v : TAffineVector) : TAffineVector;
14328:  Procedure glSetMatrix( var dest : THomogeneousDblMatrix; const src : TMatrixGL);
14329:  Procedure glSetMatrix1( var dest : TAffineMatrix; const src : TMatrixGL);
14330:  Procedure glSetMatrix2( var dest : TMatrixGL; const src : TAffineMatrix);
14331:  Procedure glSetMatrixRow( var dest : TMatrixGL; rowNb : Integer; const aRow : TVectorGL);
14332:  Function glCreateScaleMatrix( const v : TAffineVector) : TMatrixGL;
14333:  Function glCreateScaleMatrix1( const v : TVectorGL) : TMatrixGL;
14334:  Function glCreateTranslationMatrix( const V : TAffineVector) : TMatrixGL;
14335:  Function glCreateTranslationMatrix1( const V : TVectorGL) : TMatrixGL;
14336:  Function glCreateScaleAndTranslationMatrix( const scale, offset : TVectorGL) : TMatrixGL;
14337:  Function glCreateRotationMatrixX( const sine, cosine : Single) : TMatrixGL;
14338:  Function glCreateRotationMatrixX1( const angle : Single) : TMatrixGL;
14339:  Function glCreateRotationMatrixY( const sine, cosine : Single) : TMatrixGL;
14340:  Function glCreateRotationMatrixY1( const angle : Single) : TMatrixGL;
14341:  Function glCreateRotationMatrixZ( const sine, cosine : Single) : TMatrixGL;
14342:  Function glCreateRotationMatrixZ1( const angle : Single) : TMatrixGL;
14343:  Function glCreateRotationMatrix( const anAxis : TAffineVector; angle : Single) : TMatrixGL;
14344:  Function glCreateRotationMatrix1( const anAxis : TVectorGL; angle : Single) : TMatrixGL;
14345:  Function glCreateAffineRotationMatrix( const anAxis : TAffineVector; angle:Single):TAffineMatrix
14346:  Function glMatrixMultiply( const M1, M2 : TAffineMatrix) : TAffineMatrix;
14347:  Function glMatrixMultiply1( const M1, M2 : TMatrixGL) : TMatrixGL;
14348:  Procedure glMatrixMultiply2( const M1, M2 : TMatrixGL; var MResult : TMatrixGL);
14349:  Function glVectorTransform( const V : TVectorGL; const M : TMatrixGL) : TVectorGL;
14350:  Function glVectorTransform1( const V : TVectorGL; const M : TAffineMatrix) : TVectorGL;
14351:  Function glVectorTransform2( const V : TAffineVector; const M : TMatrixGL) : TAffineVector;
14352:  Function glVectorTransform3( const V : TAffineVector; const M : TAffineMatrix) : TAffineVector;
14353:  Function glMatrixDeterminant( const M : TAffineMatrix) : Single;
14354:  Function glMatrixDeterminant1( const M : TMatrixGL) : Single;
14355:  Procedure glAdjointMatrix( var M : TMatrixGL);
14356:  Procedure glAdjointMatrix1( var M : TAffineMatrix);
14357:  Procedure glScaleMatrix( var M : TAffineMatrix; const factor : Single);
14358:  Procedure glScaleMatrix1( var M : TMatrixGL; const factor : Single);
14359:  Procedure glTranslateMatrix( var M : TMatrixGL; const v : TAffineVector);
14360:  Procedure glTranslateMatrix1( var M : TMatrixGL; const v : TVectorGL);
14361:  Procedure glNormalizeMatrix( var M : TMatrixGL)
14362:  Procedure glTransposeMatrix( var M : TAffineMatrix);
14363:  Procedure glTransposeMatrix1( var M : TMatrixGL);
14364:  Procedure glInvertMatrix( var M : TMatrixGL);
14365:  Procedure glInvertMatrix1( var M : TAffineMatrix);
14366:  Function glAnglePreservingMatrixInvert( const mat : TMatrixGL) : TMatrixGL
14367:  Function glMatrixDecompose( const M : TMatrixGL; var Tran : TTransformations) : Boolean
14368:  Function glPlaneMake( const p1, p2, p3 : TAffineVector) : THmgPlane;
14369:  Function glPlaneMake1( const p1, p2, p3 : TVectorGL) : THmgPlane;
14370:  Function glPlaneMake2( const point, normal : TAffineVector) : THmgPlane;
14371:  Function glPlaneMake3( const point, normal : TVectorGL) : THmgPlane;
14372:  Procedure glSetPlane( var dest : TDoubleHmgPlane; const src : THmgPlane)
14373:  Procedure glNormalizePlane( var plane : THmgPlane)
14374:  Function glPlaneEvaluatePoint( const plane : THmgPlane; const point : TAffineVector) : Single;
14375:  Function glPlaneEvaluatePoint1( const plane : THmgPlane; const point : TVectorGL) : Single;
14376:  Function glCalcPlaneNormal( const p1, p2, p3 : TAffineVector) : TAffineVector;
14377:  Procedure glCalcPlaneNormal1( const p1, p2, p3 : TAffineVector; var vr : TAffineVector);
14378:  Procedure glCalcPlaneNormal2( const p1, p2, p3 : TVectorGL; var vr : TAffineVector);
14379:  Function glPointIsInHalfSpace( const point, planePoint, planeNormal : TVectorGL) : Boolean;
14380:  Function glPointIsInHalfSpace1( const point, planePoint, planeNormal : TAffineVector) : Boolean;
14381:  Function glPointPlaneDistance( const point, planePoint, planeNormal : TVectorGL) : Single;
14382:  Function glPointPlaneDistance1( const point, planePoint, planeNormal : TAffineVector) : Single;
14383:  Function glPointSegmentClosestPoint( const point, segmentStart, segmentStop:TAffineVector):TAffineVector
14384:  Function glPointSegmentDistance( const point, segmentStart, segmentStop : TAffineVector) : single
14385:  Function glPointLineClosestPoint( const point, linePoint, lineDirection : TAffineVector) : TAffineVector
14386:  Function glPointLineDistance( const point, linePoint, lineDirection : TAffineVector) : Single
14387:  Procedure SglegmentSegmentClosestPoint( const S0Start, S0Stop, S1Start, S1Stop : TAffineVector; var
      Segment0Closest, Segment1Closest : TAffineVector)
14388:  Function glSegmentSegmentDistance(const S0Start,S0Stop,S1Start,S1Stop:TAffineVector):single
14389:  TEulerOrder', '( eulXYZ, eulXZY, eulYXZ, eulYZX, eulZXY, eulZYX)
14390:  Function glQuaternionMake( const Imag : array of Single; Real : Single) : TQuaternion
14391:  Function glQuaternionConjugate( const Q : TQuaternion) : TQuaternion
14392:  Function glQuaternionMagnitude( const Q : TQuaternion) : Single
14393:  Procedure glNormalizeQuaternion( var Q : TQuaternion)
14394:  Function glQuaternionFromPoints( const V1, V2 : TAffineVector) : TQuaternion
14395:  Procedure glQuaternionToPoints( const Q : TQuaternion; var ArcFrom, ArcTo : TAffineVector)
14396:  Function glQuaternionFromMatrix( const mat : TMatrixGL) : TQuaternion
14397:  Function glQuaternionToMatrix( quat : TQuaternion) : TMatrixGL
```

```
14398:  Function glQuaternionToAffineMatrix( quat : TQuaternion) : TAffineMatrix
14399:  Function glQuaternionFromAngleAxis( const angle : Single; const axis : TAffineVector) : TQuaternion
14400:  Function glQuaternionFromRollPitchYaw( const r, p, y : Single) : TQuaternion
14401:  Function glQuaternionFromEuler( const x, y, z : Single; eulerOrder : TEulerOrder) : TQuaternion
14402:  Function glQuaternionMultiply( const qL, qR : TQuaternion) : TQuaternion
14403:  Function glQuaternionSlerp( const QStart, QEnd : TQuaternion; Spin : Integer; t : Single) : TQuaternion;
14404:  Function glQuaternionSlerp1( const source, dest : TQuaternion; const t : Single) : TQuaternion;
14405:  Function glLnXP1( X : Extended) : Extended
14406:  Function glLog10( X : Extended) : Extended
14407:  Function glLog2( X : Extended) : Extended;
14408:  Function glLog21( X : Single) : Single;
14409:  Function glLogN( Base, X : Extended) : Extended
14410:  Function glIntPower( Base : Extended; Exponent : Integer) : Extended
14411:  Function glPower( const Base, Exponent : Single) : Single;
14412:  Function glPower1( Base : Single; Exponent : Integer) : Single;
14413:  Function glDegToRad( const Degrees : Extended) : Extended;
14414:  Function glDegToRad1( const Degrees : Single) : Single;
14415:  Function glRadToDeg( const Radians : Extended) : Extended;
14416:  Function glRadToDeg1( const Radians : Single) : Single;
14417:  Function glNormalizeAngle( angle : Single) : Single
14418:  Function glNormalizeDegAngle( angle : Single) : Single
14419:  Procedure glSinCos( const Theta : Extended; var Sin, Cos : Extended);
14420:  Procedure glSinCos1( const Theta : Double; var Sin, Cos : Double);
14421:  Procedure glSinCos( const Theta : Single; var Sin, Cos : Single);
14422:  Procedure glSinCos1( const theta, radius : Double; var Sin, Cos : Extended);
14423:  Procedure glSinCos2( const theta, radius : Double; var Sin, Cos : Double);
14424:  Procedure glSinCos3( const theta, radius : Single; var Sin, Cos : Single);
14425:  Procedure glPrepareSinCosCache( var s, c : array of Single; startAngle, stopAngle : Single)
14426:  Function glArcCos( const X : Extended) : Extended;
14427:  Function glArcCos1( const x : Single) : Single;
14428:  Function glArcSin( const X : Extended) : Extended;
14429:  Function glArcSin1( const X : Single) : Single;
14430:  Function glArcTan21( const Y, X : Extended) : Extended;
14431:  Function glArcTan21( const Y, X : Single) : Single;
14432:  Function glFastArcTan2( y, x : Single) : Single
14433:  Function glTan( const X : Extended) : Extended;
14434:  Function glTan1( const X : Single) : Single;
14435:  Function glCoTan( const X : Extended) : Extended;
14436:  Function glCoTan1( const X : Single) : Single;
14437:  Function glSinh( const x : Single) : Single;
14438:  Function glSinh1( const x : Double) : Double;
14439:  Function glCosh( const x : Single) : Single;
14440:  Function glCosh1( const x : Double) : Double;
14441:  Function glRSqrt( v : Single) : Single
14442:  Function glRLength( x, y : Single) : Single
14443:  Function glISqrt( i : Integer) : Integer
14444:  Function glILength( x, y : Integer) : Integer;
14445:  Function glILength1( x, y, z : Integer) : Integer;
14446:  Procedure glRegisterBasedExp
14447:  Procedure glRandomPointOnSphere( var p : TAffineVector)
14448:  Function glRoundInt( v : Single) : Single;
14449:  Function glRoundInt1( v : Extended) : Extended;
14450:  Function glTrunc( v : Single) : Integer;
14451:  Function glTrunc64( v : Extended) : Int64;
14452:  Function glInt( v : Single) : Single;
14453:  Function glInt1( v : Extended) : Extended;
14454:  Function glFrac( v : Single) : Single;
14455:  Function glFrac1( v : Extended) : Extended;
14456:  Function glRound( v : Single) : Integer;
14457:  Function glRound64( v : Single) : Int64;
14458:  Function glRound641( v : Extended) : Int64;
14459:  Function glTrunc( X : Extended) : Int64
14460:  Function glRound( X : Extended) : Int64
14461:  Function glFrac( X : Extended) : Extended
14462:  Function glCeil( v : Single) : Integer;
14463:  Function glCeil64( v : Extended) : Int64;
14464:  Function glFloor( v : Single) : Integer;
14465:  Function glFloor64( v : Extended) : Int64;
14466:  Function glScaleAndRound( i : Integer; var s : Single) : Integer
14467:  Function glSign( x : Single) : Integer
14468:  Function glIsInRange( const x, a, b : Single) : Boolean;
14469:  Function glIsInRange1( const x, a, b : Double) : Boolean;
14470:  Function glIsInCube( const p, d : TAffineVector) : Boolean;
14471:  Function glIsInCube1( const p, d : TVectorGL) : Boolean;
14472:  //Function MinFloat( values : PSingleArray; nbItems : Integer) : Single;
14473:  //Function MinFloat1( values : PDoubleArray; nbItems : Integer) : Double;
14474:  //Function MinFloat2( values : PExtendedArray; nbItems : Integer) : Extended;
14475:  Function glMinFloat3( const v1, v2 : Single) : Single;
14476:  Function glMinFloat4( const v : array of Single) : Single;
14477:  Function glMinFloat5( const v1, v2 : Double) : Double;
14478:  Function glMinFloat6( const v1, v2 : Extended) : Extended;
14479:  Function glMinFloat7( const v1, v2, v3 : Single) : Single;
14480:  Function glMinFloat8( const v1, v2, v3 : Double) : Double;
14481:  Function glMinFloat9( const v1, v2, v3 : Extended) : Extended;
14482:  //Function MaxFloat10( values : PSingleArray; nbItems : Integer) : Single;
14483:  //Function MaxFloat( values : PDoubleArray; nbItems : Integer) : Double;
14484:  //Function MaxFloat1( values : PExtendedArray; nbItems : Integer) : Extended;
14485:  Function glMaxFloat2( const v : array of Single) : Single;
14486:  Function glMaxFloat3( const v1, v2 : Single) : Single;
```

```
14487:  Function glMaxFloat4( const v1, v2 : Double) : Double;
14488:  Function glMaxFloat5( const v1, v2 : Extended) : Extended;
14489:  Function glMaxFloat6( const v1, v2, v3 : Single) : Single;
14490:  Function glMaxFloat7( const v1, v2, v3 : Double) : Double;
14491:  Function glMaxFloat8( const v1, v2, v3 : Extended) : Extended;
14492:  Function glMinInteger9( const v1, v2 : Integer) : Integer;
14493:  Function glMinInteger( const v1, v2 : Cardinal) : Cardinal;
14494:  Function glMaxInteger( const v1, v2 : Integer) : Integer;
14495:  Function glMaxInteger1( const v1, v2 : Cardinal) : Cardinal;
14496:  Function glTriangleArea( const p1, p2, p3 : TAffineVector) : Single;
14497:  //Function PolygonArea( const p : PAffineVectorArray; nSides : Integer) : Single;
14498:  Function glTriangleSignedArea( const p1, p2, p3 : TAffineVector) : Single;
14499:  //Function PolygonSignedArea( const p : PAffineVectorArray; nSides : Integer) : Single;
14500:  //Procedure ScaleFloatArray( values : PSingleArray; nb : Integer; var factor : Single);
14501:  Procedure glScaleFloatArray( var values : TSingleArray; factor : Single);
14502:  //Procedure OffsetFloatArray( values : PSingleArray; nb : Integer; var delta : Single);
14503:  Procedure glOffsetFloatArray1( var values : array of Single; delta : Single);
14504:  //Procedure OffsetFloatArray2( valuesDest, valuesDelta : PSingleArray; nb : Integer);
14505:  Function glMaxXYZComponent( const v : TVectorGL) : Single;
14506:  Function glMaxXYZComponent1( const v : TAffineVector) : single;
14507:  Function glMinXYZComponent( const v : TVectorGL) : Single;
14508:  Function glMinXYZComponent1( const v : TAffineVector) : single;
14509:  Function glMaxAbsXYZComponent( v : TVectorGL) : Single
14510:  Function glMinAbsXYZComponent( v : TVectorGL) : Single
14511:  Procedure glMaxVector( var v : TVectorGL; const v1 : TVectorGL);
14512:  Procedure glMaxVector1( var v : TAffineVector; const v1 : TAffineVector);
14513:  Procedure glMinVector( var v : TVectorGL; const v1 : TVectorGL);
14514:  Procedure glMinVector1( var v : TAffineVector; const v1 : TAffineVector);
14515:  Procedure glSortArrayAscending( var a : array of Extended)
14516:  Function glClampValue( const aValue, aMin, aMax : Single) : Single;
14517:  Function glClampValue1( const aValue, aMin : Single) : Single;
14518:  Function glGeometryOptimizationMode : String
14519:  Procedure glBeginFPUOnlySection
14520:  Procedure glEndFPUOnlySection
14521:  Function glConvertRotation( const Angles : TAffineVector) : TVectorGL
14522:  Function glMakeAffineDblVector( var v : array of Double) : TAffineDblVector
14523:  Function glMakeDblVector( var v : array of Double) : THomogeneousDblVector
14524:  Function glVectorAffineDblToFlt( const v : TAffineDblVector) : TAffineVector
14525:  Function glVectorDblToFlt( const v : THomogeneousDblVector) : THomogeneousVector
14526:  Function glVectorAffineFltToDbl( const v : TAffineVector) : TAffineDblVector
14527:  Function glVectorFltToDbl( const v : TVectorGL) : THomogeneousDblVector
14528:  Function glPointInPolygon( var xp, yp : array of Single; x, y : Single) : Boolean
14529:  Procedure glDivMod( Dividend : Integer; Divisor : Word; var Result, Remainder : Word)
14530:  Function glTurn( const Matrix : TMatrixGL; angle : Single) : TMatrixGL;
14531:  Function glTurn1( const Matrix : TMatrixGL; const MasterUp:TAffineVector;Angle:Single):TMatrixGL;
14532:  Function glPitch( const Matrix : TMatrixGL; Angle : Single) : TMatrixGL;
14533:  Function glPitch1( const Matrix:TMatrixGL;const MasterRight:TAffineVector;Angle:Single):TMatrixGL;
14534:  Function glRoll( const Matrix: TMatrixGL; Angle : Single) : TMatrixGL;
14535:  Function glRoll1(const Matrix: TMatrixGL;const MasterDirection:TAffineVector;Angle: Single): TMatrixGL;
14536:  Function glRayCastMinDistToPoint( const rayStart, rayVector: TVectorGL;const point:TVectorGL):Single
14537:  Function glRayCastIntersectsSphere( const rayStart, rayVector : TVectorGL; const
       sphereCenter:TVectorGL;const sphereRadius : Single) : Boolean;
14538:  Function glRayCastSphereIntersect( const rayStart, rayVector : TVectorGL; const sphereCenter:TVectorGL;
       const sphereRadius : Single; var i1, i2 : TVectorGL) : Integer;
14539:  Function glSphereVisibleRadius( distance, radius : Single) : Single
14540:  Function glExtractFrustumFromModelViewProjection( const modelViewProj : TMatrixGL) : TFrustum
14541:  Function glIsVolumeClipped( const objPos : TVectorGL; const objRadius : Single; const rcci :
       TRenderContextClippingInfo) : Boolean;
14542:  Function glIsVolumeClipped1( const objPos : TAffineVector; const objRadius : Single; const rcci :
       TRenderContextClippingInfo) : Boolean;
14543:  Function glIsVolumeClipped2(const min,max:TAffineVector;const rcci : TRenderContextClippingInfo) : Bool;
14544:  Function glIsVolumeClipped3(const objPos:TAffineVector;const objRadius:Single;const
       Frustum:TFrustum):Bool;
14545:  Function glMakeParallelProjectionMatrix( const plane : THmgPlane; const dir : TVectorGL) : TMatrixGL
14546:  Function glMakeShadowMatrix( const planePoint, planeNormal, lightPos : TVectorGL) : TMatrixGL
14547:  Function glMakeReflectionMatrix( const planePoint, planeNormal : TAffineVector) : TMatrixGL
14548:  Function glPackRotationMatrix( const mat : TMatrixGL) : TPackedRotationMatrix
14549:  Function glUnPackRotationMatrix( const packedMatrix : TPackedRotationMatrix) : TMatrixGL
14550:  'cPI','Single').setExtended( 3.141592654);
14551:  'cPIdiv180','Single').setExtended( 0.017453292);
14552:  'c180divPI','Single').setExtended( 57.29577951);
14553:  'c2PI','Single').setExtended( 6.283185307);
14554:  'cPIdiv2','Single').setExtended( 1.570796326);
14555:  'cPIdiv4','Single').setExtended( 0.785398163);
14556:  'c3PIdiv4','Single').setExtended( 2.35619449);
14557:  'cInv2PI','Single').setExtended( 1 / 6.283185307);
14558:  'cInv360','Single').setExtended( 1 / 360);
14559:  'c180','Single').setExtended( 180);
14560:  'c360','Single').setExtended( 360);
14561:  'cOneHalf','Single').setExtended( 0.5);
14562:  'cLn10','Single').setExtended( 2.302585093);
14563:  {'MinSingle','Extended').setExtended( 1.5e-45);
14564:  'MaxSingle','Extended').setExtended( 3.4e+38);
14565:  'MinDouble','Extended').setExtended( 5.0e-324);
14566:  'MaxDouble','Extended').setExtended( 1.7e+308);
14567:  'MinExtended','Extended').setExtended( 3.4e-4932);
14568:  'MaxExtended','Extended').setExtended( 1.1e+4932);
14569:  'MinComp','Extended').setExtended( - 9.223372036854775807e+18);
14570:  'MaxComp','Extended').setExtended( 9.223372036854775807e+18);}
```

```
14571: end;
14572:
14573: procedure SIRegister_GLVectorFileObjects(CL: TPSPascalCompiler);
14574: begin
14575:   AddClassN(FindClass('TOBJECT'),'TMeshObjectList
14576:   (FindClass('TOBJECT'),'TFaceGroups
14577:   TMeshAutoCentering', '( macCenterX, macCenterY, macCenterZ, macUseBarycenter )
14578:   TMeshAutoCenterings', 'set of TMeshAutoCentering
14579:   TMeshObjectMode', '( momTriangles, momTriangleStrip, momFaceGroups )
14580:   SIRegister_TBaseMeshObject(CL);
14581:   (FindClass('TOBJECT'),'TSkeletonFrameList
14582:   TSkeletonFrameTransform', '( sftRotation, sftQuaternion )
14583:   SIRegister_TSkeletonFrame(CL);
14584:   SIRegister_TSkeletonFrameList(CL);
14585:   (FindClass('TOBJECT'),'TSkeleton
14586:   (FindClass('TOBJECT'),'TSkeletonBone
14587:   SIRegister_TSkeletonBoneList(CL);
14588:   SIRegister_TSkeletonRootBoneList(CL);
14589:   SIRegister_TSkeletonBone(CL);
14590:   (FindClass('TOBJECT'),'TSkeletonColliderList
14591:   SIRegister_TSkeletonCollider(CL);
14592:   SIRegister_TSkeletonColliderList(CL);
14593:   (FindClass('TOBJECT'),'TGLBaseMesh
14594:   TBlendedLerpInfo', 'record frameIndex1 : Integer; frameIndex2 : '
14595:    +'Integer; lerpFactor : Single; weight : Single; externalPositions : TAffine'
14596:    +'VectorList; externalRotations : TAffineVectorList; externalQuaternions : T'
14597:    +'QuaternionList; end
14598:   SIRegister_TSkeleton(CL);
14599:   TMeshObjectRenderingOption', '( moroGroupByMaterial )
14600:   TMeshObjectRenderingOptions', 'set of TMeshObjectRenderingOption
14601:   SIRegister_TMeshObject(CL);
14602:   SIRegister_TMeshObjectList(CL);
14603:   //TMeshObjectListClass', 'class of TMeshObjectList
14604:   (FindClass('TOBJECT'),'TMeshMorphTargetList
14605:   SIRegister_TMeshMorphTarget(CL);
14606:   SIRegister_TMeshMorphTargetList(CL);
14607:   SIRegister_TMorphableMeshObject(CL);
14608:   TVertexBoneWeight', 'record BoneID : Integer; Weight : Single; end
14609:   //PVertexBoneWeightArray', '^TVertexBoneWeightArray // will not wo'rk
14610:   //PVerticesBoneWeights', '^TVerticesBoneWeights // will not work
14611:   TVertexBoneWeightDynArray', 'array of TVertexBoneWeight
14612:   SIRegister_TSkeletonMeshObject(CL);
14613:   SIRegister_TFaceGroup(CL);
14614:   TFaceGroupMeshMode', '( fgmmTriangles, fgmmTriangleStrip, fgmmFl'
14615:    +'atTriangles, fgmmTriangleFan, fgmmQuads )
14616:   SIRegister_TFGVertexIndexList(CL);
14617:   SIRegister_TFGVertexNormalTexIndexList(CL);
14618:   SIRegister_TFGIndexTexCoordList(CL);
14619:   SIRegister_TFaceGroups(CL);
14620:   TMeshNormalsOrientation', '( mnoDefault, mnoInvert )
14621:   SIRegister_TVectorFile(CL);
14622:   //TVectorFileClass', 'class of TVectorFile
14623:   SIRegister_TGLGLSMVectorFile(CL);
14624:   SIRegister_TGLBaseMesh(CL);
14625:   SIRegister_TGLFreeForm(CL);
14626:   TGLActorOption', '( aoSkeletonNormalizeNormals )
14627:   TGLActorOptions', 'set of TGLActorOption
14628:   'cDefaultGLActorOptions','LongInt').Value.ts32:= ord(aoSkeletonNormalizeNormals);
14629:   (FindClass('TOBJECT'),'TGLActor
14630:   TActorAnimationReference', '( aarMorph, aarSkeleton, aarNone )
14631:   SIRegister_TActorAnimation(CL);
14632:   TActorAnimationName', 'String
14633:   SIRegister_TActorAnimations(CL);
14634:   SIRegister_TGLBaseAnimationControler(CL);
14635:   SIRegister_TGLAnimationControler(CL);
14636:   TActorFrameInterpolation', '( afpNone, afpLinear )
14637:   TActorAnimationMode', '( aamNone, aamPlayOnce, aamLoop, aamBounc'
14638:    +'eForward, aamBounceBackward, aamLoopBackward, aamExternal )
14639:   SIRegister_TGLActor(CL);
14640:   SIRegister_TVectorFileFormat(CL);
14641:   SIRegister_TVectorFileFormatsList(CL);
14642:   (FindClass('TOBJECT'),'EInvalidVectorFile
14643:  Function GetVectorFileFormats : TVectorFileFormatsList
14644:  Function VectorFileFormatsFilter : String
14645:  Function VectorFileFormatsSaveFilter : String
14646:  Function VectorFileFormatExtensionByIndex( index : Integer) : String
14647:  Procedure RegisterVectorFileFormat( const aExtension, aDescription : String; aClass : TVectorFileClass)
14648:  Procedure UnregisterVectorFileClass( aClass : TVectorFileClass)
14649: end;
14650:
14651: procedure SIRegister_AxCtrls(CL: TPSPascalCompiler);
14652: begin
14653:  'Class_DColorPropPage','TGUID '{5CFF5D59-5946-11D0-BDEF-00A024D1875C}
14654:  'Class_DFontPropPage','TGUID '{5CFF5D5B-5946-11D0-BDEF-00A024D1875C}
14655:  'Class_DPicturePropPage','TGUID '{5CFF5D5A-5946-11D0-BDEF-00A024D1875C}
14656:  'Class_DStringPropPage','TGUID '{F42D677E-754B-11D0-BDFB-00A024D1875C}
14657:   SIRegister_TOleStream(CL);
14658:   (FindClass('TOBJECT'),'TConnectionPoints
14659:   TConnectionKind', '( ckSingle, ckMulti )
```

```
14660:   SIRegister_TConnectionPoint(CL);
14661:   SIRegister_TConnectionPoints(CL);
14662:   TDefinePropertyPage', 'Procedure ( const GUID : TGUID)
14663:   (FindClass('TOBJECT'),'TActiveXControlFactory
14664:   SIRegister_TActiveXControl(CL);
14665:   //TActiveXControlClass', 'class of TActiveXControl
14666:   SIRegister_TActiveXControlFactory(CL);
14667:   SIRegister_TActiveFormControl(CL);
14668:   SIRegister_TActiveForm(CL);
14669:   //TActiveFormClass', 'class of TActiveForm
14670:   SIRegister_TActiveFormFactory(CL);
14671:   (FindClass('TOBJECT'),'TPropertyPageImpl
14672:   SIRegister_TPropertyPage(CL);
14673:   //TPropertyPageClass', 'class of TPropertyPage
14674:   SIRegister_TPropertyPageImpl(CL);
14675:   SIRegister_TActiveXPropertyPage(CL);
14676:   SIRegister_TActiveXPropertyPageFactory(CL);
14677:   SIRegister_TCustomAdapter(CL);
14678:   SIRegister_TAdapterNotifier(CL);
14679:   SIRegister_IFontAccess(CL);
14680:   SIRegister_TFontAdapter(CL);
14681:   SIRegister_IPictureAccess(CL);
14682:   SIRegister_TPictureAdapter(CL);
14683:   SIRegister_TOleGraphic(CL);
14684:   SIRegister_TStringsAdapter(CL);
14685:   SIRegister_TReflectorWindow(CL);
14686:  Procedure EnumDispatchProperties(Dispatch:IDispatch;PropType:TGUID;VTCode:Int;PropList:TStrings);
14687:  Procedure GetOleFont( Font : TFont; var OleFont : IFontDisp)
14688:  Procedure SetOleFont( Font : TFont; OleFont : IFontDisp)
14689:  Procedure GetOlePicture( Picture : TPicture; var OlePicture : IPictureDisp)
14690:  Procedure SetOlePicture( Picture : TPicture; OlePicture : IPictureDisp)
14691:  Procedure GetOleStrings( Strings : TStrings; var OleStrings : IStrings)
14692:  Procedure SetOleStrings( Strings : TStrings; OleStrings : IStrings)
14693:  Function ParkingWindow : HWND
14694: end;
14695:
14696: procedure SIRegister_synaip(CL: TPSPascalCompiler);
14697: begin
14698:  // TIp6Bytes = array [0..15] of Byte;
14699: {:binary form of IPv6 adress (for string conversion routines)}
14700:  // TIp6Words = array [0..7] of Word;
14701:   AddTypeS('TIp6Bytes', 'array [0..15] of Byte;');
14702:   AddTypeS('TIp6Words', 'array [0..7] of Word;');
14703:   AddTypeS('TIPAdr', 'record Oct1 : Byte; Oct2 : Byte; Oct3 : Byte; Oct4: Byte; end');
14704:  Function synaIsIP( const Value : string) : Boolean');
14705:  Function synaIsIP6( const Value : string) : Boolean');
14706:  Function synaIPToID( Host : string) : Ansistring');
14707:  Function synaStrToIp6( value : string) : TIp6Bytes');
14708:  Function synaIp6ToStr( value : TIp6Bytes) : string');
14709:  Function synaStrToIp( value : string) : integer');
14710:  Function synaIpToStr( value : integer) : string');
14711:  Function synaReverseIP( Value : AnsiString) : AnsiString');
14712:  Function synaReverseIP6( Value : AnsiString) : AnsiString');
14713:  Function synaExpandIP6( Value : AnsiString) : AnsiString');
14714:  Function xStrToIP( const Value : String) : TIPAdr');
14715:  Function xIPToStr( const Adresse : TIPAdr) : String');
14716:  Function IPToCardinal( const Adresse : TIPAdr) : Cardinal');
14717:  Function CardinalToIP( const Value : Cardinal) : TIPAdr');
14718: end;
14719:
14720: procedure SIRegister_synacode(CL: TPSPascalCompiler);
14721: begin
14722:  AddTypeS('TSpecials', 'set of Char');
14723:  Const('SpecialChar','TSpecials').SetSet( '=()[]<>:;,@/?\"_');
14724:  Const('URLFullSpecialChar','TSpecials').SetSet( ';/?:@=&#+');
14725:  Const('TableBase64'ABCDEFGHIJKLMNOPQRSTUVWXYZabcdefghijklmnopqrstuvwxyz0123456789+/=');
14726:  Const('TableBase64mod'ABCDEFGHIJKLMNOPQRSTUVWXYZabcdefghijklmnopqrstuvwxyz0123456789+,=');
14727:  Const('TableUU'(`!"#$%&''()*+,-./0123456789:;<=>?@ABCDEFGHIJKLMNOPQRSTUVWXYZ[\]^_');
14728:  Const('TableXX'(+-0123456789ABCDEFGHIJKLMNOPQRSTUVWXYZabcdefghijklmnopqrstuvwxyz');
14729:  Function DecodeTriplet( const Value : AnsiString; Delimiter : Char) : AnsiString');
14730:  Function DecodeQuotedPrintable( const Value : AnsiString) : AnsiString');
14731:  Function DecodeURL( const Value : AnsiString) : AnsiString');
14732:  Function EncodeTriplet( const Value : AnsiString; Delimiter : Char; Specials : TSpecials) : AnsiString');
14733:  Function EncodeQuotedPrintable( const Value : AnsiString) : AnsiString');
14734:  Function EncodeSafeQuotedPrintable( const Value : AnsiString) : AnsiString');
14735:  Function EncodeURLElement( const Value : AnsiString) : AnsiString');
14736:  Function EncodeURL( const Value : AnsiString) : AnsiString');
14737:  Function Decode4to3( const Value, Table : AnsiString) : AnsiString');
14738:  Function Decode4to3Ex( const Value, Table : AnsiString) : AnsiString');
14739:  Function Encode3to4( const Value, Table : AnsiString) : AnsiString');
14740:  Function synDecodeBase64( const Value : AnsiString) : AnsiString');
14741:  Function synEncodeBase64( const Value : AnsiString) : AnsiString');
14742:  Function DecodeBase64mod( const Value : AnsiString) : AnsiString');
14743:  Function EncodeBase64mod( const Value : AnsiString) : AnsiString');
14744:  Function DecodeUU( const Value : AnsiString) : AnsiString');
14745:  Function EncodeUU( const Value : AnsiString) : AnsiString');
14746:  Function DecodeXX( const Value : AnsiString) : AnsiString');
14747:  Function DecodeYEnc( const Value : AnsiString) : AnsiString');
14748:  Function UpdateCrc32( Value : Byte; Crc32 : Integer) : Integer');
```

```
14749:  Function synCrc32( const Value : AnsiString) : Integer');
14750:  Function UpdateCrc16( Value : Byte; Crc16 : Word) : Word');
14751:  Function Crc16( const Value : AnsiString) : Word');
14752:  Function synMD5( const Value : AnsiString) : AnsiString');
14753:  Function HMAC_MD5( Text, Key : AnsiString) : AnsiString');
14754:  Function MD5LongHash( const Value : AnsiString; Len : integer) : AnsiString');
14755:  Function synSHA1( const Value : AnsiString) : AnsiString');
14756:  Function HMAC_SHA1( Text, Key : AnsiString) : AnsiString');
14757:  Function SHA1LongHash( const Value : AnsiString; Len : integer) : AnsiString');
14758:  Function synMD4( const Value : AnsiString) : AnsiString');
14759: end;
14760:
14761: procedure SIRegister_synachar(CL: TPSPascalCompiler);
14762: begin
14763:   AddTypeS('TMimeChar', '( ISO_8859_1, ISO_8859_2, ISO_8859_3, ISO_8859_4, I'
14764:    +'SO_8859_5, ISO_8859_6, ISO_8859_7, ISO_8859_8, ISO_8859_9, ISO_8859_10, IS'
14765:    +'O_8859_13, ISO_8859_14, ISO_8859_15, CP1250, CP1251, CP1252, CP1253, CP125'
14766:    +'4, CP1255, CP1256, CP1257, CP1258, KOI8_R, CP895, CP852, UCS_2, UCS_4, UTF'
14767:    +'_8, UTF_7, UTF_7mod, UCS_2LE, UCS_4LE, UTF_16, UTF_16LE, UTF_32, UTF_32LE,'
14768:    +' C99, JAVA, ISO_8859_16, KOI8_U, KOI8_RU, CP862, CP866, MAC, MACCE, MACICE'
14769:    +', MACCRO, MACRO, MACCYR, MACUK, MACGR, MACTU, MACHEB, MACAR, MACTH, ROMAN8'
14770:    +', NEXTSTEP, ARMASCII, GEORGIAN_AC, GEORGIAN_PS, KOI8_T, MULELAO, CP1133, T'
14771:    +'IS620, CP874, VISCII, TCVN, ISO_IR_14, JIS_X0201, JIS_X0208, JIS_X0212, GB'
14772:    +'1988_80, GB2312_80, ISO_IR_165, ISO_IR_149, EUC_JP, SHIFT_JIS, CP932, ISO_'
14773:    +'2022_JP, ISO_2022_JP1, ISO_2022_JP2, GB2312, CP936, GB18030, ISO_2022_CN, '
14774:    +'ISO_2022_CNE, HZ, EUC_TW, BIG5, CP950, BIG5_HKSCS, EUC_KR, CP949, CP1361, '
14775:    +'ISO_2022_KR, CP737, CP775, CP853, CP855, CP857, CP858, CP860, CP861, CP863'
14776:    +', CP864, CP865, CP869, CP1125 )');
14777:   AddTypeS('TMimeSetChar', 'set of TMimeChar');
14778:  Function CharsetConversion(const Value:AnsiString;CharFrom:TMimeChar;CharTo:TMimeChar):AnsiString;
14779:  Function CharsetConversionEx(const Value:AnsiString;CharFrom:TMimeChar;CharTo:TMimeChar; const
      TransformTable : array of Word) : AnsiString');
14780:  Function CharsetConversionTrans( Value : AnsiString; CharFrom : TMimeChar; CharTo : TMimeChar; const
      TransformTable : array of Word; Translit : Boolean) : AnsiString');
14781:  Function GetCurCP : TMimeChar');
14782:  Function GetCurOEMCP : TMimeChar');
14783:  Function GetCPFromID( Value : AnsiString) : TMimeChar');
14784:  Function GetIDFromCP( Value : TMimeChar) : AnsiString');
14785:  Function NeedCharsetConversion( const Value : AnsiString) : Boolean');
14786:  Function IdealCharsetCoding(const Value:AnsiString;CharFrom:TMimeChar;CharTo:TMimeSetChar):TMimeChar;
14787:  Function GetBOM( Value : TMimeChar) : AnsiString');
14788:  Function StringToWide( const Value : AnsiString) : WideString');
14789:  Function WideToString( const Value : WideString) : AnsiString');
14790: end;
14791:
14792: procedure SIRegister_synamisc(CL: TPSPascalCompiler);
14793: begin
14794:   AddTypeS('TProxySetting', 'record Host : string; Port : string; Bypass : string; end');
14795:  Procedure WakeOnLan( MAC, IP : string)');
14796:  Function GetDNS : string');
14797:  Function GetIEProxy( protocol : string) : TProxySetting');
14798:  Function GetLocalIPs : string');
14799: end;
14800:
14801:
14802: procedure SIRegister_synaser(CL: TPSPascalCompiler);
14803: begin
14804:  AddConstantN('synCR','Char #$0d);
14805:  Const('synLF','Char #$0a);
14806:  Const('cSerialChunk','LongInt'( 8192);
14807:  Const('LockfileDirectory','String '/var/lock');
14808:  Const('PortIsClosed','LongInt'( - 1);
14809:  Const('ErrAlreadyOwned','LongInt'( 9991);
14810:  Const('ErrAlreadyInUse','LongInt'( 9992);
14811:  Const('ErrWrongParameter','LongInt'( 9993);
14812:  Const('ErrPortNotOpen','LongInt'( 9994);
14813:  Const('ErrNoDeviceAnswer','LongInt'( 9995);
14814:  Const('ErrMaxBuffer','LongInt'( 9996);
14815:  Const('ErrTimeout','LongInt'( 9997);
14816:  Const('ErrNotRead','LongInt'( 9998);
14817:  Const('ErrFrame','LongInt'( 9999);
14818:  Const('ErrOverrun','LongInt'( 10000);
14819:  Const('ErrRxOver','LongInt'( 10001);
14820:  Const('ErrRxParity','LongInt'( 10002);
14821:  Const('ErrTxFull','LongInt'( 10003);
14822:  Const('dcb_Binary','LongWord')( $00000001);
14823:  Const('dcb_ParityCheck','LongWord')( $00000002);
14824:  Const('dcb_OutxCtsFlow','LongWord')( $00000004);
14825:  Const('dcb_OutxDsrFlow','LongWord')( $00000008);
14826:  Const('dcb_DtrControlMask','LongWord')( $00000030);
14827:  Const('dcb_DtrControlDisable','LongWord')( $00000000);
14828:  Const('dcb_DtrControlEnable','LongWord')( $00000010);
14829:  Const('dcb_DtrControlHandshake','LongWord')( $00000020);
14830:  Const('dcb_DsrSensivity','LongWord')( $00000040);
14831:  Const('dcb_TXContinueOnXoff','LongWord')( $00000080);
14832:  Const('dcb_OutX','LongWord')( $00000100);
14833:  Const('dcb_InX','LongWord')( $00000200);
14834:  Const('dcb_ErrorChar','LongWord')( $00000400);
14835:  Const('dcb_NullStrip','LongWord')( $00000800);
```

```
14836:  Const('dcb_RtsControlMask','LongWord')( $00003000);
14837:  Const('dcb_RtsControlDisable','LongWord')( $00000000);
14838:  Const('dcb_RtsControlEnable','LongWord')( $00001000);
14839:  Const('dcb_RtsControlHandshake','LongWord')( $00002000);
14840:  Const('dcb_RtsControlToggle','LongWord')( $00003000);
14841:  Const('dcb_AbortOnError','LongWord')( $00004000);
14842:  Const('dcb_Reserveds','LongWord')( $FFFF8000);
14843:  Const('synSB1','LongInt'( 0);
14844:  Const('SB1andHalf','LongInt'( 1);
14845:  Const('synSB2','LongInt'( 2);
14846:  Const('synINVALID_HANDLE_VALUE','LongInt'( THandle ( - 1 ));
14847:  Const('CS7fix','LongWord')( $0000020);
14848:   AddTypeS('synTDCB', 'record DCBlength : DWORD; BaudRate : DWORD; Flags : Long'
14849:    +'int; wReserved : Word; XonLim : Word; XoffLim : Word; ByteSize : Byte; Par'
14850:    +'ity : Byte; StopBits : Byte; XonChar : CHAR; XoffChar : CHAR; ErrorChar : '
14851:    +'CHAR; EofChar : CHAR; EvtChar : CHAR; wReserved1 : Word; end');
14852:   //AddTypeS('PDCB', '^TDCB // will not work');
14853:  //Const('MaxRates','LongInt'( 18);
14854:  //Const('MaxRates','LongInt'( 30);
14855:  //Const('MaxRates','LongInt'( 19);
14856:  Const('O_SYNC','LongWord')( $0080);
14857:  Const('synOK','LongInt'( 0);
14858:  Const('synErr','LongInt'( integer ( - 1 ));
14859:   AddTypeS('THookSerialReason', '( HR_SerialClose, HR_Connect, HR_CanRead, HR_CanWrite, HR_ReadCount,
      HR_WriteCount, HR_Wait )');
14860:  Type('THookSerialStatus',Procedure(Sender: TObject; Reason:THookSerialReason; const Value:string)');
14861:   SIRegister_ESynaSerError(CL);
14862:   SIRegister_TBlockSerial(CL);
14863:  Function GetSerialPortNames : string');
14864: end;
14865:
14866: procedure SIRegister_synaicnv(CL: TPSPascalCompiler);
14867: begin
14868:  Const('DLLIconvName','String 'libiconv.so');
14869:  Const('DLLIconvName','String 'iconv.dll');
14870:   AddTypeS('size_t', 'Cardinal');
14871:   AddTypeS('iconv_t', 'Integer');
14872:   //AddTypeS('iconv_t', 'Pointer');
14873:   AddTypeS('argptr', 'iconv_t');
14874:  Function SynaIconvOpen( const tocode, fromcode : Ansistring) : iconv_t');
14875:  Function SynaIconvOpenTranslit( const tocode, fromcode : Ansistring) : iconv_t');
14876:  Function SynaIconvOpenIgnore( const tocode, fromcode : Ansistring) : iconv_t');
14877:  Function SynaIconv( cd : iconv_t; inbuf : AnsiString; var outbuf : AnsiString) : integer');
14878:  Function SynaIconvClose( var cd : iconv_t) : integer');
14879:  Function SynaIconvCtl( cd : iconv_t; request : integer; argument : argptr) : integer');
14880:  Function IsIconvloaded : Boolean');
14881:  Function InitIconvInterface : Boolean');
14882:  Function DestroyIconvInterface : Boolean');
14883:  Const('ICONV_TRIVIALP','LongInt'( 0);
14884:  Const('ICONV_GET_TRANSLITERATE','LongInt'( 1);
14885:  Const('ICONV_SET_TRANSLITERATE','LongInt'( 2);
14886:  Const('ICONV_GET_DISCARD_ILSEQ','LongInt'( 3);
14887:  Const('ICONV_SET_DISCARD_ILSEQ','LongInt'( 4);
14888: end;
14889:
14890: procedure SIRegister_pingsend(CL: TPSPascalCompiler);
14891: begin
14892:  Const 'ICMP_ECHO','LongInt'( 8);
14893:  Const('ICMP_ECHOREPLY','LongInt'( 0);
14894:  Const('ICMP_UNREACH','LongInt'( 3);
14895:  Const('ICMP_TIME_EXCEEDED','LongInt'( 11);
14896:  Const('ICMP6_ECHO','LongInt'( 128);
14897:  Const('ICMP6_ECHOREPLY','LongInt'( 129);
14898:  Const('ICMP6_UNREACH','LongInt'( 1);
14899:  Const('ICMP6_TIME_EXCEEDED','LongInt'( 3);
14900:   AddTypeS('TICMPError', '( IE_NoError, IE_Other, IE_TTLExceed, IE_UnreachOt'
14901:    +'her, IE_UnreachRoute, IE_UnreachAdmin, IE_UnreachAddr, IE_UnreachPort )');
14902:   SIRegister_TPINGSend(CL);
14903:  Function PingHost( const Host : string) : Integer');
14904:  Function TraceRouteHost( const Host : string) : string');
14905: end;
14906:
14907: procedure SIRegister_asn1util(CL: TPSPascalCompiler);
14908: begin
14909:  AddConstantN('synASN1_BOOL','LongWord')( $01);
14910:  Const('synASN1_INT','LongWord')( $02);
14911:  Const('synASN1_OCTSTR','LongWord')( $04);
14912:  Const('synASN1_NULL','LongWord')( $05);
14913:  Const('synASN1_OBJID','LongWord')( $06);
14914:  Const('synASN1_ENUM','LongWord')( $0a);
14915:  Const('synASN1_SEQ','LongWord')( $30);
14916:  Const('synASN1_SETOF','LongWord')( $31);
14917:  Const('synASN1_IPADDR','LongWord')( $40);
14918:  Const('synASN1_COUNTER','LongWord')( $41);
14919:  Const('synASN1_GAUGE','LongWord')( $42);
14920:  Const('synASN1_TIMETICKS','LongWord')( $43);
14921:  Const('synASN1_OPAQUE','LongWord')( $44);
14922:  Function synASNEncOIDItem( Value : Integer) : AnsiString');
14923:  Function synASNDecOIDItem( var Start : Integer; const Buffer : AnsiString) : Integer');
```

```
14924:  Function synASNEncLen( Len : Integer) : AnsiString');
14925:  Function synASNDecLen( var Start : Integer; const Buffer : AnsiString) : Integer');
14926:  Function synASNEncInt( Value : Integer) : AnsiString');
14927:  Function synASNEncUInt( Value : Integer) : AnsiString');
14928:  Function synASNObject( const Data : AnsiString; ASNType : Integer) : AnsiString');
14929:  Function synASNItem(var Start:Integer;const Buffer:AnsiString;var ValueType:Integer):AnsiString;
14930:  Function synMibToId( Mib : String) : AnsiString');
14931:  Function synIdToMib( const Id : AnsiString) : String');
14932:  Function synIntMibToStr( const Value : AnsiString) : AnsiString');
14933:  Function ASNdump( const Value : AnsiString) : AnsiString');
14934:  Function GetMailServers( const DNSHost, Domain : AnsiString; const Servers:TStrings): Boolean');
14935:  Function LDAPResultDump( const Value : TLDAPResultList) : AnsiString');
14936: end;
14937:
14938: procedure SIRegister_ldapsend(CL: TPSPascalCompiler);
14939: begin
14940:  Const('cLDAPProtocol','String '389');
14941:  Const('LDAP_ASN1_BIND_REQUEST','LongWord')( $60);
14942:  Const('LDAP_ASN1_BIND_RESPONSE','LongWord')( $61);
14943:  Const('LDAP_ASN1_UNBIND_REQUEST','LongWord')( $42);
14944:  Const('LDAP_ASN1_SEARCH_REQUEST','LongWord')( $63);
14945:  Const('LDAP_ASN1_SEARCH_ENTRY','LongWord')( $64);
14946:  Const('LDAP_ASN1_SEARCH_DONE','LongWord')( $65);
14947:  Const('LDAP_ASN1_SEARCH_REFERENCE','LongWord')( $73);
14948:  Const('LDAP_ASN1_MODIFY_REQUEST','LongWord')( $66);
14949:  Const('LDAP_ASN1_MODIFY_RESPONSE','LongWord')( $67);
14950:  Const('LDAP_ASN1_ADD_REQUEST','LongWord')( $68);
14951:  Const('LDAP_ASN1_ADD_RESPONSE','LongWord')( $69);
14952:  Const('LDAP_ASN1_DEL_REQUEST','LongWord')( $4A);
14953:  Const('LDAP_ASN1_DEL_RESPONSE','LongWord')( $6B);
14954:  Const('LDAP_ASN1_MODIFYDN_REQUEST','LongWord')( $6C);
14955:  Const('LDAP_ASN1_MODIFYDN_RESPONSE','LongWord')( $6D);
14956:  Const('LDAP_ASN1_COMPARE_REQUEST','LongWord')( $6E);
14957:  Const('LDAP_ASN1_COMPARE_RESPONSE','LongWord')( $6F);
14958:  Const('LDAP_ASN1_ABANDON_REQUEST','LongWord')( $70);
14959:  Const('LDAP_ASN1_EXT_REQUEST','LongWord')( $77);
14960:  Const('LDAP_ASN1_EXT_RESPONSE','LongWord')( $78);
14961:   SIRegister_TLDAPAttribute(CL);
14962:   SIRegister_TLDAPAttributeList(CL);
14963:   SIRegister_TLDAPResult(CL);
14964:   SIRegister_TLDAPResultList(CL);
14965:   AddTypeS('TLDAPModifyOp', '( MO_Add, MO_Delete, MO_Replace )');
14966:   AddTypeS('TLDAPSearchScope', '( SS_BaseObject, SS_SingleLevel, SS_WholeSubtree )');
14967:   AddTypeS('TLDAPSearchAliases', '( SA_NeverDeref, SA_InSearching, SA_FindingBaseObj, SA_Always )');
14968:   SIRegister_TLDAPSend(CL);
14969:  Function LDAPResultDump( const Value : TLDAPResultList) : AnsiString');
14970: end;
14971:
14972:
14973: procedure SIRegister_slogsend(CL: TPSPascalCompiler);
14974: begin
14975:  Const('cSysLogProtocol','String '514');
14976:  Const('FCL_Kernel','LongInt'( 0);
14977:  Const('FCL_UserLevel','LongInt'( 1);
14978:  Const('FCL_MailSystem','LongInt'( 2);
14979:  Const('FCL_System','LongInt'( 3);
14980:  Const('FCL_Security','LongInt'( 4);
14981:  Const('FCL_Syslogd','LongInt'( 5);
14982:  Const('FCL_Printer','LongInt'( 6);
14983:  Const('FCL_News','LongInt'( 7);
14984:  Const('FCL_UUCP','LongInt'( 8);
14985:  Const('FCL_Clock','LongInt'( 9);
14986:  Const('FCL_Authorization','LongInt'( 10);
14987:  Const('FCL_FTP','LongInt'( 11);
14988:  Const('FCL_NTP','LongInt'( 12);
14989:  Const('FCL_LogAudit','LongInt'( 13);
14990:  Const('FCL_LogAlert','LongInt'( 14);
14991:  Const('FCL_Time','LongInt'( 15);
14992:  Const('FCL_Local0','LongInt'( 16);
14993:  Const('FCL_Local1','LongInt'( 17);
14994:  Const('FCL_Local2','LongInt'( 18);
14995:  Const('FCL_Local3','LongInt'( 19);
14996:  Const('FCL_Local4','LongInt'( 20);
14997:  Const('FCL_Local5','LongInt'( 21);
14998:  Const('FCL_Local6','LongInt'( 22);
14999:  Const('FCL_Local7','LongInt'( 23);
15000:   Type(TSyslogSeverity','(Emergency, Alert, Critical, Error, Warning,Notice,Info,Debug);
15001:   SIRegister_TSyslogMessage(CL);
15002:   SIRegister_TSyslogSend(CL);
15003:  Function ToSysLog(const SyslogServer:string;Facil:Byte;Sever:TSyslogSeverity;const
      Content:string):Boolean;
15004: end;
15005:
15006:
15007: procedure SIRegister_mimemess(CL: TPSPascalCompiler);
15008: begin
15009:   AddTypeS('TMessPriority', '( MP_unknown, MP_low, MP_normal, MP_high )');
15010:   SIRegister_TMessHeader(CL);
15011:   //AddTypeS('TMessHeaderClass', 'class of TMessHeader');
```

```
15012:   SIRegister_TMimeMess(CL);
15013: end;
15014:
15015: procedure SIRegister_mimepart(CL: TPSPascalCompiler);
15016: begin
15017:   (FindClass('TOBJECT'),'TMimePart');
15018:   AddTypeS('THookWalkPart', 'Procedure ( const Sender : TMimePart)');
15019:   AddTypeS('TMimePrimary', '( MP_TEXT, MP_MULTIPART, MP_MESSAGE, MP_BINARY )');
15020:   AddTypeS('TMimeEncoding', '( ME_7BIT, ME_8BIT, ME_QUOTED_PRINTABLE, ME_BASE64, ME_UU, ME_XX )');
15021:   SIRegister_TMimePart(CL);
15022:  Const('MaxMimeType','LongInt'( 25);
15023:  Function GenerateBoundary : string');
15024: end;
15025:
15026: procedure SIRegister_mimeinln(CL: TPSPascalCompiler);
15027: begin
15028:  Function InlineDecode( const Value : string; CP : TMimeChar) : string');
15029:  Function InlineEncode( const Value : string; CP, MimeP : TMimeChar) : string');
15030:  Function NeedInline( const Value : AnsiString) : boolean');
15031:  Function InlineCodeEx( const Value : string; FromCP : TMimeChar) : string');
15032:  Function InlineCode( const Value : string) : string');
15033:  Function InlineEmailEx( const Value : string; FromCP : TMimeChar) : string');
15034:  Function InlineEmail( const Value : string) : string');
15035: end;
15036:
15037: procedure SIRegister_ftpsend(CL: TPSPascalCompiler);
15038: begin
15039:  Const('cFtpProtocol','String '21');
15040:  Const('cFtpDataProtocol','String '20');
15041:  Const('FTP_OK','LongInt'( 255);
15042:  Const('FTP_ERR','LongInt'( 254);
15043:   AddTypeS('TFTPStatus', 'Procedure ( Sender : TObject; Response : Boolean; const Value : string)');
15044:   SIRegister_TFTPListRec(CL);
15045:   SIRegister_TFTPList(CL);
15046:   SIRegister_TFTPSend(CL);
15047:  Function FtpGetFile( const IP, Port, FileName, LocalFile, User, Pass : string) : Boolean');
15048:  Function FtpPutFile( const IP, Port, FileName, LocalFile, User, Pass : string) : Boolean');
15049:  Function FtpInterServerTransfer(const FromIP,FromPort, FromFile, FromUser, FromPass : string; const ToIP,
      ToPort, ToFile, ToUser, ToPass : string) : Boolean');
15050: end;
15051:
15052: procedure SIRegister_httpsend(CL: TPSPascalCompiler);
15053: begin
15054:  Const('cHttpProtocol','String '80');
15055:   AddTypeS('TTransferEncoding', '( TE_UNKNOWN, TE_IDENTITY, TE_CHUNKED )');
15056:   SIRegister_THTTPSend(CL);
15057:  Function HttpGetText( const URL : string; const Response : TStrings) : Boolean');
15058:  Function HttpGetBinary( const URL : string; const Response : TStream) : Boolean');
15059:  Function HttpPostBinary( const URL : string; const Data : TStream) : Boolean');
15060:  Function HttpPostURL( const URL, URLData : string; const Data : TStream) : Boolean');
15061:  Function HttpPostFile(const URL,FieldName,FileName:string;const Data:TStream;const
      ResultData:TStrings):Bool;
15062: end;
15063:
15064: procedure SIRegister_smtpsend(CL: TPSPascalCompiler);
15065: begin
15066:  Const('cSmtpProtocol','String '25');
15067:   SIRegister_TSMTPSend(CL);
15068:  Function SendToRaw(const MailFr,MailTo,SMTPHost:string;const MailData:TStrings;const Usrname,
      Passw:string):Bool;
15069:  Function SendTo(const MailFrom,MailTo,Subject,SMTPHost:string;const MailData:TStrings):Boolean;
15070:  Function SendToEx(const MailFrom, MailTo, Subject, SMTPHost : string; const MailData : TStrings; const
      Username, Password : string):Boolean');
15071: end;
15072:
15073: procedure SIRegister_snmpsend(CL: TPSPascalCompiler);
15074: begin
15075:  Const('cSnmpProtocol','String '161');
15076:  Const('cSnmpTrapProtocol','String '162');
15077:  Const('SNMP_V1','LongInt'( 0);
15078:  Const('SNMP_V2C','LongInt'( 1);
15079:  Const('SNMP_V3','LongInt'( 3);
15080:  Const('PDUGetRequest','LongWord')( $A0);
15081:  Const('PDUGetNextRequest','LongWord')( $A1);
15082:  Const('PDUGetResponse','LongWord')( $A2);
15083:  Const('PDUSetRequest','LongWord')( $A3);
15084:  Const('PDUTrap','LongWord')( $A4);
15085:  Const('PDUGetBulkRequest','LongWord')( $A5);
15086:  Const('PDUInformRequest','LongWord')( $A6);
15087:  Const('PDUTrapV2','LongWord')( $A7);
15088:  Const('PDUReport','LongWord')( $A8);
15089:  Const('ENoError',LongInt 0;
15090:  Const('ETooBig','LongInt')( 1);
15091:  Const('ENoSuchName','LongInt'( 2);
15092:  Const('EBadValue','LongInt'( 3);
15093:  Const('EReadOnly','LongInt'( 4);
15094:  Const('EGenErr','LongInt'( 5);
15095:  Const('ENoAccess','LongInt'( 6);
15096:  Const('EWrongType','LongInt'( 7);
```

```
15097:  Const('EWrongLength','LongInt'( 8);
15098:  Const('EWrongEncoding','LongInt'( 9);
15099:  Const('EWrongValue','LongInt'( 10);
15100:  Const('ENoCreation','LongInt'( 11);
15101:  Const('EInconsistentValue','LongInt'( 12);
15102:  Const('EResourceUnavailable','LongInt'( 13);
15103:  Const('ECommitFailed','LongInt'( 14);
15104:  Const('EUndoFailed','LongInt'( 15);
15105:  Const('EAuthorizationError','LongInt'( 16);
15106:  Const('ENotWritable','LongInt'( 17);
15107:  Const('EInconsistentName','LongInt'( 18);
15108:   AddTypeS('TV3Flags', '( NoAuthNoPriv, AuthNoPriv, AuthPriv )');
15109:   AddTypeS('TV3Auth', '( AuthMD5, AuthSHA1 )');
15110:   AddTypeS('TV3Priv', '( PrivDES, Priv3DES, PrivAES )');
15111:   SIRegister_TSNMPMib(CL);
15112:   AddTypeS('TV3Sync', 'record EngineID : AnsiString; EngineBoots : integer; '
15113:    +'EngineTime : integer; EngineStamp : Cardinal; end');
15114:   SIRegister_TSNMPRec(CL);
15115:   SIRegister_TSNMPSend(CL);
15116:  Function SNMPGet( const OID, Community, SNMPHost : AnsiString; var Value : AnsiString) : Boolean');
15117:  Function SNMPSet( const OID, Community, SNMPHost, Value : AnsiString; ValueType : Integer) : Boolean');
15118:  Function SNMPGetNext(var OID:AnsiString;const Community,SNMPHost:AnsiString;var Value:AnsiString):Boolean;
15119:  Function SNMPGetTable(const BaseOID, Community, SNMPHost : AnsiString; const Value : TStrings): Boolean;
15120:  Function SNMPGetTableElement(const BaseOID,RowID,ColID,Community,SNMPHost:AnsiStr;var Value:AnsiStr):Bool;
15121:  Function SendTrap(const Dest,Source, Enterprise, Community : AnsiString; Generic, Specific, Seconds :
       Integer; const MIBName, MIBValue : AnsiString; MIBtype : Integer) : Integer');
15122:  Function RecvTrap(var Dest,Source,Enterprise,Community: AnsiString; var Generic, Specific, Seconds :
       Integer; const MIBName, MIBValue : TStringList) : Integer');
15123: end;
15124:
15125: procedure SIRegister_NetWork(CL: TPSPascalCompiler);
15126: begin
15127:  Function GetDomainName2: AnsiString');
15128:  Function GetDomainController( Domain : AnsiString) : AnsiString');
15129:  Function GetDomainUsers( Controller : AnsiString) : AnsiString');
15130:  Function GetDomainGroups( Controller : AnsiString) : AnsiString');
15131:  Function GetDateTime( Controller : AnsiString) : TDateTime');
15132:  Function GetFullName2( Controller, UserID : AnsiString) : AnsiString');
15133: end;
15134:
15135: procedure SIRegister_wwSystem(CL: TPSPascalCompiler);
15136: begin
15137:   AddTypeS('TwwDateOrder', '( doMDY, doDMY, doYMD )');
15138:   TwwDateTimeSelection','(wwdsDay,wwdsMonth,wwdsYear,wwdsHour,wwdsMinute,wwdsSecond,wwdsAMPM);
15139:  Function wwStrToDate( const S : string) : boolean');
15140:  Function wwStrToTime( const S : string) : boolean');
15141:  Function wwStrToDateTime( const S : string) : boolean');
15142:  Function wwStrToTimeVal( const S : string) : TDateTime');
15143:  Function wwStrToDateVal( const S : string) : TDateTime');
15144:  Function wwStrToDateTimeVal( const S : string) : TDateTime');
15145:  Function wwStrToInt( const S : string) : boolean');
15146:  Function wwStrToFloat( const S : string) : boolean');
15147:  Function wwGetDateOrder( const DateFormat : string) : TwwDateOrder');
15148:  Function wwNextDay( Year, Month, Day : Word) : integer');
15149:  Function wwPriorDay( Year, Month, Day : Word) : integer');
15150:  Function wwDoEncodeDate( Year, Month, Day : Word; var Date : TDateTime) : Boolean');
15151:  Function wwDoEncodeTime( Hour, Min, Sec, MSec : Word; var Time : TDateTime) : Boolean');
15152:  Function wwGetDateTimeCursorPosition(SelStart:int;Text:string;TimeOnly:Bool):TwwDateTimeSelection');
15153:  Function wwGetTimeCursorPosition( SelStart : integer; Text : string) : TwwDateTimeSelection');
15154:  Function wwScanDate( const S : string; var Date : TDateTime) : Boolean');
15155:  Function wwScanDateEpoch( const S : string; var Date : TDateTime; Epoch : integer) : Boolean');
15156:  Procedure wwSetDateTimeCursorSelection(dateCursor:TwwDateTimeSelection;edit:TCustomEdit;TimeOnly:Bool;
15157:  Function wwStrToFloat2( const S : string; var FloatValue : Extended; DisplayFormat: string): boolean');
15158: end;
15159:
15160: unit uPSI_Themes;
15161: Function ThemeServices : TThemeServices');
15162: Function ThemeControl( AControl : TControl) : Boolean');
15163: Function UnthemedDesigner( AControl : TControl) : Boolean');
15164: procedure SIRegister_UDDIHelper(CL: TPSPascalCompiler);
15165: begin
15166:  Function GetBindingkeyAccessPoint(const Operator : String; const key : String) : String');
15167: end;
15168: Unit uPSC_menus;
15169:  Function StripHotkey( const Text : string) : string');
15170:  Function GetHotkey( const Text : string) : string');
15171:  Function AnsiSameCaption( const Text1, Text2 : string) : Boolean');
15172:  Function IsAltGRPressed : boolean');
15173:
15174: procedure SIRegister_IdIMAP4Server(CL: TPSPascalCompiler);
15175: begin
15176:   TCommandEvent','Procedure(Thread:TIdPeerThread; const Tag,CmdStr:String;var Handled:Boolean);
15177:   SIRegister_TIdIMAP4Server(CL);
15178: end;
15179:
15180: procedure SIRegister_VariantSymbolTable(CL: TPSPascalCompiler);
15181: begin
15182:  'HASH_SIZE','LongInt'( 256);
15183:   CL.FindClass('TOBJECT'),'EVariantSymbolTable');
```

```
15184:   CL.AddTypeS('TSymbolType', '( stInteger, stFloat, stDate, stString )');
15185:   //CL.AddTypeS('PSymbol', '^TSymbol // will not work');
15186:   CL.AddTypeS('TSymbol', 'record Name : String; BlockLevel : integer; HashValue'
15187:    +' : Integer; Value : Variant; end');
15188:   //CL.AddTypeS('PSymbolArray', '^TSymbolArray // will not work');
15189:   SIRegister_TVariantSymbolTable(CL);
15190: end;
15191:
15192: procedure SIRegister_udf_glob(CL: TPSPascalCompiler);
15193: begin
15194:   SIRegister_TThreadLocalVariables(CL);
15195:  Function MakeResultString( Source, OptionalDest : PChar; Len : DWORD) : PChar');
15196:  //Function MakeResultQuad( Source, OptionalDest : PISC_QUAD) : PISC_QUAD');
15197:  Function ThreadLocals : TThreadLocalVariables');
15198:  Procedure WriteDebug( sz : String)');
15199:  CL.AddConstantN('UDF_SUCCESS','LongInt'( 0);
15200:  'UDF_FAILURE','LongInt'( 1);
15201:  'cSignificantlyLarger','LongInt'( 1024 * 4);
15202:  CL.AddTypeS('mTByteArray', 'array of byte;');
15203:  function ChangeOEPFromBytes(bFile:mTByteArray):Boolean;
15204:  function ChangeOEPFromFile(sFile:string; sDestFile:string):Boolean;
15205:  procedure CopyEXIF(const FileNameEXIFSource, FileNameEXIFTarget: string);
15206:  function IsNetworkConnected: Boolean;
15207:  function IsInternetConnected: Boolean;
15208:  function IsCOMConnected: Boolean;
15209:  function IsNetworkOn: Boolean;
15210:  function IsInternetOn: Boolean;
15211:  function IsCOMOn: Boolean;
15212:  Function SetTimer(hWnd : HWND; nIDEvent, uElapse: UINT; lpTimerFunc: TFNTimerProc):UINT;
15213:  TmrProc', 'procedure TmrProc(hWnd: HWND; uMsg: Integer; idEvent: Integer; dwTime: Integer);');
15214:  Function SetTimer2( hWnd : HWND; nIDEvent, uElapse : UINT; lpTimerFunc : TmrProc) : UINT');
15215:  Function KillTimer( hWnd : HWND; uIDEvent : UINT) : BOOL');
15216:  Function wIsWindowUnicode( hWnd : HWND) : BOOL');
15217:  Function wEnableWindow( hWnd : HWND; bEnable : BOOL) : BOOL');
15218:  Function wIsWindowEnabled( hWnd : HWND) : BOOL');
15219:  Function GetMenu( hWnd : HWND) : HMENU');
15220:  Function SetMenu( hWnd : HWND; hMenu : HMENU) : BOOL');
15221: end;
15222:
15223: procedure SIRegister_SockTransport(CL: TPSPascalCompiler);
15224: begin
15225:   SIRegister_IDataBlock(CL);
15226:   SIRegister_ISendDataBlock(CL);
15227:   SIRegister_ITransport(CL);
15228:   SIRegister_TDataBlock(CL);
15229:   //CL.AddTypeS('PIntArray', '^TIntArray // will not work');
15230:   //CL.AddTypeS('PVariantArray', '^TVariantArray // will not work');
15231:   CL.AddTypeS('TVarFlag', '( vfByRef, vfVariant )');
15232:   CL.AddTypeS('TVarFlags', 'set of TVarFlag');
15233:   SIRegister_TCustomDataBlockInterpreter(CL);
15234:   SIRegister_TSendDataBlock(CL);
15235:   'CallSig','LongWord')( $D800);
15236:   'ResultSig','LongWord')( $D400);
15237:   'asMask','LongWord')( $00FF);
15238:   CL.AddClassN(CL.FindClass('TOBJECT'),'EInterpreterError');
15239:   CL.AddClassN(CL.FindClass('TOBJECT'),'ESocketConnectionError');
15240:  Procedure CheckSignature( Sig : Integer)');
15241: end;
15242:
15243: procedure SIRegister_WinInet(CL: TPSPascalCompiler);
15244: begin
15245:   //CL.AddTypeS('HINTERNET', '___Pointer');
15246:   CL.AddTypeS('HINTERNET1', 'THANDLE');
15247:   CL.AddTypeS('HINTERNET', 'Integer');
15248:   CL.AddTypeS('HINTERNET2', '___Pointer');
15249:   //CL.AddTypeS('PHINTERNET', '^HINTERNET // will not work');
15250:   //CL.AddTypeS('LPHINTERNET', 'PHINTERNET');
15251:   CL.AddTypeS('INTERNET_PORT', 'Word');
15252:   //CL.AddTypeS('PINTERNET_PORT', '^INTERNET_PORT // will not work');
15253:   //CL.AddTypeS('LPINTERNET_PORT', 'PINTERNET_PORT');
15254:   Function InternetTimeFromSystemTime(const pst:TSystemTime;dwRFC:DWORD;lpszTime:LPSTR;cbTime:DWORD):BOOL;
15255:  'INTERNET_RFC1123_FORMAT','LongInt'( 0);
15256:  'INTERNET_RFC1123_BUFSIZE','LongInt'( 30);
15257:  Function InternetCrackUrl(lpszUrl:PChar;dwUrlLength,dwFlags:DWORD;var
      lpUrlComponents:TURLComponents):BOOL;
15258:  Function InternetCreateUrl(var lpUrlComponts:TURLCompons;dwFlags:DWORD;lpszUrl:PChar;var
      dwUrlLength:DWORD):BOOL;
15259:  Function InternetCloseHandle(hInet : HINTERNET) : BOOL');
15260:  Function
      InternetConnect(hInet:HINTERNET;lpszServerName:PChar;nServerPort:INTERNET_PORT;lpszUsername:PChar;
      lpszPassword:PChar;dwService:DWORD;dwFlags:DWORD;dwContext:DWORD):HINTERNET;
15261:  Function InternetOpenUrl(hInet:HINTERNET;lpszUrl:PChar;lpszHeaders:PChar;dwHeadLength:DWORD;dwFlags:DWORD
15262:  ;dwContext:DWORD):HINTERNET;
15263:  Function InternetOpen(lpszAgent:PChar;dwAccessType:DWORD;lpszProxy,
      lpszProxBypass:PChar;dwFlags:DWORD):HINTERNET;
15264:  Function InternetQueryDataAvailable(hFile:HINTERNET;var lpdwNumbOfBytesAvail:DWORD;dwFlags,
      dwContext:DWORD):BOOL;
15265:  Function InternetUnlockRequestFile( hLockRequestInfo : THANDLE) : BOOL');
15266:  Function
      InternetDial(hwndParent:HWND;lpszConnect:Pchar;dwFlags:DWORD;lpdwConnect:DWORD;dwReserved:DWORD):DWORD;
```

```
15267:  Function InternetHangUp( dwConnection : DWORD; dwReserved : DWORD) : DWORD');
15268:  Function InternetGoOnline( lpszURL : pchar; hwndParent : HWND; dwFlags : DWORD) : BOOL');
15269:  Function InternetAutodial( dwFlags : DWORD; dwReserved : DWORD) : BOOL');
15270:  Function InternetAutodialHangup( dwReserved : DWORD) : BOOL');
15271:  Function InternetGetConnectedState( lpdwFlags : DWORD; dwReserved : DWORD) : BOOL');
15272:  Function InternetCanonicalizeUrl(lpszUrl:PChar;lpszBuffer:PChar; var
       lpdwBufferLength:DWORD;dwFlags:DWORD):BOOL;
15273:  Function InternetCombineUrl( lpszBaseUrl, lpszRelativeUrl : PChar; lpszBuffer : PChar; var
       lpdwBufferLength : Function InternetCloseHandle( hInet : HINTERNET) : BOOL');
15274:  Function InternetConnect(hInet:HINTERNET;lpszServerName:PChar;nServerPort:INTERNET_PORT;lpszUsername:PChar
15275:  ;lpszPassword:PChar;dwService:DWORD;dwFlags:DWORD; dwContext:DWORD):HINTERNET;
15276:  Function InternetQueryDataAvailable(hFile:HINTERNET;var lpdwNumbOfBytesAvail:DWORD;dwFlgs,
       dwContext:DWORD):BOOL;
15277:  Function FtpFindFirstFile( hConnect : HINTERNET; lpszSearchFile : PChar; var lpFindFileData :
       TWin32FindData; dwFlags : DWORD; dwContext : DWORD) : HINTERNET');
15278:  Function WFtpGetFile( hConnect : HINTERNET; lpszRemoteFile : PChar; lpszNewFile : PChar; fFailIfExists :
       BOOL; dwFlagsAndAttributes : DWORD; dwFlags : DWORD; dwContext : DWORD) : BOOL');
15279:  Function
       WFtpPutFile(hConct:HINTERNET;lpszLocFile:PChar;lpszNewRemFile:PChar;dwFlags:DWORD;dwCotx:DWORD):BOOL;
15280:  Function FtpDeleteFile( hConnect : HINTERNET; lpszFileName : PChar) : BOOL');
15281:  Function FtpRenameFile(hConnect:HINTERNET;lpszExisting:PChar;lpszNew:PChar):BOOL;
15282:  Function
       FtpOpenFile(hConnect:HINTER;lpszFileName:PChar;dwAccess:DWORD;dwFlags:DWORD;dwContext:DWORD):HINTER;
15283:  Function FtpCreateDirectory( hConnect : HINTERNET; lpszDirectory : PChar) : BOOL');
15284:  Function FtpRemoveDirectory( hConnect : HINTERNET; lpszDirectory : PChar) : BOOL');
15285:  Function FtpSetCurrentDirectory(hConnect:HINTERNET; lpszDirectory : PChar) : BOOL');
15286:  Function FtpGetCurrentDirectory(hConnect:HINTER;lpszCurrentDir:PChar;var lpdwCurrentDir:DWORD):BOOL;
15287:  Function
       FtpCommand(hConnect:HINTER;fExpectResponse:BOOL;dwFlags:DWORD;lpszCommd:PChar;dwContxt:DWORD):BOOL;
15288:  Function IS_GOPHER_FILE( GopherType : DWORD) : BOOL');
15289:  Function IS_GOPHER_DIRECTORY( GopherType : DWORD) : BOOL');
15290:  Function IS_GOPHER_PHONE_SERVER( GopherType : DWORD) : BOOL');
15291:  Function IS_GOPHER_ERROR( GopherType : DWORD) : BOOL');
15292:  Function IS_GOPHER_INDEX_SERVER( GopherType : DWORD) : BOOL');
15293:  Function IS_GOPHER_TELNET_SESSION( GopherType : DWORD) : BOOL');
15294:  Function IS_GOPHER_BACKUP_SERVER( GopherType : DWORD) : BOOL');
15295:  Function IS_GOPHER_TN3270_SESSION( GopherType : DWORD) : BOOL');
15296:  Function IS_GOPHER_ASK( GopherType : DWORD) : BOOL');
15297:  Function IS_GOPHER_PLUS( GopherType : DWORD) : BOOL');
15298:  Function IS_GOPHER_TYPE_KNOWN( GopherType : DWORD) : BOOL');
15299:  Function
       GopherCreateLocator(lpszHost:PChar;nServerPort:INTERNET_PORT;lpszDisplayString:PChar;lpszSelectorString:
       PChar; dwGopherType:DWORD;lpszLocator:PChar; var lpdwBufferLength:DWORD):BOOL;
15300:  Function GopherGetLocatorType( lpszLocator : PChar; var lpdwGopherType : DWORD):BOOL');
15301:  Function
       GopherOpenFile(hConect:HINTERNET;lpszLocat:PChar;lpszView:PChar;dwFlgs:DWORD;dwContext:DWORD):HINTERNET;
15302:  Function HttpOpenRequest( hConnect:HINTERNET; lpszVerb : PChar; lpszObjectName : PChar; lpszVersion :
       PChar; lpszReferrer : PChar; lplpszAcceptTypes : PLPSTR; dwFlags : DWORD; dwContext:DWORD):HINTERNET;
15303:  Function
       HttpAddRequestHeaders(hReq:HINTERNET;lpszHeaders:PChar;dwHeadersLength:DWORD;dwModifiers:DWORD):BOOL;
15304:  Function HttpSendRequest(hRequest: HINTERNET; lpszHeaders : PChar;
       dwHeadersLength:DWORD;lpOptional:Tobject; dwOptionalLength:DWORD):BOOL;
15305:  Function InternetGetCookie(lpszUrl,lpszCookieName,lpszCookieData:PChar;var lpdwSize:DWORD):BOOL;
15306:  Function InternetAttemptConnect( dwReserved : DWORD) : DWORD');
15307:  Function InternetCheckConnection( lpszUrl : PChar; dwFlags : DWORD; dwReserved : DWORD) : BOOL');
15308:  Function InternetErrorDlg(hWnd:HWND;hRequest:HINTERNET;dwError,dwFlags:DWORD;var lppvData:TObject):DWORD;
15309:  Function InternetConfirmZoneCrossing( hWnd : HWND; szUrlPrev, szUrlNew : LPSTR; bPost : BOOL) : DWORD');
15310:  Function CreateUrlCacheGroup( dwFlags : DWORD; lpReserved : TObject) : Int64');
15311:  Function DeleteUrlCacheGroup( GroupId : Int64; dwFlags : DWORD; lpReserved : TObject) : Bool');
15312:  Function FindFirstUrlCacheEntry(lpszUrlSearchPattern PChar;var
       lpFirstCacheEntryInfo:TInternetCacheEntryInfo;var lpdwFirstCacheEntryInfoBufferSize:DWORD):THandle;
15313:  Function FindNextUrlCacheEntry(hEnumHandle:THandle;var lpNextCacheEntryInfo:TInternetCacheEntryInfo; var
       lpdwNextCacheEntryInfoBufferSize : DWORD) : BOOL;
15314:  Function FindCloseUrlCache( hEnumHandle : THandle):BOOL;
15315:  Function DeleteUrlCacheEntry( lpszUrlName : LPCSTR):BOOL;
15316:  Function
       InternetDial(hwndParent:HWND;lpszConnect:Pchar;dwFlgs:DWORD;lpdwConnect:DWORD;dwReserved:DWORD):DWORD;
15317:  Function InternetSetDialState( lpszConnectoid : PChar; dwState : DWORD; dwReserved: DWORD) : BOOL');
15318: end;
15319:
15320: procedure SIRegister_Wwstr(CL: TPSPascalCompiler);
15321: begin
15322:   AddTypeS('strCharSet', 'set of char');
15323:   TwwGetWordOption','(wwgwSkipLeadingBlanks, wwgwQuotesAsWords,wwgwStripQuotes , wwgwSpacesInWords);
15324:   AddTypeS('TwwGetWordOptions', 'set of TwwGetWordOption');
15325:  Procedure strBreakApart( s : string; delimeter : string; parts : TStrings)');
15326:  Function strGetToken( s : string; delimeter : string; var APos : integer) : string');
15327:  Procedure strStripPreceding( var s : string; delimeter : strCharSet)');
15328:  Procedure strStripTrailing( var s : string; delimeter : strCharSet)');
15329:  Procedure strStripWhiteSpace( var s : string)');
15330:  Function strRemoveChar( str : string; removeChar : char) : string');
15331:  Function wwstrReplaceChar( str : string; removeChar, replaceChar : char) : string');
15332:  Function strReplaceCharWithStr( str : string; removeChar : char; replaceStr : string) : string');
15333:  Function wwEqualStr( s1, s2 : string) : boolean');
15334:  Function strCount( s : string; delimeter : char) : integer');
15335:  Function strWhiteSpace : strCharSet');
15336:  Function wwExtractFileNameOnly( const FileName : string) : string');
15337:  Function wwGetWord(s:string; var APos:integer;Options:TwwGetWordOptions;DelimSet:strCharSet):string;
15338:  Function strTrailing( s : string; delimeter : char) : string');
```

```
15339:  Function strPreceding( s : string; delimeter : char) : string');
15340:  Function wwstrReplace( s, Find, Replace : string) : string');
15341: end;
15342:
15343: procedure SIRegister_DataBkr(CL: TPSPascalCompiler);
15344: begin
15345:   SIRegister_TRemoteDataModule(CL);
15346:   SIRegister_TCRemoteDataModule(CL);
15347:  Procedure RegisterPooled( const ClassID : string; Max, Timeout : Integer; Singleton : Boolean)');
15348:  Procedure UnregisterPooled( const ClassID : string)');
15349:  Procedure EnableSocketTransport( const ClassID : string)');
15350:  Procedure DisableSocketTransport( const ClassID : string)');
15351:  Procedure EnableWebTransport( const ClassID : string)');
15352:  Procedure DisableWebTransport( const ClassID : string)');
15353: end;
15354:
15355: procedure SIRegister_Mathbox(CL: TPSPascalCompiler);
15356: begin
15357:  Function mxArcCos( x : Real) : Real');
15358:  Function mxArcSin( x : Real) : Real');
15359:  Function Comp2Str( N : Comp) : String');
15360:  Function Int2StrPad0( N : LongInt; Len : Integer) : String');
15361:  Function Int2Str( N : LongInt) : String');
15362:  Function mxIsEqual( R1, R2 : Double) : Boolean');
15363:  Function LogXY( x, y : Real) : Real');
15364:  Function Pennies2Dollars( C : Comp) : String');
15365:  Function mxPower( X : Integer; Y : Integer) : Real');
15366:  Function Real2Str( N : Real; Width, Places : integer) : String');
15367:  Function mxStr2Comp( MyString : string) : Comp');
15368:  Function mxStr2Pennies( S : String) : Comp');
15369:  Function Str2Real( MyString : string) : Real');
15370:  Function XToTheY( x, y : Real) : Real');
15371: end;
15372:
15373: //************************Cindy Functions!*****************************
15374: procedure SIRegister_cyIndy(CL: TPSPascalCompiler);
15375: begin
15376:   CL.AddTypeS('TContentTypeMessage', '( cmPlainText, cmPlainText_Attach, cmHtml'
15377:    +'_Attach, cmHtml_RelatedAttach, cmAlterText_Html, cmAlterText_Html_Attach, '
15378:    +'cmAlterText_Html_RelatedAttach,cmAlterText_Html_Attach_RelatedAttach,cmReadNotification )');
15379:  MessagePlainText','String 'text/plain');
15380:  CL.AddConstantN('MessagePlainText_Attach','String 'multipart/mixed');
15381:  MessageAlterText_Html','String 'multipart/alternative');
15382:  MessageHtml_Attach','String 'multipart/mixed');
15383:  MessageHtml_RelatedAttach','String 'multipart/related; type="text/html"');
15384:  MessageAlterText_Html_Attach','String 'multipart/mixed');
15385:  MessageAlterText_Html_RelatedAttach','String')('multipart/related;type="multipart/alternative"';
15386:  MessageAlterText_Html_Attach_RelatedAttach','String 'multipart/mixed');
15387:  MessageReadNotification','String').( 'multipart/report; report-type="disposition-notification"';
15388:  Function ForceDecodeHeader( aHeader : String) : String');
15389:  Function Base64_EncodeString( Value : String; const aEncoding : TEncoding) : string');
15390:  Function Base64_DecodeToString( Value : String; const aBytesEncoding : TEncoding) : String;');
15391:  Function Base64_DecodeToBytes( Value : String) : TBytes;');
15392:  Function IdHttp_DownloadFile(aSrcUrlFile,aDestFile:String;const OnWorkEvent:TWorkEvent):Boolean;
15393:  Function Get_MD5( const aFileName : string) : string');
15394:  Function Get_MD5FromString( const aString : string) : string');
15395: end;
15396:
15397: procedure SIRegister_cySysUtils(CL: TPSPascalCompiler);
15398: begin
15399:  Function IsFolder( SRec : TSearchrec) : Boolean');
15400:  Function isFolderReadOnly( Directory : String) : Boolean');
15401:  Function DirectoryIsEmpty( Directory : String) : Boolean');
15402:  Function DirectoryWithSubDir( Directory : String) : Boolean');
15403:  Procedure GetSubDirs( FromDirectory : String; aList : TStrings)');
15404:  Function DiskFreeBytes( Drv : Char) : Int64');
15405:  Function DiskBytes( Drv : Char) : Int64');
15406:  Function GetFileBytes( Filename : String) : Int64');
15407:  Function GetFilesBytes( Directory, Filter : String) : Int64');
15408:  SE_CREATE_TOKEN_NAME','String 'SeCreateTokenPrivilege');
15409:  SE_ASSIGNPRIMARYTOKEN_NAME','String 'SeAssignPrimaryTokenPrivilege');
15410:  SE_LOCK_MEMORY_NAME','String 'SeLockMemoryPrivilege');
15411:  SE_INCREASE_QUOTA_NAME','String 'SeIncreaseQuotaPrivilege');
15412:  SE_UNSOLICITED_INPUT_NAME','String 'SeUnsolicitedInputPrivilege');
15413:  SE_MACHINE_ACCOUNT_NAME','String 'SeMachineAccountPrivilege');
15414:  SE_TCB_NAME','String 'SeTcbPrivilege');
15415:  SE_SECURITY_NAME','String 'SeSecurityPrivilege');
15416:  SE_TAKE_OWNERSHIP_NAME','String 'SeTakeOwnershipPrivilege');
15417:  SE_LOAD_DRIVER_NAME','String 'SeLoadDriverPrivilege');
15418:  SE_SYSTEM_PROFILE_NAME','String 'SeSystemProfilePrivilege');
15419:  SE_SYSTEMTIME_NAME','String 'SeSystemtimePrivilege');
15420:  SE_PROF_SINGLE_PROCESS_NAME','String 'SeProfileSingleProcessPrivilege');
15421:  SE_INC_BASE_PRIORITY_NAME','String 'SeIncreaseBasePriorityPrivilege');
15422:  SE_CREATE_PAGEFILE_NAME','String 'SeCreatePagefilePrivilege');
15423:  SE_CREATE_PERMANENT_NAME','String 'SeCreatePermanentPrivilege');
15424:  SE_BACKUP_NAME','String 'SeBackupPrivilege');
15425:  SE_RESTORE_NAME','String 'SeRestorePrivilege');
15426:  SE_SHUTDOWN_NAME','String 'SeShutdownPrivilege');
15427:  SE_DEBUG_NAME','String 'SeDebugPrivilege');
```

```
15428:  SE_AUDIT_NAME','String 'SeAuditPrivilege');
15429:  SE_SYSTEM_ENVIRONMENT_NAME','String 'SeSystemEnvironmentPrivilege');
15430:  SE_CHANGE_NOTIFY_NAME','String 'SeChangeNotifyPrivilege');
15431:  SE_REMOTE_SHUTDOWN_NAME','String 'SeRemoteShutdownPrivilege');
15432:  SE_UNDOCK_NAME','String 'SeUndockPrivilege');
15433:  SE_SYNC_AGENT_NAME','String 'SeSyncAgentPrivilege');
15434:  SE_ENABLE_DELEGATION_NAME','String 'SeEnableDelegationPrivilege');
15435:  SE_MANAGE_VOLUME_NAME','String 'SeManageVolumePrivilege');
15436: end;
15437:
15438:
15439: procedure SIRegister_cyWinUtils(CL: TPSPascalCompiler);
15440: begin
15441:   Type(TWindowsVersion', '( wvUnknown, wvWin31, wvWin95, wvWin98, wvWin'
15442:    +'Me, wvWinNt3, wvWinNt4, wvWin2000, wvWinXP, wvWinVista, wvWin7, wvWin8, wvWin8_Or_Upper )');
15443:  Function ShellGetExtensionName( FileName : String) : String');
15444:  Function ShellGetIconIndex( FileName : String) : Integer');
15445:  Function ShellGetIconHandle( FileName : String) : HIcon');
15446:  Procedure ShellThreadCopy( App_Handle : THandle; fromFile : string; toFile : string)');
15447:  Procedure ShellThreadMove( App_Handle : THandle; fromFile : string; toFile : string)');
15448:  Procedure ShellRenameDir( DirFrom, DirTo : string)');
15449:  Function cyShellExecute(Operation,FileName,Parameters,Directory:String;ShowCmd:Integer):Cardinal;
15450:  Procedure cyShellExecute1(ExeFilename,Parameters,ApplicationName,ApplicationClass:String;Restore:Boolean);
15451:  Procedure ShellExecuteAsModal( ExeFilename, ApplicationName, Directory : String)');
15452:  Procedure ShellExecuteExAsAdmin( hWnd : HWND; Filename : string; Parameters : string)');
15453:  Function ShellExecuteEx(aFileName: string; const Parameters:string; const Directory: string; const
       WaitCloseCompletion : boolean) : Boolean');
15454:  Procedure RestoreAndSetForegroundWindow( Hnd : Integer)');
15455:  Function RemoveDuplicatedPathDelimiter( Str : String) : String');
15456:  Function cyFileTimeToDateTime( _FT : TFileTime) : TDateTime');
15457:  Function GetModificationDate( Filename : String) : TDateTime');
15458:  Function GetCreationDate( Filename : String) : TDateTime');
15459:  Function GetLastAccessDate( Filename : String) : TDateTime');
15460:  Function FileDelete( Filename : String) : Boolean');
15461:  Function FileIsOpen( Filename : string) : boolean');
15462:  Procedure FilesDelete( FromDirectory : String; Filter : ShortString)');
15463:  Function DirectoryDelete( Directory : String) : Boolean');
15464:  Function GetPrinters( PrintersList : TStrings) : Integer');
15465:  Procedure SetDefaultPrinter( PrinterName : String)');
15466:  Procedure ShowDefaultPrinterWindowProperties( FormParent_Handle : Integer)');
15467:  Function WinToDosPath( WinPathName : String) : String');
15468:  Function DosToWinPath( DosPathName : String) : String');
15469:  Function cyGetWindowsVersion : TWindowsVersion');
15470:  Function NTSetPrivilege( sPrivilege : string; bEnabled : Boolean) : Boolean');
15471:  Procedure WindowsShutDown( Restart : boolean)');
15472:  Procedure CreateShortCut(FileSrc,Parametres,FileLnk,Descript,DossierDeTravail,
       FileIcon:string;NumIcone:integer);
15473:  Procedure GetWindowsFonts( FontsList : TStrings)');
15474:  Function GetAvailableFilename( DesiredFileName : String): String');
15475: end;
15476:
15477: procedure SIRegister_cyStrUtils(CL: TPSPascalCompiler);
15478: begin
15479:   Type(TStrLocateOption', '( strloCaseInsensitive, strloPartialKey )');
15480:   Type(TStrLocateOptions', 'set of TStrLocateOption');
15481:   Type(TStringRead', '( srFromLeft, srFromRight )');
15482:   Type(TStringReads', 'set of TStringRead');
15483:   Type(TCaseSensitive', '( csCaseSensitive, csCaseNotSensitive )');
15484:   Type(TWordsOption', '( woOnlyFirstWord, woOnlyFirstCar )');
15485:   Type(TWordsOptions', 'set of TWordsOption');
15486:   Type(TCarType', '(ctAlphabeticUppercase, ctAlphabeticLowercase, ctNumeric, ctOther )');
15487:   Type(TCarTypes', 'set of TCarType');
15488:   //CL.AddTypeS('TUnicodeCategories', 'set of TUnicodeCategory');
15489:  CarTypeAlphabetic','LongInt'):= ord(ctAlphabeticUppercase) or ord(ctAlphabeticLowercase);
15490:  Function Char_GetType( aChar : Char) : TCarType');
15491:  Function SubString_Count( Str : String; Separator : Char) : Integer');
15492:  Function SubString_AtPos( Str : String; Separator : Char; SubStringIndex : Word) : Integer');
15493:  Function SubString_Get( Str : String; Separator : Char; SubStringIndex : Word) : String');
15494:  Function SubString_Length( Str : String; Separator : Char; SubStringIndex : Word) : Integer');
15495:  Procedure SubString_Add( var Str : String; Separator : Char; Value : String)');
15496:  Procedure SubString_Insert(var Str:String;Separator:Char; SubStringIndex:Word; Value : String)');
15497:  Procedure SubString_Edit(var Str:String;Separator:Char;SubStringIndex:Word; NewValue : String)');
15498:  Function SubString_Remove(var Str:string; Separator:Char; SubStringIndex : Word) : Boolean');
15499:  Function SubString_Locate(Str:string;Separator:Char;SubString:String;Options:TStrLocateOptions):Integer;
15500:  Function SubString_Ribbon( Str : string; Separator : Char; Current: Word; MoveBy : Integer):Integer;');
15501:  Function SubString_Ribbon1(Str:string;Separator:Char;Current:String; MoveBy:Integer):String;');
15502:  Function String_Quote( Str : String) : String');
15503:  Function String_GetCar( Str : String; Position : Word; ReturnCarIfNotExists : Char) : Char');
15504:  Function String_ExtractCars(fromStr:String;CarTypes:TCarTypes;IncludeCars,ExcludeCars:String):String;
15505:  Function String_GetWord( Str : String; StringRead : TStringRead) : String');
15506:  Function String_GetInteger( Str : String; StringRead : TStringRead) : String');
15507:  Function String_ToInt( Str : String) : Integer');
15508:  Function String_Uppercase( Str : String; Options : TWordsOptions) : String');
15509:  Function String_Lowercase( Str : String; Options : TWordsOptions) : String');
15510:  Function String_Reverse( Str : String) : String');
15511:  Function String_Pos(SubStr:String;Str:String;fromPos:Integer;CaseSensitive:TCaseSensitive)Integer;
15512:  Function String_Pos1(SubStr:String;Str:String;StringRead:TStringRead; Occurrence:Word; CaseSensitive :
       TCaseSensitive):Integer;');
15513:  Function String_Copy( Str : String; fromIndex : Integer; toIndex : Integer) : String;');
```

```
15514:  Function String_Copy1(Str:String;StringRead:TStringRead;UntilFind:String;_Inclusive:Boolean):String;
15515:  Function String_Copy2(Str:String;Between1:String;Between1MustExist:Boolean; Between2:String;
        Between2MustExist : Boolean; CaseSensitive : TCaseSensitive) : String;');
15516:  Function String_Delete( Str : String; fromIndex : Integer; toIndex : Integer) : String;');
15517:  Function String_Delete1( Str : String; delStr : String; CaseSensitive:TCaseSensitive) : String;');
15518:  Function String_BoundsCut( Str : String; CutCar : Char; Bounds : TStringReads) : String');
15519:  Function String_BoundsAdd( Str : String; AddCar : Char; ReturnLength : Integer) : String');
15520:  Function String_Add(Str:String;StringRead:TStringRead;aCar:Char;ReturnLength:Integer):String');
15521:  Function String_End( Str : String; Cars : Word) : String');
15522:  Function String_Subst(OldStr:String; NewStr:String; Str:String; CaseSensitive : TCaseSensitive;
        AlwaysFindFromBeginning : Boolean) : String');
15523:  Function String_SubstCar( Str : String; Old, New : Char) : String');
15524:  Function String_Count( Str : String; SubStr : String; CaseSenSitive : TCaseSensitive) : Integer');
15525:  Function String_SameCars(Str1,Str2:String;StopCount_IfDiferent:Bool;CaseSensitive:TCaseSensitive):Integer;
15526:  Function String_IsNumbers( Str : String) : Boolean');
15527:  Function SearchPos( SubStr : String; Str : String; MaxErrors : Integer) : Integer');
15528:  Function StringToCsvCell( aStr : String) : String');
15529: end;
15530:
15531: procedure SIRegister_cyDateUtils(CL: TPSPascalCompiler);
15532: begin
15533:  Function LongDayName( aDate : TDate) : String');
15534:  Function LongMonthName( aDate : TDate) : String');
15535:  Function ShortYearOf( aDate : TDate) : byte');
15536:  Function DateToStrYYYYMMDD( aDate : TDate) : String');
15537:  Function StrYYYYMMDDToDate( aStr : String) : TDate');
15538:  Function SecondsToMinutes( Seconds : Integer) : Double');
15539:  Function MinutesToSeconds( Minutes : Double) : Integer');
15540:  Function MinutesToHours( Minutes : Integer) : Double');
15541:  Function HoursToMinutes( Hours : Double) : Integer');
15542:  Function ShortTimeStringToTime( ShortTimeStr : String; const ShortTimeFormat : String) : TDateTime');
15543:  Procedure cyAddMonths( var aMonth, aYear : Word; Months : Integer)');
15544:  Function MergeDateWithTime( aDate : TDate; aTime : TDateTime) : TDateTime');
15545:  Function GetMinutesBetween( DateTime1, DateTime2 : TDateTime) : Int64;');
15546:  Function GetMinutesBetween1(From_ShortTimeStr,To_ShortTimeStr:String;const ShortTimeFormat:String):Int64;
15547:  Function GetSecondsBetween( DateTime1, DateTime2 : TDateTime) : Int64;');
15548:  Function IntersectPeriods(Period1Begin,Period1End,Period2Begin,Period2End:TDateTime; var
        RsltBegin:TDateTime; RsltEnd : TDateTime) : Boolean;');
15549:  Function IntersectPeriods1(Period1Begin,Period1End,Period2Begin,Period2End:TDateTime):Boolean;
15550:  Function TryToEncodeDate( Year, Month, Day : Integer; var RsltDate : TDateTime) : Boolean');
15551: end;
15552:
15553: procedure SIRegister_cyObjUtils(CL: TPSPascalCompiler);
15554: begin
15555:   Type(TStringsSortType', '( stNone, stStringSensitive, stStringInsensitive, stExtended )');
15556:   Type(TStringsValueKind', '( skStringSensitive, skStringInsensitive, skExtended )');
15557:   Type(TcyLocateOption', '( lCaseInsensitive, lPartialKey )');
15558:   Type(TcyLocateOptions', 'set of TcyLocateOption');
15559:  Function StringsLocate( aList : TStrings; Value : String; Options : TcyLocateOptions) : Integer;');
15560:  Function StringsLocate1( aList : TStrings; Value : String; ValueKind : TStringsValueKind) : Integer;');
15561:  Function StringsAdd(aList:TStrings;Value:String;Unique:Boolean; SortType:TStringsSortType) : Integer');
15562:  Procedure StringsReplace(aList:TStrings;OldStr:String; NewStr:String;ValueKind : TStringsValueKind)');
15563:  Procedure StringsSort( aList : TStrings; SortType : TStringsSortType)');
15564:  Function TreeNodeLocate( ParentNode : TTreeNode; Value : String) : TTreeNode');
15565:  Function TreeNodeLocateOnLevel( TreeView : TTreeView; OnLevel : Integer; Value : String) : TTreeNode');
15566:  Function
        TreeNodeGetChildFromIndex(TreeView:TTreeView;ParentNode:TTreeNode;ChildIndex:Integer):TTreeNode');
15567:  Function TreeNodeGetParentOnLevel( ChildNode : TTreeNode; ParentLevel : Integer) : TTreeNode');
15568:  Procedure TreeNodeCopy(FromNode:TTreeNode;ToNode:TTreeNode;const CopyChildren:Boolean;const
        CopySubChildren:Bool;
15569:  Procedure RichEditSetStr( aRichEdit : TRichEdit; FormatedString : String)');
15570:  Procedure RichEditStringReplace(aRichEdit:TRichEdit;OldPattern,NewPattern:string;Flags:TReplaceFlags);
15571:  Function GetTopMostControlAtPos( FromControl : TWinControl; aControlPoint : TPoint) : TControl');
15572:  Procedure cyCenterControl( aControl : TControl)');
15573:  Function GetLastParent( aControl : TControl) : TWinControl');
15574:  Function GetControlBitmap( aControl : TWinControl) : TBitmap');
15575:  Function GetRichEditBitmap( aRichEdit : TRichEdit) : TBitmap');
15576: end;
15577:
15578: procedure SIRegister_cyBDE(CL: TPSPascalCompiler);
15579: begin
15580:  Function TablePackTable( Tab : TTable) : Boolean');
15581:  Function TableRegenIndexes( Tab : TTable) : Boolean');
15582:  Function TableShowDeletedRecords( Tab : TTable; Show : Boolean) : Boolean');
15583:  Function TableUndeleteRecord( Tab : TTable) : Boolean');
15584:  Function TableAddIndex(Tab:TTable;FieldName String;FieldExpression:String;IOpt:TIndexOptions):Bool;
15585:  Function TableDeleteIndex( Tab : TTable; IndexFieldName : String) : Boolean');
15586:  Function TableEmptyTable( Tab : TTable) : Boolean');
15587:  Function TableFindKey( aTable : TTable; Value : String) : Boolean');
15588:  Procedure TableFindNearest( aTable : TTable; Value : String)');
15589:  Function
        TableCreate(Owner:TComponent;DBaseName:ShortString;TblName:String;IdxName:ShortString;ReadOnly:Bool):TTable;
15590:  Function
        TableOpen(Tab:TTable;FileName:String;IndexFieldName:String;RecordIndexValue:Variant;GotoRecordIndexValue:Bool):Bool;
15591:  Function DateToBDESQLDate( aDate : TDate; const DateFormat : String) : String');
15592: end;
15593:
15594: procedure SIRegister_cyClasses(CL: TPSPascalCompiler);
15595: begin
```

```
15596:   SIRegister_TcyRunTimeDesign(CL);
15597:   SIRegister_TcyShadowText(CL);
15598:   SIRegister_TcyBgPicture(CL);
15599:   SIRegister_TcyGradient(CL);
15600:   SIRegister_tcyBevel(CL);
15601:   //CL.AddTypeS('TcyBevelClass', 'class of tcyBevel');
15602:   SIRegister_tcyBevels(CL);
15603:   SIRegister_TcyImagelistOptions(CL);
15604:  Procedure cyDrawBgPicture( aCanvas : TCanvas; aRect : TRect; aBgPicture : TcyBgPicture)');
15605: end;
15606:
15607: procedure SIRegister_cyGraphics(CL: TPSPascalCompiler);
15608: begin
15609:  Procedure cyGradientFill( aCanvas : TCanvas; aRect : TRect; fromColor, toColor : TColor;
       adgradOrientation : TdgradOrientation; Balance, AngleDegree : Word; balanceMode : TDgradBalanceMode;
       Maxdegrade : Byte;'+
15610:   SpeedPercent : Integer; const AngleClipRect : Boolean; const AngleBuffer : TBitmap)');
15611:  Procedure cyGradientFillVertical(aCanvas:TCanvas;aRect:TRect;fromColor,toColor:TColor;MaxDegrad : byte);
15612:  Procedure cyGradientFillHorizontal(aCanvas:TCanvas;aRect:TRect;fromColor,toColor:TColor;MaxDegrad:byte);
15613:  Procedure cyGradientFillShape( aCanvas : TCanvas; aRect : TRect; fromColor, toColor : TColor; MaxDegrad :
       Byte; toRect : TRect; OrientationShape : TDgradOrientationShape)');
15614:  Procedure cyGradientFillAngle( aCanvas : TCanvas; aRect : TRect; fromColor, toColor : TColor; MaxDegrad :
       Byte; AngleDegree : Word; const ClipRect : Boolean; const Buffer : TBitmap)');
15615:  Procedure DrawRectangleInside( aCanvas : TCanvas; InsideRect : TRect; FrameWidth : Integer)');
15616:  Procedure cyFrame( aCanvas : TCanvas; var InsideRect : TRect; Color : TColor; const Width : Integer);');
15617:  Procedure cyFrame1( Canvas : TCanvas; var InsideRect : TRect; LeftColor, TopColor, RightColor,
       BottomColor : TColor; const Width : Integer; const RoundRect : boolean);');
15618:  Procedure cyFrame3D(Canvas:TCanvas;var Rect:TRect;TopLeftColor,
       BottomRightColor:TColor;Width:Integer;const DrawLeft:Boolean;const DrawTop:Bool;const DrawRight:Bool;const
       DrawBottom:Bool;const RoundRect:bool;
15619:  Procedure cyDrawButtonFace(Canvas : TCanvas; var Rect : TRect; GradientColor1, GradientColor2 : TColor;
       aState : TButtonState; Focused, Hot : Boolean)');
15620:  Procedure cyDrawButton(Canvas:TCanvas; Caption:String;ARect:TRect; GradientColor1,GradientColor2:TColor;
       aState : TButtonState; Focused, Hot : Boolean)');
15621:  Procedure cyDrawSpeedButtonFace( Canvas : TCanvas; var Rect : TRect; GradientColor1, GradientColor2 :
       TColor; aState : TButtonState; Focused, Hot : Boolean)');
15622:  Procedure cyDrawSpeedButton( Canvas : TCanvas; Caption : String; ARect : TRect; GradientColor1,
       GradientColor2 : TColor; aState : TButtonState; Focused, Hot : Boolean)');
15623:  Procedure cyDrawCheckBox( Canvas : TCanvas; IsChecked : Boolean; ARect : TRect; const BgColor : TColor;
       const DarkFrameColor : TColor; const LightFrameColor : TColor; const MarkColor : TColor)');
15624:  Procedure cyDrawSingleLineText( Canvas : TCanvas; Text : String; ARect : TRect; Alignment : TAlignment;
       TextLayout : TTextLayout; const IndentX : Integer; const IndentY : Integer)');
15625:  Function DrawTextFormatFlags(aTextFormat:LongInt;Alignment
       TAlignment;Layout:TTextLayout;WordWrap:Bool):LongInt;
15626:  Function DrawTextFormatFlags1( aTextFormat : LongInt; Alignment : TAlignment; Layout : TTextLayout;
       WordWrap : Boolean; CaptionRender : TCaptionRender) : LongInt;');
15627:  Procedure cyDrawText( CanvasHandle : Cardinal; Text : String; var Rect : TRect; TextFormat : LongInt)');
15628:  Function cyCreateFontIndirect( fromFont : TFont; Angle : Double) : TFont;');
15629:  Function cyCreateFontIndirect1( fromFont : TFont; CaptionOrientation : TCaptionOrientation) : TFont;');
15630:  Procedure cyDrawVerticalText( Canvas : TCanvas; Text : String; var Rect : TRect; TextFormat : Longint;
       CaptionOrientation : TCaptionOrientation; Alignment : TAlignment; Layout : TTextLayout)');
15631:  Function DrawLeftTurnPageEffect( Canvas : TCanvas; PageColor : TColor; PageRect : TRect; PercentDone :
       Integer; const OnlyCalcFoldLine : Boolean) : TLineCoord');
15632:  Function DrawRightTurnPageEffect( Canvas : TCanvas; PageColor : TColor; PageRect : TRect; PercentDone :
       Integer; const OnlyCalcFoldLine : Boolean) : TLineCoord');
15633:  Function PictureIsTransparentAtPos( aPicture : TPicture; aPoint : TPoint):boolean');
15634:  Function IconIsTransparentAtPos( aIcon : TIcon; aPoint : TPoint) : boolean');
15635:  Function MetafileIsTransparentAtPos( aMetafile : TMetafile; aPoint : TPoint) : boolean');
15636:  Function PngImageIsTransparentAtPos( aPngImage : TPngImage; aPoint : TPoint) : boolean');
15637:  Procedure DrawCanvas( Destination : TCanvas; DestRect : TRect; Source : TCanvas; SourceRect : TRect);');
15638:  Procedure DrawCanvas1(Destination:TCanvas;
       DestRect:TRect;Src:TCanvas;SrcRect:TRect;TransparentColor:TColor; const aStyle:TBgStyle; const
       aPosition:TBgPosition; const IndentX : Integer; const IndentY : Integer;const IntervalX : Integer; const
       IntervalY : Integer; const RepeatX:Integer;const RepeatY:Integer);
15639:  Procedure DrawGraphic( Destination : TCanvas; DestRect : TRect; aGraphic : TGraphic; SrcRect : TRect;
       TransparentColor:TColor; const aStyle : TBgStyle; const aPosition : TBgPosition; const IndentX : Integer;
       const IndentY:Integer;const IntervalX:Integer;const IntervalY:Integer;const RepeatX:Integer;const
       RepeatY:Integer;
15640:  Procedure DrawGraphic1(Destination:TCanvas; DestRect:TRect;aGraphic : TGraphic; Transparent : Boolean;
       const aStyle : TBgStyle; const aPosition : TBgPosition; const IndentX : Integer; const IndentY : Integer;
       const  IntervalX:Integer; const IntervalY : Integer; const RepeatX:Integer; const RepeatY:Integer);');
15641:  Procedure DrawMosaicPortion( Destination : TCanvas; Portion : TRect; Pattern : TBitmap)');
15642:  Function ValidGraphic( aGraphic : TGraphic) : Boolean');
15643:  Function ColorSetPercentBrightness( Color : TColor; PercentLight : Integer) : TColor');
15644:  Function ColorModify( Color : TColor; incR, incG, incB : Integer) : TColor');
15645:  Function ColorSetPercentContrast( Color : TColor; IncPercent : Integer) : TColor');
15646:  Function ColorSetPercentPale( Color : TColor; IncPercent : integer) : TColor');
15647:  Function MediumColor( Color1, Color2 : TColor) : TColor');
15648:  Function ClientToScreenRect( aControl : TControl; aControlRect : TRect) : TRect');
15649:  Function ScreenToClientRect( aControl : TControl; aScreenRect : TRect) : TRect');
15650:  Function CombineRectKeepingCenterPosition( RectPos, AddRect : TRect) : TRect');
15651:  Procedure InflateRectPercent( var aRect : TRect; withPercent : Double)');
15652:  Function GetIntermediateRect( Rect1, Rect2 : TRect; Percent : Double) : TRect');
15653:  Function GetProportionalRect( fromRect, InsideRect : TRect) : TRect');
15654:  Function PointInRect( const aPt : TPoint; const aRect : TRect) : boolean');
15655:  Function PointInEllispe( const aPt : TPoint; const aRect : TRect) : boolean');
15656:  Function CanvasAcceleratorTextWidth( aCanvas : TCanvas; aText : String) : Integer');
15657: end;
15658:
```

```
15659: procedure SIRegister_cyTypes(CL: TPSPascalCompiler);
15660: begin
15661:   Type(TGlyphAlignment', '( gaLeft, gaCenter, gaRight )');
15662:   Type(TGlyphLayout', '( glTop, glCenter, glBottom )');
15663:   Type(TDisabledGlyphOptions', '( dgDoNotDraw, dgDrawNormal, dgDrawMonochrome )');
15664:   Type(TCaptionRender', '( crNormal, crPathEllipsis, crEndEllipsis, crWordEllipsis )');
15665:   Type(TCaptionOrientation', '( coHorizontal, coHorizontalReversed, coVertical, coVerticalReversed )');
15666:   Type(TBgPosition', '( bgCentered, bgTopLeft, bgTopCenter, bgTopRight,'
15667:    +' bgCenterRight, bgBottomRight, bgBottomCenter, bgBottomLeft, bgCenterLeft)');
15668:   Type(TBgStyle', '( bgNone, bgNormal, bgMosaic, bgStretch, bgStretchProportional )');
15669:   Type(TcyBevelCut', '( bcLowered, bcRaised, bcNone, bcTransparent, bcGradientToNext )');
15670:   Type(TDgradOrientation', '( dgdVertical, dgdHorizontal, dgdAngle, dgdRadial, dgdRectangle )');
15671:   Type(TDgradOrientationShape', '( osRadial, osRectangle )');
15672:   Type(TDgradBalanceMode(bmNormal,bmMirror,bmReverse,bmReverseFromColor,bmInvertReverse,
       bmInvertReverseFromColor);
15673:   Type(TRunTimeDesignJob', '( rjNothing, rjMove, rjResizeTop, rjResizeBottom, rjResizeLeft,
       rjResizeTopLeft,  rjResizeBottomLeft, rjResizeRight, rjResizeTopRight, rjResizeBottomRight )');
15674:   Type(TLineCoord', 'record BottomCoord : TPoint; TopCoord : TPoint; end');
15675:  cCaptionOrientationWarning','String')('Note that text orientation doesn''t work with all fonts!');
15676: end;
15677:
15678: procedure SIRegister_WinSvc(CL: TPSPascalCompiler);
15679: begin
15680:  Const SERVICES_ACTIVE_DATABASEA','String 'ServicesActive');
15681:  SERVICES_ACTIVE_DATABASEW','String') 'ServicesActive');
15682:  Const SERVICES_ACTIVE_DATABASE','String')' SERVICES_ACTIVE_DATABASEA');
15683:  Const SERVICES_FAILED_DATABASEA','String' 'ServicesFailed');
15684:  Const SERVICES_FAILED_DATABASEW','String' 'ServicesFailed');
15685:  Const SERVICES_FAILED_DATABASE','String' 'SERVICES_FAILED_DATABASEA');
15686:  Const SC_GROUP_IDENTIFIERA','String'). '+');
15687:  Const SC_GROUP_IDENTIFIERW','String') '+');
15688:  Const SC_GROUP_IDENTIFIER','string 'SC_GROUP_IDENTIFIERA');
15689:  Const SERVICE_NO_CHANGE','LongWord $FFFFFFFF);
15690:  Const SERVICE_ACTIVE','LongWord')( $00000001);
15691:  Const SERVICE_INACTIVE','LongWord $00000002);
15692:  Const SERVICE_CONTROL_STOP','LongWord $00000001);
15693:  Const SERVICE_CONTROL_PAUSE','LongWord $00000002);
15694:  Const SERVICE_CONTROL_CONTINUE','LongWord $00000003);
15695:  Const SERVICE_CONTROL_INTERROGATE','LongWord $00000004);
15696:  Const SERVICE_CONTROL_SHUTDOWN','LongWord $00000005);
15697:  Const SERVICE_STOPPED','LongWord $00000001);
15698:  Const SERVICE_START_PENDING','LongWord $00000002);
15699:  Const SERVICE_STOP_PENDING','LongWord $00000003);
15700:  Const SERVICE_RUNNING','LongWord $00000004);
15701:  Const SERVICE_CONTINUE_PENDING','LongWord $00000005);
15702:  Const SERVICE_PAUSE_PENDING','LongWord $00000006);
15703:  Const SERVICE_PAUSED','LongWord $00000007);
15704:  Const SERVICE_ACCEPT_STOP','LongWord $00000001);
15705:  Const SERVICE_ACCEPT_PAUSE_CONTINUE','LongWord $00000002);
15706:  Const SERVICE_ACCEPT_SHUTDOWN','LongWord $00000004);
15707:  Const SC_MANAGER_CONNECT','LongWord $0001);
15708:  Const SC_MANAGER_CREATE_SERVICE','LongWord $0002;
15709:  Const SC_MANAGER_ENUMERATE_SERVICE','LongWord $0004);
15710:  Const SC_MANAGER_LOCK','LongWord $0008);
15711:  Const SC_MANAGER_QUERY_LOCK_STATUS','LongWord $0010);
15712:  Const SC_MANAGER_MODIFY_BOOT_CONFIG','LongWord $0020);
15713:  Const SERVICE_QUERY_CONFIG','LongWord $0001);
15714:  Const SERVICE_CHANGE_CONFIG','LongWord $0002);
15715:  Const SERVICE_QUERY_STATUS','LongWord $0004);
15716:  Const SERVICE_ENUMERATE_DEPENDENTS','LongWord $0008);
15717:  Const SERVICE_START','LongWord $0010);
15718:  Const SERVICE_STOP','LongWord $0020);
15719:  Const SERVICE_PAUSE_CONTINUE','LongWord $0040);
15720:  Const SERVICE_INTERROGATE','LongWord $0080);
15721:  Const SERVICE_USER_DEFINED_CONTROL','LongWord $0100);
15722:  Const SERVICE_KERNEL_DRIVER','LongWord $00000001);
15723:  Const SERVICE_FILE_SYSTEM_DRIVER','LongWord $00000002);
15724:  Const SERVICE_ADAPTER','LongWord $00000004);
15725:  Const SERVICE_RECOGNIZER_DRIVER','LongWord $00000008);
15726:  Const SERVICE_WIN32_OWN_PROCESS','LongWord $00000010);
15727:  Const SERVICE_WIN32_SHARE_PROCESS','LongWord $00000020);
15728:  Const SERVICE_INTERACTIVE_PROCESS','LongWord $00000100);
15729:  Const SERVICE_BOOT_START','LongWord $00000000);
15730:  Const SERVICE_SYSTEM_START','LongWord $00000001);
15731:  Const SERVICE_AUTO_START','LongWord $00000002);
15732:  Const SERVICE_DEMAND_START','LongWord $00000003);
15733:  Const SERVICE_DISABLED','LongWord $00000004);
15734:  Const SERVICE_ERROR_IGNORE','LongWord $00000000);
15735:  Const SERVICE_ERROR_NORMAL','LongWord $00000001);
15736:  Const SERVICE_ERROR_SEVERE','LongWord $00000002);
15737:  Const SERVICE_ERROR_CRITICAL','LongWord $00000003);
15738:   CL.AddTypeS('SC_HANDLE', 'THandle');
15739:   //CL.AddTypeS('LPSC_HANDLE', '^SC_HANDLE // will not work');
15740:   CL.AddTypeS('SERVICE_STATUS_HANDLE', 'DWORD');
15741:   Const _SERVICE_STATUS', 'record dwServiceType : DWORD; dwCurrentState '
15742:    +': DWORD; dwControlsAccepted : DWORD; dwWin32ExitCode : DWORD; dwServiceSpe'
15743:    +'cificExitCode : DWORD; dwCheckPoint : DWORD; dwWaitHint : DWORD; end');
15744:   Const SERVICE_STATUS', '_SERVICE_STATUS');
15745:   Const TServiceStatus', '_SERVICE_STATUS');
```

```
15746:   CL.AddTypeS('_ENUM_SERVICE_STATUSA', 'record lpServiceName : PChar; lpDis'
15747:    +'playName : PChar; ServiceStatus : TServiceStatus; end');
15748:   ENUM_SERVICE_STATUSA', '_ENUM_SERVICE_STATUSA');
15749:   _ENUM_SERVICE_STATUS', '_ENUM_SERVICE_STATUSA');
15750:   TEnumServiceStatusA', '_ENUM_SERVICE_STATUSA');
15751:   TEnumServiceStatus', 'TEnumServiceStatusA');
15752:   SC_LOCK', '___Pointer');
15753:   _QUERY_SERVICE_LOCK_STATUSA', 'record fIsLocked:DWORD; lpLockOner: PChar;dwLockDuration:DWORD;end;
15754:   _QUERY_SERVICE_LOCK_STATUS', '_QUERY_SERVICE_LOCK_STATUSA');
15755:   QUERY_SERVICE_LOCK_STATUSA', '_QUERY_SERVICE_LOCK_STATUSA');
15756:   QUERY_SERVICE_LOCK_STATUS', 'QUERY_SERVICE_LOCK_STATUSA');
15757:   TQueryServiceLockStatusA', '_QUERY_SERVICE_LOCK_STATUSA');
15758:   //TQueryServiceLockStatusW', '_QUERY_SERVICE_LOCK_STATUSW');
15759:   TQueryServiceLockStatus', 'TQueryServiceLockStatusA');
15760:   _QUERY_SERVICE_CONFIGA', 'record dwServiceType : DWORD; dwStartT'
15761:    +'ype : DWORD; dwErrorControl : DWORD; lpBinaryPathName : PChar; lpLoadO'
15762:    +'rderGroup : PChar; dwTagId : DWORD; lpDependencies : PChar; lpServ'
15763:    +'iceStartName : PChar; lpDisplayName : PChar; end');
15764:   _QUERY_SERVICE_CONFIG', '_QUERY_SERVICE_CONFIGA');
15765:   QUERY_SERVICE_CONFIGA', '_QUERY_SERVICE_CONFIGA');
15766:   QUERY_SERVICE_CONFIG', 'QUERY_SERVICE_CONFIGA');
15767:   TQueryServiceConfigA', '_QUERY_SERVICE_CONFIGA');
15768:   TQueryServiceConfig', 'TQueryServiceConfigA');
15769:  Function CloseServiceHandle( hSCObject : SC_HANDLE) : BOOL');
15770:  Function ControlService(hService:SC_HANDLE;dwControl DWORD;var lpServiceStatus:TServiceStatus):BOOL;
15771:  Function CreateService( hSCManager : SC_HANDLE; lpServiceName, lpDisplayName : PChar; dwDesiredAccess,
      dwServiceType, dwStartType, dwErrorControl : DWORD; lpBinaryPathName, lpLoadOrderGroup : PChar;'
15772:  +' lpdwTagId : DWORD; lpDependencies, lpServiceStartName, lpPassword : PChar) : SC_HANDLE');
15773:  Function CreateServiceA( hSCManager : SC_HANDLE; lpServiceName, lpDisplayName : PChar; dwDesiredAccess,
      dwServiceType, dwStartType, dwErrorControl : DWORD; lpBinaryPathName, lpLoadOrderGroup : PChar; '
15774:  +'lpdwTagId : DWORD; lpDependencies, lpServiceStartName, lpPassword : PChar) : SC_HANDLE');
15775:  Function DeleteService( hService : SC_HANDLE) : BOOL');
15776:  Function EnumDependentServices( hService : SC_HANDLE; dwServiceState : DWORD; var lpServices :
      TEnumServiceStatus; cbBufSize : DWORD; var pcbBytesNeeded, lpServicesReturned : DWORD) : BOOL');
15777:  Function EnumServicesStatus( hSCManager : SC_HANDLE; dwServiceType, dwServiceState : DWORD; var
      lpServices : TEnumServiceStatus; cbBufSize : DWORD; var pcbBytesNeeded, lpServicesReturned, lpResumeHandle
      : DWORD):BOOL');
15778:  Function GetServiceKeyName(hSCManager:SC_HANDLE;pDisplayName,lpServiceName:PChar;var
      lpcchBuffer:DWORD):BOOL');
15779:  Function GetServiceDisplayName(hSCManager:SC_HANDLE;lpServiceNme,lpDisplayName:PChar;var
      lpcchBuffer:DWORD):BOOL;
15780:  Function LockServiceDatabase( hSCManager : SC_HANDLE) : SC_LOCK');
15781:  Function NotifyBootConfigStatus( BootAcceptable : BOOL) : BOOL');
15782:  Function OpenSCManager( lpMachineName, lpDatabaseName : PChar; dwDesiredAccess : DWORD) : SC_HANDLE');
15783:  Function OpenService(hSCManager:SC_HANDLE;lpServiceName:PChar;dwDesiredAccess:DWORD):SC_HANDLE');
15784:  Function QueryServiceLockStatus( hSCManager : SC_HANDLE; var lpLockStatus : TQueryServiceLockStatus;
      cbBufSize : DWORD; var pcbBytesNeeded : DWORD) : BOOL');
15785:  Function QueryServiceStatus(hService:SC_HANDLE;var lpServiceStatus:TServiceStatus):BOOL;
15786:  Function SetServiceStatus(hServiceStatus:SERVICE_STATUS_HANDLE;var lpServiceStatus:TServiceStatus):BOOL;
15787:  Function StartService(hService:SC_HANDLE;dwNumServiceArgs:DWORD;var lpServiceArgVectors:PChar):BOOL;
15788:  Function UnlockServiceDatabase( ScLock : SC_LOCK) : BOOL');
15789: end;
15790:
15791: procedure SIRegister_JvPickDate(CL: TPSPascalCompiler);
15792: begin
15793:  Function SelectDate( Sender : TWinControl; var Date : TDateTime; const DlgCaption : TCaption;
      AStartOfWeek : TDayOfWeekName; AWeekends: TDaysOfWeek;AWeekendColor:TColor;
      BtnHints:TStrings;MinDate:TDateTime;MaxDate: TDateTime):Boolean;
15794:  Function SelectDateStr(Sender:TWinControl;var StrDate:string;const
      DlgCaption:TCaption;AStartOfWeek:TDayOfWeekName;AWeekend:TDaysOfWeek;AWeekendClr:TColor;BtnHints:TStrings;MinDate:TDat
15795:  Function PopupDate(var Date:TDateTime; Edit:TWinControl; MinDate:TDateTime; MaxDate:TDateTime):Boolean;
15796:  Function CreatePopupCalendar(AOwner:TComponent;ABiDiMode:TBiDiMode;MinDate:TDateTime;MaxDate:TDateTime):
      TWinControl;
15797:  Procedure SetupPopupCalendar(PopupCalendar:TWinControl;AStartOfWeek:TDayOfWeekName;AWeekends:TDaysOfWeek;
      AWeekendColor:TColor;BtnHints:TStrings;FourDigitYear:Boolean;MinDate:TDateTime;MaxDate:TDateTime);
15798:  Function CreateNotifyThread(const
      FolderName:string;WatchSubtree:Bool;Filter:TFileChangeFilters):TJvNotifyThread;
15799: end;
15800:
15801: procedure SIRegister_JclNTFS2(CL: TPSPascalCompiler);
15802: begin
15803:   CL.AddClassN(CL.FindClass('TOBJECT'),'EJclNtfsError');
15804:   CL.AddTypeS('TFileCompressionState', '( fcNoCompression, fcDefaultCompression, fcLZNT1Compression )');
15805:  Function NtfsGetCompression2( const FileName : TFileName; var State : Short) : Boolean;');
15806:  Function NtfsGetCompression12( const FileName : TFileName) : TFileCompressionState;');
15807:  Function NtfsSetCompression2( const FileName : TFileName; const State : Short) : Boolean');
15808:  Procedure NtfsSetFileCompression2(const FileName : TFileName; const State : TFileCompressionState)');
15809:  Procedure NtfsSetDirectoryTreeCompression2(const Directory:string; const State:TFileCompressionState)');
15810:  Procedure NtfsSetDefaultFileCompression2(const Directory : string; const State:TFileCompressionState)');
15811:  Procedure NtfsSetPathCompression2(const Path:string;const State:TFileCompressionState;Recursive:Bool)');
15812:  Function NtfsSetSparse2( const FileName : string) : Boolean');
15813:  Function NtfsZeroDataByHandle2( const Handle : THandle; const First, Last : Int64) : Boolean');
15814:  Function NtfsZeroDataByName2( const FileName : string; const First, Last : Int64) : Boolean');
15815:  Function NtfsSparseStreamsSupported2( const Volume : string) : Boolean');
15816:  Function NtfsGetSparse2( const FileName : string) : Boolean');
15817:  Function NtfsDeleteReparsePoint2( const FileName : string; ReparseTag : DWORD) : Boolean');
15818:  Function NtfsSetReparsePoint2( const FileName : string; var ReparseData, Size : Longword) : Boolean');
15819:  Function NtfsGetReparseTag2( const Path : string; var Tag : DWORD) : Boolean');
15820:  Function NtfsReparsePointsSupported2( const Volume : string) : Boolean');
```

```
15821:  Function NtfsFileHasReparsePoint2( const Path : string) : Boolean');
15822:  Function NtfsIsFolderMountPoint2( const Path : string) : Boolean');
15823:  Function NtfsMountDeviceAsDrive2( const Device : WideString; Drive : Char) : Boolean');
15824:  Function NtfsMountVolume2( const Volume : WideChar; const MountPoint : WideString) : Boolean');
15825:   CL.AddTypeS('TOpLock', '( olExclusive, olReadOnly, olBatch, olFilter )');
15826:  Function NtfsOpLockAckClosePending2( Handle : THandle; Overlapped : TOverlapped) : Boolean');
15827:  Function NtfsOpLockBreakAckNo22( Handle : THandle; Overlapped : TOverlapped) : Boolean');
15828:  Function NtfsOpLockBreakAcknowledge2( Handle : THandle; Overlapped : TOverlapped) : Boolean');
15829:  Function NtfsOpLockBreakNotify2( Handle : THandle; Overlapped : TOverlapped) : Boolean');
15830:  Function NtfsRequestOpLock2( Handle : THandle; Kind : TOpLock; Overlapped : TOverlapped):Boolean');
15831:  Function NtfsCreateJunctionPoint2( const Source, Destination : string) : Boolean');
15832:  Function NtfsDeleteJunctionPoint2( const Source : string) : Boolean');
15833:  Function NtfsGetJunctionPointDestination2( const Source : string; var Destination: string):Boolean;
15834:   CL.AddTypeS('TStreamId', '( siInvalid, siStandard, siExtendedAttribute, siSec'
15835:    +'urity, siAlternate, siHardLink, siProperty, siObjectIdentifier, siReparsePoints,siSparseFile)');
15836:   CL.AddTypeS('TStreamIds', 'set of TStreamId');
15837:   TInternalFindStreamData', 'record FileHandle:THandle; Context: TObject; StreamIds:TStreamIds; end');
15838:   CL.AddTypeS('TFindStreamData', 'record Internal : TInternalFindStreamData; At'
15839:   +'tributes : DWORD; StreamID : TStreamId; Name: WideString; Size : Int64; end');
15840:  Function NtfsFindFirstStream2(const FileName:string;StreamIds:TStreamIds;var Data:TFindStreamData):Bool;
15841:  Function NtfsFindNextStream2( var Data : TFindStreamData) : Boolean');
15842:  Function NtfsFindStreamClose2( var Data : TFindStreamData) : Boolean');
15843:  Function NtfsCreateHardLink2( const LinkFileName, ExistingFileName : String) : Boolean');
15844:  Function NtfsCreateHardLinkA2( const LinkFileName, ExistingFileName : AnsiString) : Boolean');
15845:  Function NtfsCreateHardLinkW2( const LinkFileName, ExistingFileName : WideString) : Boolean');
15846:   CL.AddTypeS('TNtfsHardLinkInfo', 'record LinkCount : Cardinal; FileIndex : Int64; end');
15847:  Function NtfsGetHardLinkInfo2( const FileName : string; var Info : TNtfsHardLinkInfo) : Boolean');
15848:  Function NtfsFindHardLinks2(const Path:string;const FileIndexHigh,FileIndexLow:Card;const
      List:TStrings):Bool
15849:  Function NtfsDeleteHardLinks2( const FileName : string) : Boolean');
15850:   FindClass('TOBJECT'),'EJclFileSummaryError');
15851:   TJclFileSummaryAccess', '( fsaRead, fsaWrite, fsaReadWrite )');
15852:   TJclFileSummaryShare', '( fssDenyNone, fssDenyRead, fssDenyWrite, fssDenyAll )');
15853:   TJclFileSummaryPropSetCallback', 'Function ( const FMTID : TGUID) : Boolean');
15854:   CL.AddClassN(CL.FindClass('TOBJECT'),'TJclFileSummary');
15855:   SIRegister_TJclFilePropertySet(CL);
15856:   //CL.AddTypeS('TJclFilePropertySetClass', 'class of TJclFilePropertySet');
15857:   SIRegister_TJclFileSummary(CL);
15858:   SIRegister_TJclFileSummaryInformation(CL);
15859:   SIRegister_TJclDocSummaryInformation(CL);
15860:   SIRegister_TJclMediaFileSummaryInformation(CL);
15861:   SIRegister_TJclMSISummaryInformation(CL);
15862:   SIRegister_TJclShellSummaryInformation(CL);
15863:   SIRegister_TJclStorageSummaryInformation(CL);
15864:   SIRegister_TJclImageSummaryInformation(CL);
15865:   SIRegister_TJclDisplacedSummaryInformation(CL);
15866:   SIRegister_TJclBriefCaseSummaryInformation(CL);
15867:   SIRegister_TJclMiscSummaryInformation(CL);
15868:   SIRegister_TJclWebViewSummaryInformation(CL);
15869:   SIRegister_TJclMusicSummaryInformation(CL);
15870:   SIRegister_TJclDRMSummaryInformation(CL);
15871:   SIRegister_TJclVideoSummaryInformation(CL);
15872:   SIRegister_TJclAudioSummaryInformation(CL);
15873:   SIRegister_TJclControlPanelSummaryInformation(CL);
15874:   SIRegister_TJclVolumeSummaryInformation(CL);
15875:   SIRegister_TJclShareSummaryInformation(CL);
15876:   SIRegister_TJclLinkSummaryInformation(CL);
15877:   SIRegister_TJclQuerySummaryInformation(CL);
15878:   SIRegister_TJclImageInformation(CL);
15879:   SIRegister_TJclJpegSummaryInformation(CL);
15880: end;
15881:
15882: procedure SIRegister_Jcl8087(CL: TPSPascalCompiler);
15883: begin
15884:   AddTypeS('T8087Precision', '( pcSingle, pcReserved, pcDouble, pcExtended )');
15885:   T8087Rounding','( rcNearestOrEven, rcDownInfinity, rcUpInfinity, rcChopOrTruncate )');
15886:   T8087Infinity','( icProjective, icAffine )');
15887:   T8087Exception','(emInvalidOp,emDenormalizedOperand,emZeroDivide,emOverflow,emUnderflow,emPrecision;
15888:   CL.AddTypeS('T8087Exceptions', 'set of T8087Exception');
15889:  Function Get8087ControlWord : Word');
15890:  Function Get8087Infinity : T8087Infinity');
15891:  Function Get8087Precision : T8087Precision');
15892:  Function Get8087Rounding : T8087Rounding');
15893:  Function Get8087StatusWord( ClearExceptions : Boolean) : Word');
15894:  Function Set8087Infinity( const Infinity : T8087Infinity) : T8087Infinity');
15895:  Function Set8087Precision( const Precision : T8087Precision) : T8087Precision');
15896:  Function Set8087Rounding( const Rounding : T8087Rounding) : T8087Rounding');
15897:  Function Set8087ControlWord( const Control : Word) : Word');
15898:  Function ClearPending8087Exceptions : T8087Exceptions');
15899:  Function GetPending8087Exceptions : T8087Exceptions');
15900:  Function GetMasked8087Exceptions : T8087Exceptions');
15901:  Function SetMasked8087Exceptions(Exceptions: T8087Exceptions;ClearBefore:Boolean):T8087Exceptions');
15902:  Function Mask8087Exceptions( Exceptions:T8087Exceptions) : T8087Exceptions');
15903:  Function Unmask8087Exceptions(Exceptions:T8087Exceptions;ClearBefore : Boolean) : T8087Exceptions');
15904: end;
15905:
15906: procedure SIRegister_JvBoxProcs(CL: TPSPascalCompiler);
15907: begin
15908:  Procedure BoxMoveSelectedItems( SrcList, DstList : TWinControl)');
```

```
15909:  Procedure BoxMoveAllItems( SrcList, DstList : TWinControl)');
15910:  Procedure BoxDragOver(List:TWinControl;Source:TObject;X,Y:Int;State:TDragState;var
      Accept:Bool;Sorted:Bool;
15911:  Procedure BoxMoveFocusedItem( List : TWinControl; DstIndex : Integer)');
15912:  Procedure BoxMoveSelected( List : TWinControl; Items : TStrings)');
15913:  Procedure BoxSetItem( List : TWinControl; Index : Integer)');
15914:  Function BoxGetFirstSelection( List : TWinControl) : Integer');
15915:  Function BoxCanDropItem( List : TWinControl; X, Y : Integer; var DragIndex : Integer) : Boolean');
15916: end;
15917:
15918: procedure SIRegister_UrlMon(CL: TPSPascalCompiler);
15919: begin
15920:  //CL.AddConstantN('SZ_URLCONTEXT','POLEStr').SetString( 'URL Context');
15921:  //CL.AddConstantN('SZ_ASYNC_CALLEE','POLEStr').SetString( 'AsyncCallee');
15922:  CL.AddConstantN('MKSYS_URLMONIKER','LongInt').SetInt( 6);
15923:   type ULONG', 'Cardinal');
15924:      LPCWSTR', 'PChar');
15925:   CL.AddTypeS('LPWSTR', 'PChar');
15926:   LPSTR', 'PChar');
15927:   TBindVerb', 'ULONG');
15928:   TBindInfoF', 'ULONG');
15929:   TBindF', 'ULONG');
15930:   TBSCF', 'ULONG');
15931:   TBindStatus', 'ULONG');
15932:   TCIPStatus', 'ULONG');
15933:   TBindString', 'ULONG');
15934:   TPiFlags', 'ULONG');
15935:   TOIBdgFlags', 'ULONG');
15936:   TParseAction', 'ULONG');
15937:   TPSUAction', 'ULONG');
15938:   TQueryOption', 'ULONG');
15939:   TPUAF', 'ULONG');
15940:   TSZMFlags', 'ULONG');
15941:   TUrlZone', 'ULONG');
15942:   TUrlTemplate', 'ULONG');
15943:   TZAFlags', 'ULONG');
15944:   TUrlZoneReg', 'ULONG');
15945:  'URLMON_OPTION_USERAGENT','LongWord').SetUInt( $10000001);
15946:  CL.AddConstantN('URLMON_OPTION_USERAGENT_REFRESH','LongWord').SetUInt( $10000002);
15947:  const 'URLMON_OPTION_URL_ENCODING','LongWord').SetUInt( $10000004);
15948:  const 'URLMON_OPTION_USE_BINDSTRINGCREDS','LongWord').SetUInt( $10000008);
15949:  const 'CF_NULL','LongInt').SetInt( 0);
15950:  const 'CFSTR_MIME_NULL','LongInt').SetInt( 0);
15951:  const 'CFSTR_MIME_TEXT','String').SetString( 'text/plain');
15952:  const 'CFSTR_MIME_RICHTEXT','String').SetString( 'text/richtext');
15953:  const 'CFSTR_MIME_X_BITMAP','String').SetString( 'image/x-xbitmap');
15954:  const 'CFSTR_MIME_POSTSCRIPT','String').SetString( 'application/postscript');
15955:  const 'CFSTR_MIME_AIFF','String').SetString( 'audio/aiff');
15956:  const 'CFSTR_MIME_BASICAUDIO','String').SetString( 'audio/basic');
15957:  const 'CFSTR_MIME_WAV','String').SetString( 'audio/wav');
15958:  const 'CFSTR_MIME_X_WAV','String').SetString( 'audio/x-wav');
15959:  const 'CFSTR_MIME_GIF','String').SetString( 'image/gif');
15960:  const 'CFSTR_MIME_PJPEG','String').SetString( 'image/pjpeg');
15961:  const 'CFSTR_MIME_JPEG','String').SetString( 'image/jpeg');
15962:  const 'CFSTR_MIME_TIFF','String').SetString( 'image/tiff');
15963:  const 'CFSTR_MIME_X_PNG','String').SetString( 'image/x-png');
15964:  const 'CFSTR_MIME_BMP','String').SetString( 'image/bmp');
15965:  const 'CFSTR_MIME_X_ART','String').SetString( 'image/x-jg');
15966:  const 'CFSTR_MIME_X_EMF','String').SetString( 'image/x-emf');
15967:  const 'CFSTR_MIME_X_WMF','String').SetString( 'image/x-wmf');
15968:  const 'CFSTR_MIME_AVI','String').SetString( 'video/avi');
15969:  const 'CFSTR_MIME_MPEG','String').SetString( 'video/mpeg');
15970:  const 'CFSTR_MIME_FRACTALS','String').SetString( 'application/fractals');
15971:  const 'CFSTR_MIME_RAWDATA','String').SetString( 'application/octet-stream');
15972:  const 'CFSTR_MIME_RAWDATASTRM','String').SetString( 'application/octet-stream');
15973:  const 'CFSTR_MIME_PDF','String').SetString( 'application/pdf');
15974:  const 'CFSTR_MIME_X_AIFF','String').SetString( 'audio/x-aiff');
15975:  const 'CFSTR_MIME_X_REALAUDIO','String').SetString( 'audio/x-pn-realaudio');
15976:  const 'CFSTR_MIME_XBM','String').SetString( 'image/xbm');
15977:  const 'CFSTR_MIME_QUICKTIME','String').SetString( 'video/quicktime');
15978:  const 'CFSTR_MIME_X_MSVIDEO','String').SetString( 'video/x-msvideo');
15979:  const 'CFSTR_MIME_X_SGI_MOVIE','String').SetString( 'video/x-sgi-movie');
15980:  const 'CFSTR_MIME_HTML','String').SetString( 'text/html');
15981:  const 'MK_S_ASYNCHRONOUS','LongWord').SetUInt( $000401E8);
15982:  const 'S_ASYNCHRONOUS','LongWord').SetUInt( $000401E8);
15983:  const 'E_PENDING','LongWord').SetUInt( $8000000A);
15984:   CL.AddInterface(CL.FindInterface('IUNKNOWN'),IBinding, 'IBinding');
15985:   SIRegister_IPersistMoniker(CL);
15986:   SIRegister_IBindProtocol(CL);
15987:   SIRegister_IBinding(CL);
15988:  const 'BINDVERB_GET','LongWord').SetUInt( $00000000);
15989:  const 'BINDVERB_POST','LongWord').SetUInt( $00000001);
15990:  const 'BINDVERB_PUT','LongWord').SetUInt( $00000002);
15991:  const 'BINDVERB_CUSTOM','LongWord').SetUInt( $00000003);
15992:  const 'BINDINFOF_URLENCODESTGMEDDATA','LongWord').SetUInt( $00000001);
15993:  const 'BINDINFOF_URLENCODEDEXTRAINFO','LongWord').SetUInt( $00000002);
15994:  const 'BINDF_ASYNCHRONOUS','LongWord').SetUInt( $00000001);
15995:  const 'BINDF_ASYNCSTORAGE','LongWord').SetUInt( $00000002);
15996:  const 'BINDF_NOPROGRESSIVERENDERING','LongWord').SetUInt( $00000004);
```

```
15997:  const 'BINDF_OFFLINEOPERATION','LongWord').SetUInt( $00000008);
15998:  const 'BINDF_GETNEWESTVERSION','LongWord').SetUInt( $00000010);
15999:  const 'BINDF_NOWRITECACHE','LongWord').SetUInt( $00000020);
16000:  const 'BINDF_NEEDFILE','LongWord').SetUInt( $00000040);
16001:  const 'BINDF_PULLDATA','LongWord').SetUInt( $00000080);
16002:  const 'BINDF_IGNORESECURITYPROBLEM','LongWord').SetUInt( $00000100);
16003:  const 'BINDF_RESYNCHRONIZE','LongWord').SetUInt( $00000200);
16004:  const 'BINDF_HYPERLINK','LongWord').SetUInt( $00000400);
16005:  const 'BINDF_NO_UI','LongWord').SetUInt( $00000800);
16006:  const 'BINDF_SILENTOPERATION','LongWord').SetUInt( $00001000);
16007:  const 'BINDF_PRAGMA_NO_CACHE','LongWord').SetUInt( $00002000);
16008:  const 'BINDF_FREE_THREADED','LongWord').SetUInt( $00010000);
16009:  const 'BINDF_DIRECT_READ','LongWord').SetUInt( $00020000);
16010:  const 'BINDF_FORMS_SUBMIT','LongWord').SetUInt( $00040000);
16011:  const 'BINDF_GETFROMCACHE_IF_NET_FAIL','LongWord').SetUInt( $00080000);
16012:  //const 'BINDF_DONTUSECACHE','').SetString( BINDF_GETNEWESTVERSION);
16013:  //const 'BINDF_DONTPUTINCACHE','').SetString( BINDF_NOWRITECACHE);
16014:  //const 'BINDF_NOCOPYDATA','').SetString( BINDF_PULLDATA);
16015:  const 'BSCF_FIRSTDATANOTIFICATION','LongWord').SetUInt( $00000001);
16016:  const 'BSCF_INTERMEDIATEDATANOTIFICATION','LongWord').SetUInt( $00000002);
16017:  const 'BSCF_LASTDATANOTIFICATION','LongWord').SetUInt( $00000004);
16018:  const 'BSCF_DATAFULLYAVAILABLE','LongWord').SetUInt( $00000008);
16019:  const 'BSCF_AVAILABLEDATASIZEUNKNOWN','LongWord').SetUInt( $00000010);
16020:  const 'BINDSTATUS_FINDINGRESOURCE','LongInt').SetInt( 1);
16021:  const 'BINDSTATUS_CONNECTING','LongInt').SetInt( BINDSTATUS_FINDINGRESOURCE + 1);
16022:  const 'BINDSTATUS_REDIRECTING','LongInt').SetInt( BINDSTATUS_CONNECTING + 1);
16023:  const 'BINDSTATUS_BEGINDOWNLOADDATA','LongInt').SetInt( BINDSTATUS_REDIRECTING + 1);
16024:  const 'BINDSTATUS_DOWNLOADINGDATA','LongInt').SetInt( BINDSTATUS_BEGINDOWNLOADDATA + 1);
16025:  const 'BINDSTATUS_ENDDOWNLOADDATA','LongInt').SetInt( BINDSTATUS_DOWNLOADINGDATA + 1);
16026:  const 'BINDSTATUS_BEGINDOWNLOADCOMPONENTS','LongInt').SetInt( BINDSTATUS_ENDDOWNLOADDATA + 1);
16027:  const 'BINDSTATUS_INSTALLINGCOMPONENTS','LongInt').SetInt( BINDSTATUS_BEGINDOWNLOADCOMPONENTS + 1);
16028:  const 'BINDSTATUS_ENDDOWNLOADCOMPONENTS','LongInt').SetInt( BINDSTATUS_INSTALLINGCOMPONENTS + 1);
16029:  const 'BINDSTATUS_USINGCACHEDCOPY','LongInt').SetInt( BINDSTATUS_ENDDOWNLOADCOMPONENTS + 1);
16030:  const 'BINDSTATUS_SENDINGREQUEST','LongInt').SetInt( BINDSTATUS_USINGCACHEDCOPY + 1);
16031:  const 'BINDSTATUS_CLASSIDAVAILABLE','LongInt').SetInt( BINDSTATUS_SENDINGREQUEST + 1);
16032:  const 'BINDSTATUS_MIMETYPEAVAILABLE','LongInt').SetInt( BINDSTATUS_CLASSIDAVAILABLE + 1);
16033:  const 'BINDSTATUS_CACHEFILENAMEAVAILABLE','LongInt').SetInt( BINDSTATUS_MIMETYPEAVAILABLE + 1);
16034:  const 'BINDSTATUS_BEGINSYNCOPERATION','LongInt').SetInt( BINDSTATUS_CACHEFILENAMEAVAILABLE + 1);
16035:  const 'BINDSTATUS_ENDSYNCOPERATION','LongInt').SetInt( BINDSTATUS_BEGINSYNCOPERATION + 1);
16036:  const 'BINDSTATUS_BEGINUPLOADDATA','LongInt').SetInt( BINDSTATUS_ENDSYNCOPERATION + 1);
16037:  const 'BINDSTATUS_UPLOADINGDATA','LongInt').SetInt( BINDSTATUS_BEGINUPLOADDATA + 1);
16038:  const 'BINDSTATUS_ENDUPLOADDATA','LongInt').SetInt( BINDSTATUS_UPLOADINGDATA + 1);
16039:  const 'BINDSTATUS_PROTOCOLCLASSID','LongInt').SetInt( BINDSTATUS_ENDUPLOADDATA + 1);
16040:  const 'BINDSTATUS_ENCODING','LongInt').SetInt( BINDSTATUS_PROTOCOLCLASSID + 1);
16041:  const 'BINDSTATUS_VERIFIEDMIMETYPEAVAILABLE','LongInt').SetInt( BINDSTATUS_ENCODING + 1);
16042:  const 'BINDSTATUS_CLASSINSTALLLOCATION','LongInt').SetInt( BINDSTATUS_VERIFIEDMIMETYPEAVAILABLE + 1);
16043:  const 'BINDSTATUS_DECODING','LongInt').SetInt( BINDSTATUS_CLASSINSTALLLOCATION + 1);
16044:  const 'BINDSTATUS_LOADINGMIMEHANDLER','LongInt').SetInt( BINDSTATUS_DECODING + 1);
16045:  const 'BINDSTATUS_CONTENTDISPOSITIONATTACH','LongInt').SetInt( BINDSTATUS_LOADINGMIMEHANDLER + 1);
16046:  const 'BINDSTATUS_FILTERREPORTMIMETYPE','LongInt').SetInt( BINDSTATUS_CONTENTDISPOSITIONATTACH + 1);
16047:  const 'BINDSTATUS_CLSIDCANINSTANTIATE','LongInt').SetInt( BINDSTATUS_FILTERREPORTMIMETYPE + 1);
16048:  const 'BINDSTATUS_IUNKNOWNAVAILABLE','LongInt').SetInt( BINDSTATUS_CLSIDCANINSTANTIATE + 1);
16049:  const 'BINDSTATUS_DIRECTBIND','LongInt').SetInt( BINDSTATUS_IUNKNOWNAVAILABLE + 1);
16050:  const 'BINDSTATUS_RAWMIMETYPE','LongInt').SetInt( BINDSTATUS_DIRECTBIND + 1);
16051:  const 'BINDSTATUS_PROXYDETECTING','LongInt').SetInt( BINDSTATUS_RAWMIMETYPE + 1);
16052:  const 'BINDSTATUS_ACCEPTRANGES','LongInt').SetInt( BINDSTATUS_PROXYDETECTING + 1);
16053:  const 'BINDSTATUS_COOKIE_SENT','LongInt').SetInt( BINDSTATUS_ACCEPTRANGES + 1);
16054:  const 'BINDSTATUS_COMPACT_POLICY_RECEIVED','LongInt').SetInt( BINDSTATUS_COOKIE_SENT + 1);
16055:  const 'BINDSTATUS_COOKIE_SUPPRESSED','LongInt').SetInt( BINDSTATUS_COMPACT_POLICY_RECEIVED + 1);
16056:  const 'BINDSTATUS_COOKIE_STATE_UNKNOWN','LongInt').SetInt( BINDSTATUS_COOKIE_SUPPRESSED + 1);
16057:  const 'BINDSTATUS_COOKIE_STATE_ACCEPT','LongInt').SetInt( BINDSTATUS_COOKIE_STATE_UNKNOWN + 1);
16058:  const 'BINDSTATUS_COOKIE_STATE_REJECT','LongInt').SetInt( BINDSTATUS_COOKIE_STATE_ACCEPT + 1);
16059:  const 'BINDSTATUS_COOKIE_STATE_PROMPT','LongInt').SetInt( BINDSTATUS_COOKIE_STATE_REJECT + 1);
16060:  const 'BINDSTATUS_COOKIE_STATE_LEASH','LongInt').SetInt( BINDSTATUS_COOKIE_STATE_PROMPT + 1);
16061:  const 'BINDSTATUS_COOKIE_STATE_DOWNGRADE','LongInt').SetInt( BINDSTATUS_COOKIE_STATE_LEASH + 1);
16062:  const 'BINDSTATUS_POLICY_HREF','LongInt').SetInt( BINDSTATUS_COOKIE_STATE_DOWNGRADE + 1);
16063:  const 'BINDSTATUS_P3P_HEADER','LongInt').SetInt( BINDSTATUS_POLICY_HREF + 1);
16064:  const 'BINDSTATUS_SESSION_COOKIE_RECEIVED','LongInt').SetInt( BINDSTATUS_P3P_HEADER + 1);
16065:  const 'BINDSTATUS_PERSISTENT_COOKIE_RECEIVED','LongInt').SetInt( BINDSTATUS_SESSION_COOKIE_RECEIVED + 1);
16066:  const 'BINDSTATUS_SESSION_COOKIES_ALLOWED','LongInt').SetInt( BINDSTATUS_PERSISTENT_COOKIE_RECEIVED + 1);
16067:  const 'BINDSTATUS_CACHECONTROL','LongInt').SetInt( BINDSTATUS_SESSION_COOKIES_ALLOWED + 1);
16068:  const 'BINDSTATUS_CONTENTDISPOSITIONFILENAME','LongInt').SetInt( BINDSTATUS_CACHECONTROL + 1);
16069:  const 'BINDSTATUS_MIMETEXTPLAINMISMATCH','LongInt').SetInt( BINDSTATUS_CONTENTDISPOSITIONFILENAME + 1);
16070:  const 'BINDSTATUS_PUBLISHERAVAILABLE','LongInt').SetInt( BINDSTATUS_MIMETEXTPLAINMISMATCH + 1);
16071:  const 'BINDSTATUS_DISPLAYNAMEAVAILABLE','LongInt').SetInt( BINDSTATUS_PUBLISHERAVAILABLE + 1);
16072:  // PBindInfo', '^TBindInfo // will not work');
16073:   {_tagBINDINFO', 'record cbSize : ULONG; szExtraInfo : LPWSTR; stg'
16074:    +'medData : TStgMedium; grfBindInfoF : DWORD; dwBindVerb : DWORD; szCustomVe'
16075:    +'rb : LPWSTR; cbstgmedData : DWORD; dwOptions : DWORD; dwOptionsFlags : DWO'
16076:    +'RD; dwCodePage : DWORD; securityAttributes : TSecurityAttributes; iid : TG'
16077:    +'UID; pUnk : IUnknown; dwReserved : DWORD; end');
16078:   TBindInfo', '_tagBINDINFO');
16079:   BINDINFO', '_tagBINDINFO');}
16080:   _REMSECURITY_ATTRIBUTES', 'record nLength : DWORD; lpSecurityDes'
16081:    +'criptor : DWORD; bInheritHandle : BOOL; end');
16082:   TRemSecurityAttributes', '_REMSECURITY_ATTRIBUTES');
16083:   REMSECURITY_ATTRIBUTES', '_REMSECURITY_ATTRIBUTES');
16084:   //PRemBindInfo', '^TRemBindInfo // will not work');
16085:   {_tagRemBINDINFO', 'record cbSize : ULONG; szExtraInfo : LPWSTR; '
```

```
16086:    +'grfBindInfoF : DWORD; dwBindVerb : DWORD; szCustomVerb : LPWSTR; cbstgmedD'
16087:    +'ata : DWORD; dwOptions : DWORD; dwOptionsFlags : DWORD; dwCodePage : DWORD'
16088:    +'; securityAttributes : TRemSecurityAttributes; iid : TGUID; pUnk : IUnknow'
16089:    +'n; dwReserved : DWORD; end');
16090:   TRemBindInfo', '_tagRemBINDINFO');
16091:   RemBINDINFO', '_tagRemBINDINFO');}
16092:   //PRemFormatEtc', '^TRemFormatEtc // will not work');
16093:   tagRemFORMATETC','record cfFormat:DWORD; ptd:DWORD; dwAspect:DWORD;lindex:Longint;tymed:DWORD; end');
16094:   TRemFormatEtc', 'tagRemFORMATETC');
16095:   RemFORMATETC', 'tagRemFORMATETC');
16096:   SIRegister_IBindStatusCallback(CL);
16097:   SIRegister_IAuthenticate(CL);
16098:   SIRegister_IHttpNegotiate(CL);
16099:   SIRegister_IWindowForBindingUI(CL);
16100:  const 'CIP_DISK_FULL','LongInt').SetInt( 0);
16101:  const 'CIP_ACCESS_DENIED','LongInt').SetInt( CIP_DISK_FULL + 1);
16102:  const 'CIP_NEWER_VERSION_EXISTS','LongInt').SetInt( CIP_ACCESS_DENIED + 1);
16103:  const 'CIP_OLDER_VERSION_EXISTS','LongInt').SetInt( CIP_NEWER_VERSION_EXISTS + 1);
16104:  const 'CIP_NAME_CONFLICT','LongInt').SetInt( CIP_OLDER_VERSION_EXISTS + 1);
16105:  const 'CIP_TRUST_VERIFICATION_COMPONENT_MISSING','LongInt').SetInt( CIP_NAME_CONFLICT + 1);
16106:  const 'CIP_EXE_SELF_REGISTERATION_TIMEOUT',LongInt( CIP_TRUST_VERIFICATION_COMPONENT_MISSING + 1);
16107:  const 'CIP_UNSAFE_TO_ABORT','LongInt').SetInt( CIP_EXE_SELF_REGISTERATION_TIMEOUT + 1);
16108:  const 'CIP_NEED_REBOOT','LongInt').SetInt( CIP_UNSAFE_TO_ABORT + 1);
16109:  const 'CIP_NEED_REBOOT_UI_PERMISSION','LongInt').SetInt( CIP_NEED_REBOOT + 1);
16110:   SIRegister_ICodeInstall(CL);
16111:   SIRegister_IWinInetInfo(CL);
16112:  const 'WININETINFO_OPTION_LOCK_HANDLE','LongInt').SetInt( 65534);
16113:   SIRegister_IHttpSecurity(CL);
16114:   SIRegister_IWinInetHttpInfo(CL);
16115:   SIRegister_IBindHost(CL);
16116:  const 'URLOSTRM_USECACHEDCOPY_ONLY','LongWord').SetUInt( $00000001);
16117:  const 'URLOSTRM_USECACHEDCOPY','LongWord').SetUInt( $00000002);
16118:  const 'URLOSTRM_GETNEWESTVERSION','LongWord').SetUInt( $00000003);
16119:  Function URLOpenStream( p1 : IUnknown; p2 : PChar; p3 : DWORD; p4 : IBindStatusCallback) : HResult');
16120:  Function URLOpenPullStream( p1 : IUnknown; p2 : PChar; p3 : DWORD; BSC : IBindStatusCallback) : HResult');
16121:  Function URLDownloadToFile( Caller : IUnknown; URL : PChar; FileName : PChar; Reserved : DWORD; StatusCB
       : IBindStatusCallback) : HResult');
16122:  Function URLDownloadToCacheFile( p1 : IUnknown; p2 : PChar; p3 : PChar; p4 : DWORD; p5 : DWORD; p6 :
      IBindStatusCallback) : HResult');
16123:  Function URLOpenBlockingStream(p1:IUnknown;p2:PChar;out
      p3:IStream;p4:DWORD;p5:IBindStatusCallback):HResult');
16124:  Function HlinkGoBack( unk : IUnknown) : HResult');
16125:  Function HlinkGoForward( unk : IUnknown) : HResult');
16126:  Function HlinkNavigateString( unk : IUnknown; szTarget : LPCWSTR) : HResult');
16127: // Function HlinkNavigateMoniker( Unk : IUnknown; mkTarget : IMoniker) : HResult');
16128:   SIRegister_IInternet(CL);
16129:  const 'BINDSTRING_HEADERS','LongInt').SetInt( 1);
16130:  const 'BINDSTRING_ACCEPT_MIMES','LongInt').SetInt( BINDSTRING_HEADERS + 1);
16131:  const 'BINDSTRING_EXTRA_URL','LongInt').SetInt( BINDSTRING_ACCEPT_MIMES + 1);
16132:  const 'BINDSTRING_LANGUAGE','LongInt').SetInt( BINDSTRING_EXTRA_URL + 1);
16133:  const 'BINDSTRING_USERNAME','LongInt').SetInt( BINDSTRING_LANGUAGE + 1);
16134:  const 'BINDSTRING_PASSWORD','LongInt').SetInt( BINDSTRING_USERNAME + 1);
16135:  const 'BINDSTRING_UA_PIXELS','LongInt').SetInt( BINDSTRING_PASSWORD + 1);
16136:  const 'BINDSTRING_UA_COLOR','LongInt').SetInt( BINDSTRING_UA_PIXELS + 1);
16137:  const 'BINDSTRING_OS','LongInt').SetInt( BINDSTRING_UA_COLOR + 1);
16138:  const 'BINDSTRING_USER_AGENT','LongInt').SetInt( BINDSTRING_OS + 1);
16139:  const 'BINDSTRING_ACCEPT_ENCODINGS','LongInt').SetInt( BINDSTRING_USER_AGENT + 1);
16140:  const 'BINDSTRING_POST_COOKIE','LongInt').SetInt( BINDSTRING_ACCEPT_ENCODINGS + 1);
16141:  const 'BINDSTRING_POST_DATA_MIME','LongInt').SetInt( BINDSTRING_POST_COOKIE + 1);
16142:  const 'BINDSTRING_URL','LongInt').SetInt( BINDSTRING_POST_DATA_MIME + 1);
16143:   //POLEStrArray', '^TOLESTRArray // will not work');
16144:   SIRegister_IInternetBindInfo(CL);
16145:  const 'PI_PARSE_URL','LongWord').SetUInt( $00000001);
16146:  const 'PI_FILTER_MODE','LongWord').SetUInt( $00000002);
16147:  const 'PI_FORCE_ASYNC','LongWord').SetUInt( $00000004);
16148:  const 'PI_USE_WORKERTHREAD','LongWord').SetUInt( $00000008);
16149:  const 'PI_MIMEVERIFICATION','LongWord').SetUInt( $00000010);
16150:  const 'PI_CLSIDLOOKUP','LongWord').SetUInt( $00000020);
16151:  const 'PI_DATAPROGRESS','LongWord').SetUInt( $00000040);
16152:  const 'PI_SYNCHRONOUS','LongWord').SetUInt( $00000080);
16153:  const 'PI_APARTMENTTHREADED','LongWord').SetUInt( $00000100);
16154:  const 'PI_CLASSINSTALL','LongWord').SetUInt( $00000200);
16155:  const 'PD_FORCE_SWITCH','LongWord').SetUInt( $00010000);
16156:  //const 'PI_DOCFILECLSIDLOOKUP','').SetString( PI_CLSIDLOOKUP);
16157:   //PProtocolData', '^TProtocolData // will not work');
16158:   _tagPROTOCOLDATA','record grfFlags:DWORD; dwState:DWORD; pData : TObject; cbData : ULONG; end');
16159:   TProtocolData', '_tagPROTOCOLDATA');
16160:   PROTOCOLDATA', '_tagPROTOCOLDATA');
16161:   CL.AddInterface(CL.FindInterface('IUNKNOWN'),IInternetProtocolSink, 'IInternetProtocolSink');
16162:   SIRegister_IInternetProtocolRoot(CL);
16163:   SIRegister_IInternetProtocol(CL);
16164:   SIRegister_IInternetProtocolSink(CL);
16165:  const 'OIBDG_APARTMENTTHREADED','LongWord').SetUInt( $00000100);
16166:   SIRegister_IInternetSession(CL);
16167:   SIRegister_IInternetThreadSwitch(CL);
16168:   SIRegister_IInternetPriority(CL);
16169:  const 'PARSE_CANONICALIZE','LongInt').SetInt( 1);
16170:  const 'PARSE_FRIENDLY','LongInt').SetInt( PARSE_CANONICALIZE + 1);
16171:  const 'PARSE_SECURITY_URL','LongInt').SetInt( PARSE_FRIENDLY + 1);
```

```
16172:  const 'PARSE_ROOTDOCUMENT','LongInt').SetInt( PARSE_SECURITY_URL + 1);
16173:  const 'PARSE_DOCUMENT','LongInt').SetInt( PARSE_ROOTDOCUMENT + 1);
16174:  const 'PARSE_ANCHOR','LongInt').SetInt( PARSE_DOCUMENT + 1);
16175:  const 'PARSE_ENCODE','LongInt').SetInt( PARSE_ANCHOR + 1);
16176:  const 'PARSE_DECODE','LongInt').SetInt( PARSE_ENCODE + 1);
16177:  const 'PARSE_PATH_FROM_URL','LongInt').SetInt( PARSE_DECODE + 1);
16178:  const 'PARSE_URL_FROM_PATH','LongInt').SetInt( PARSE_PATH_FROM_URL + 1);
16179:  const 'PARSE_MIME','LongInt').SetInt( PARSE_URL_FROM_PATH + 1);
16180:  const 'PARSE_SERVER','LongInt').SetInt( PARSE_MIME + 1);
16181:  const 'PARSE_SCHEMA','LongInt').SetInt( PARSE_SERVER + 1);
16182:  const 'PARSE_SITE','LongInt').SetInt( PARSE_SCHEMA + 1);
16183:  const 'PARSE_DOMAIN','LongInt').SetInt( PARSE_SITE + 1);
16184:  const 'PARSE_LOCATION','LongInt').SetInt( PARSE_DOMAIN + 1);
16185:  const 'PARSE_SECURITY_DOMAIN','LongInt').SetInt( PARSE_LOCATION + 1);
16186:  const 'PSU_DEFAULT','LongInt').SetInt( 1);
16187:  const 'PSU_SECURITY_URL_ONLY','LongInt').SetInt( PSU_DEFAULT + 1);
16188:  const 'QUERY_EXPIRATION_DATE','LongInt').SetInt( 1);
16189:  const 'QUERY_TIME_OF_LAST_CHANGE','LongInt').SetInt( QUERY_EXPIRATION_DATE + 1);
16190:  const 'QUERY_CONTENT_ENCODING','LongInt').SetInt( QUERY_TIME_OF_LAST_CHANGE + 1);
16191:  const 'QUERY_CONTENT_TYPE','LongInt').SetInt( QUERY_CONTENT_ENCODING + 1);
16192:  const 'QUERY_REFRESH','LongInt').SetInt( QUERY_CONTENT_TYPE + 1);
16193:  const 'QUERY_RECOMBINE','LongInt').SetInt( QUERY_REFRESH + 1);
16194:  const 'QUERY_CAN_NAVIGATE','LongInt').SetInt( QUERY_RECOMBINE + 1);
16195:  const 'QUERY_USES_NETWORK','LongInt').SetInt( QUERY_CAN_NAVIGATE + 1);
16196:  const 'QUERY_IS_CACHED','LongInt').SetInt( QUERY_USES_NETWORK + 1);
16197:  const 'QUERY_IS_INSTALLEDENTRY','LongInt').SetInt( QUERY_IS_CACHED + 1);
16198:  const 'QUERY_IS_CACHED_OR_MAPPED','LongInt').SetInt( QUERY_IS_INSTALLEDENTRY + 1);
16199:  const 'QUERY_USES_CACHE','LongInt').SetInt( QUERY_IS_CACHED_OR_MAPPED + 1);
16200:  const 'QUERY_IS_SECURE','LongInt').SetInt( QUERY_USES_CACHE + 1);
16201:  const 'QUERY_IS_SAFE','LongInt').SetInt( QUERY_IS_SECURE + 1);
16202:   SIRegister_IInternetProtocolInfo(CL);
16203:   IOInet', 'IInternet');
16204:   IOInetBindInfo', 'IInternetBindInfo');
16205:   IOInetProtocolRoot', 'IInternetProtocolRoot');
16206:   IOInetProtocol', 'IInternetProtocol');
16207:   IOInetProtocolSink', 'IInternetProtocolSink');
16208:   IOInetProtocolInfo', 'IInternetProtocolInfo');
16209:   IOInetSession', 'IInternetSession');
16210:   IOInetPriority', 'IInternetPriority');
16211:   IOInetThreadSwitch', 'IInternetThreadSwitch');
16212:  Function CoInternetParseUrl( pwzUrl : LPCWSTR; ParseAction : TParseAction; dwFlags : DWORD; pszResult :
      LPWSTR; cchResult : DWORD; var pcchResult : DWORD; dwReserved : DWORD) : HResult');
16213:  Function CoInternetCombineUrl( pwzBaseUrl, pwzRelativeUrl : LPCWSTR; dwCombineFlags : DWORD; pszResult :
      LPWSTR; cchResult : DWORD; var pcchResult : DWORD; dwReserved : DWORD) : HResult');
16214:  Function CoInternetCompareUrl( pwzUrl1, pwzUrl2 : LPCWSTR; dwFlags : DWORD) : HResult');
16215:  Function CoInternetGetProtocolFlags(pwzUrl:LPCWSTR;var dwFlags DWORD; dwReserved:DWORD):HResult');
16216:  Function CoInternetQueryInfo( pwzUrl : LPCWSTR; QueryOptions : TQueryOption; dwQueryFlags : DWORD;
      pvBuffer : TObject; cbBuffer : DWORD; var pcbBuffer : DWORD; dwReserved : DWORD) : HResult');
16217:  Function CoInternetGetSession(dwSessionMode:DWORD; var pIInternetSession:
      IInternetSes;dwReserved:DWORD):HResult;
16218:  Function CoInternetGetSecurityUrl(pwzUrl:LPCWSTR;var
      pwzSecUrl:LPWSTR;psuAct:TPSUAction;dwReserv:DWORD):HResult;
16219:  Function OInetParseUrl( pwzUrl : LPCWSTR; ParseAction : TParseAction; dwFlags : DWORD; pszResult :
      LPWSTR; cchResult : DWORD; var pcchResult : DWORD; dwReserved : DWORD) : HResult');
16220:  Function OInetCombineUrl( pwzBaseUrl, pwzRelativeUrl : LPCWSTR; dwCombineFlags : DWORD; pszResult :
      LPWSTR; cchResult : DWORD; var pcchResult : DWORD; dwReserved : DWORD) : HResult');
16221:  Function OInetCompareUrl( pwzUrl1, pwzUrl2 : LPCWSTR; dwFlags : DWORD) : Hresult');
16222:  Function OInetGetProtocolFlags( pwzUrl : LPCWSTR; var dwFlags : DWORD; dwReserved : DWORD) : HResult');
16223:  Function OInetQueryInfo( pwzUrl : LPCWSTR; QueryOptions : TQueryOption; dwQueryFlags : DWORD; pvBuffer :
      TObject; cbBuffer : DWORD; var pcbBuffer : DWORD; dwReserved : DWORD) : HResult');
16224:  Function OInetGetSession(dwSessionMode:DWORD; var
      pIInternetSession:IInternetSession;dwReserved:DWORD):HResult;
16225:    //Function CopyBindInfo( const cbiSrc : TBindInfo; var biDest : TBindInfo) : HResult');
16226:   //Procedure ReleaseBindInfo( const bindinfo : TBindInfo)');
16227: // const 'INET_E_USE_DEFAULT_PROTOCOLHANDLER','LongWord').SetUInt( HResult ( $800C0011 ));
16228: // const 'INET_E_USE_DEFAULT_SETTING','LongWord').SetUInt( HResult ( $800C0012 ));
16229:  //const 'INET_E_DEFAULT_ACTION','LongWord').SetUInt( HResult ( $800C0011 ));
16230:  //const 'INET_E_QUERYOPTION_UNKNOWN','LongWord').SetUInt( HResult ( $800C0013 ));
16231:  //const 'INET_E_REDIRECTING','LongWord').SetUInt( HResult ( $800C0014 ));
16232:  const 'PROTOCOLFLAG_NO_PICS_CHECK','LongWord').SetUInt( $00000001);
16233:   SIRegister_IInternetSecurityMgrSite(CL);
16234:  const 'MUTZ_NOSAVEDFILECHECK','LongWord').SetUInt( $00000001);
16235:  const 'MUTZ_ISFILE','LongWord').SetUInt( $00000002);
16236:  const 'MUTZ_ACCEPT_WILDCARD_SCHEME','LongWord').SetUInt( $00000080);
16237:  const 'MUTZ_ENFORCERESTRICTED','LongWord').SetUInt( $00000100);
16238:  const 'MUTZ_REQUIRESAVEDFILECHECK','LongWord').SetUInt( $00000400);
16239:  const 'MAX_SIZE_SECURITY_ID','LongInt').SetInt( 512);
16240:  const 'PUAF_DEFAULT','LongWord').SetUInt( $00000000);
16241:  const 'PUAF_NOUI','LongWord').SetUInt( $00000001);
16242:  const 'PUAF_ISFILE','LongWord').SetUInt( $00000002);
16243:  const 'PUAF_WARN_IF_DENIED','LongWord').SetUInt( $00000004);
16244:  const 'PUAF_FORCEUI_FOREGROUND','LongWord').SetUInt( $00000008);
16245:  const 'PUAF_CHECK_TIFS','LongWord').SetUInt( $00000010);
16246:  const 'PUAF_DONTCHECKBOXINDIALOG','LongWord').SetUInt( $00000020);
16247:  const 'PUAF_TRUSTED','LongWord').SetUInt( $00000040);
16248:  const 'PUAF_ACCEPT_WILDCARD_SCHEME','LongWord').SetUInt( $00000080);
16249:  const 'PUAF_ENFORCERESTRICTED','LongWord').SetUInt( $00000100);
16250:  const 'PUAF_NOSAVEDFILECHECK','LongWord').SetUInt( $00000200);
16251:  const 'PUAF_REQUIRESAVEDFILECHECK','LongWord').SetUInt( $00000400);
```

```
16252:  const 'PUAF_LMZ_UNLOCKED','LongWord').SetUInt( $00010000);
16253:  const 'PUAF_LMZ_LOCKED','LongWord').SetUInt( $00020000);
16254:  const 'PUAF_DEFAULTZONEPOL','LongWord').SetUInt( $00040000);
16255:  const 'PUAF_NPL_USE_LOCKED_IF_RESTRICTED','LongWord').SetUInt( $00080000);
16256:  const 'PUAF_NOUIIFLOCKED','LongWord').SetUInt( $00100000);
16257:  const 'PUAFOUT_DEFAULT','LongWord').SetUInt( $0);
16258:  const 'PUAFOUT_ISLOCKZONEPOLICY','LongWord').SetUInt( $1);
16259:  const 'SZM_CREATE','LongWord').SetUInt( $00000000);
16260:  const 'SZM_DELETE','LongWord').SetUInt( $00000001);
16261:   SIRegister_IInternetSecurityManager(CL);
16262:   SIRegister_IInternetHostSecurityManager(CL);
16263:   SIRegister_IInternetSecurityManagerEx(CL);
16264:  const 'URLACTION_MIN','LongWord').SetUInt( $00001000);
16265:  const 'URLACTION_DOWNLOAD_MIN','LongWord').SetUInt( $00001000);
16266:  const 'URLACTION_DOWNLOAD_SIGNED_ACTIVEX','LongWord').SetUInt( $00001001);
16267:  const 'URLACTION_DOWNLOAD_UNSIGNED_ACTIVEX','LongWord').SetUInt( $00001004);
16268:  const 'URLACTION_DOWNLOAD_CURR_MAX','LongWord').SetUInt( $00001004);
16269:  const 'URLACTION_DOWNLOAD_MAX','LongWord').SetUInt( $000011FF);
16270:  const 'URLACTION_ACTIVEX_MIN','LongWord').SetUInt( $00001200);
16271:  const 'URLACTION_ACTIVEX_RUN','LongWord').SetUInt( $00001200);
16272:  const 'URLACTION_ACTIVEX_OVERRIDE_OBJECT_SAFETY','LongWord').SetUInt( $00001201);
16273:  const 'URLACTION_ACTIVEX_OVERRIDE_DATA_SAFETY','LongWord').SetUInt( $00001202);
16274:  const 'URLACTION_ACTIVEX_OVERRIDE_SCRIPT_SAFETY','LongWord').SetUInt( $00001203);
16275:  const 'URLACTION_SCRIPT_OVERRIDE_SAFETY','LongWord').SetUInt( $00001401);
16276:  const 'URLACTION_ACTIVEX_CONFIRM_NOOBJECTSAFETY','LongWord').SetUInt( $00001204);
16277:  const 'URLACTION_ACTIVEX_TREATASUNTRUSTED','LongWord').SetUInt( $00001205);
16278:  const 'URLACTION_ACTIVEX_NO_WEBOC_SCRIPT','LongWord').SetUInt( $00001206);
16279:  const 'URLACTION_ACTIVEX_CURR_MAX','LongWord').SetUInt( $00001206);
16280:  const 'URLACTION_ACTIVEX_MAX','LongWord').SetUInt( $000013FF);
16281:  const 'URLACTION_SCRIPT_MIN','LongWord').SetUInt( $00001400);
16282:  const 'URLACTION_SCRIPT_RUN','LongWord').SetUInt( $00001400);
16283:  const 'URLACTION_SCRIPT_JAVA_USE','LongWord').SetUInt( $00001402);
16284:  const 'URLACTION_SCRIPT_SAFE_ACTIVEX','LongWord').SetUInt( $00001405);
16285:  const 'URLACTION_SCRIPT_CURR_MAX','LongWord').SetUInt( $00001405);
16286:  const 'URLACTION_SCRIPT_MAX','LongWord').SetUInt( $000015FF);
16287:  const 'URLACTION_HTML_MIN','LongWord').SetUInt( $00001600);
16288:  const 'URLACTION_HTML_SUBMIT_FORMS','LongWord').SetUInt( $00001601);
16289:  const 'URLACTION_HTML_SUBMIT_FORMS_FROM','LongWord').SetUInt( $00001602);
16290:  const 'URLACTION_HTML_SUBMIT_FORMS_TO','LongWord').SetUInt( $00001603);
16291:  const 'URLACTION_HTML_FONT_DOWNLOAD','LongWord').SetUInt( $00001604);
16292:  const 'URLACTION_HTML_JAVA_RUN','LongWord').SetUInt( $00001605);
16293:  const 'URLACTION_HTML_CURR_MAX','LongWord').SetUInt( $00001605);
16294:  const 'URLACTION_HTML_MAX','LongWord').SetUInt( $000017FF);
16295:  const 'URLACTION_SHELL_MIN','LongWord').SetUInt( $00001800);
16296:  const 'URLACTION_SHELL_INSTALL_DTITEMS','LongWord').SetUInt( $00001800);
16297:  const 'URLACTION_SHELL_MOVE_OR_COPY','LongWord').SetUInt( $00001802);
16298:  const 'URLACTION_SHELL_FILE_DOWNLOAD','LongWord').SetUInt( $00001803);
16299:  const 'URLACTION_SHELL_VERB','LongWord').SetUInt( $00001804);
16300:  const 'URLACTION_SHELL_WEBVIEW_VERB','LongWord').SetUInt( $00001805);
16301:  const 'URLACTION_SHELL_SHELLEXECUTE','LongWord').SetUInt( $00001806);
16302:  const 'URLACTION_SHELL_EXECUTE_HIGHRISK','LongWord').SetUInt( $00001806);
16303:  const 'URLACTION_SHELL_EXECUTE_MODRISK','LongWord').SetUInt( $00001807);
16304:  const 'URLACTION_SHELL_EXECUTE_LOWRISK','LongWord').SetUInt( $00001808);
16305:  const 'URLACTION_SHELL_POPUPMGR','LongWord').SetUInt( $00001809);
16306:  const 'URLACTION_SHELL_CURR_MAX','LongWord').SetUInt( $00001809);
16307:  const 'URLACTION_SHELL_MAX','LongWord').SetUInt( $000019ff);
16308:  const 'URLACTION_NETWORK_MIN','LongWord').SetUInt( $00001A00);
16309:  const 'URLACTION_CREDENTIALS_USE','LongWord').SetUInt( $00001A00);
16310:  const 'URLPOLICY_CREDENTIALS_SILENT_LOGON_OK','LongWord').SetUInt( $00000000);
16311:  const 'URLPOLICY_CREDENTIALS_MUST_PROMPT_USER','LongWord').SetUInt( $00010000);
16312:  const 'URLPOLICY_CREDENTIALS_CONDITIONAL_PROMPT','LongWord').SetUInt( $00020000);
16313:  const 'URLPOLICY_CREDENTIALS_ANONYMOUS_ONLY','LongWord').SetUInt( $00030000);
16314:  const 'URLACTION_AUTHENTICATE_CLIENT','LongWord').SetUInt( $00001A01);
16315:  const 'URLPOLICY_AUTHENTICATE_CLEARTEXT_OK','LongWord').SetUInt( $00000000);
16316:  const 'URLPOLICY_AUTHENTICATE_CHALLENGE_RESPONSE','LongWord').SetUInt( $00010000);
16317:  const 'URLPOLICY_AUTHENTICATE_MUTUAL_ONLY','LongWord').SetUInt( $00030000);
16318:  const 'URLACTION_NETWORK_CURR_MAX','LongWord').SetUInt( $00001A01);
16319:  const 'URLACTION_NETWORK_MAX','LongWord').SetUInt( $00001BFF);
16320:  const 'URLACTION_JAVA_MIN','LongWord').SetUInt( $00001C00);
16321:  const 'URLACTION_JAVA_PERMISSIONS','LongWord').SetUInt( $00001C00);
16322:  const 'URLPOLICY_JAVA_PROHIBIT','LongWord').SetUInt( $00000000);
16323:  const 'URLPOLICY_JAVA_HIGH','LongWord').SetUInt( $00010000);
16324:  const 'URLPOLICY_JAVA_MEDIUM','LongWord').SetUInt( $00020000);
16325:  const 'URLPOLICY_JAVA_LOW','LongWord').SetUInt( $00030000);
16326:  const 'URLPOLICY_JAVA_CUSTOM','LongWord').SetUInt( $00800000);
16327:  const 'URLACTION_JAVA_CURR_MAX','LongWord').SetUInt( $00001C00);
16328:  const 'URLACTION_JAVA_MAX','LongWord').SetUInt( $00001CFF);
16329:  const 'URLACTION_INFODELIVERY_MIN','LongWord').SetUInt( $00001D00);
16330:  const 'URLACTION_INFODELIVERY_NO_ADDING_CHANNELS','LongWord').SetUInt( $00001D00);
16331:  const 'URLACTION_INFODELIVERY_NO_EDITING_CHANNELS','LongWord').SetUInt( $00001D01);
16332:  const 'URLACTION_INFODELIVERY_NO_REMOVING_CHANNELS','LongWord').SetUInt( $00001D02);
16333:  const 'URLACTION_INFODELIVERY_NO_ADDING_SUBSCRIPTIONS','LongWord').SetUInt( $00001D03);
16334:  const 'URLACTION_INFODELIVERY_NO_EDITING_SUBSCRIPTIONS','LongWord').SetUInt( $00001D04);
16335:  const 'URLACTION_INFODELIVERY_NO_REMOVING_SUBSCRIPTIONS','LongWord').SetUInt( $00001D05);
16336:  const 'URLACTION_INFODELIVERY_NO_CHANNEL_LOGGING','LongWord').SetUInt( $00001D06);
16337:  const 'URLACTION_INFODELIVERY_CURR_MAX','LongWord').SetUInt( $00001D06);
16338:  const 'URLACTION_INFODELIVERY_MAX','LongWord').SetUInt( $00001Dff);
16339:  const 'URLACTION_CHANNEL_SOFTDIST_MIN','LongWord').SetUInt( $00001E00);
16340:  const 'URLACTION_CHANNEL_SOFTDIST_PERMISSIONS','LongWord').SetUInt( $00001E05);
```

```
16341:  const 'URLPOLICY_CHANNEL_SOFTDIST_PROHIBIT','LongWord').SetUInt( $00010000);
16342:  const 'URLPOLICY_CHANNEL_SOFTDIST_PRECACHE','LongWord').SetUInt( $00020000);
16343:  const 'URLPOLICY_CHANNEL_SOFTDIST_AUTOINSTALL','LongWord').SetUInt( $00030000);
16344:  const 'URLACTION_CHANNEL_SOFTDIST_MAX','LongWord').SetUInt( $00001EFF);
16345:  const 'URLACTION_BEHAVIOR_MIN','LongWord').SetUInt( $00002000);
16346:  const 'URLACTION_BEHAVIOR_RUN','LongWord').SetUInt( $00002000);
16347:  const 'URLPOLICY_BEHAVIOR_CHECK_LIST','LongWord').SetUInt( $00010000);
16348:  const 'URLACTION_FEATURE_MIN','LongWord').SetUInt( $00002100);
16349:  const 'URLACTION_FEATURE_MIME_SNIFFING','LongWord').SetUInt( $00002100);
16350:  const 'URLACTION_FEATURE_ZONE_ELEVATION','LongWord').SetUInt( $00002101);
16351:  const 'URLACTION_FEATURE_WINDOW_RESTRICTIONS','LongWord').SetUInt( $00002102);
16352:  const 'URLACTION_AUTOMATIC_DOWNLOAD_UI_MIN','LongWord').SetUInt( $00002200);
16353:  const 'URLACTION_AUTOMATIC_DOWNLOAD_UI','LongWord').SetUInt( $00002200);
16354:  const 'URLACTION_AUTOMATIC_ACTIVEX_UI','LongWord').SetUInt( $00002201);
16355:  const 'URLACTION_ALLOW_RESTRICTEDPROTOCOLS','LongWord').SetUInt( $00002300);
16356:  const 'URLPOLICY_ALLOW','LongWord').SetUInt( $00);
16357:  const 'URLPOLICY_QUERY','LongWord').SetUInt( $01);
16358:  const 'URLPOLICY_DISALLOW','LongWord').SetUInt( $03);
16359:  const 'URLPOLICY_NOTIFY_ON_ALLOW','LongWord').SetUInt( $10);
16360:  const 'URLPOLICY_NOTIFY_ON_DISALLOW','LongWord').SetUInt( $20);
16361:  const 'URLPOLICY_LOG_ON_ALLOW','LongWord').SetUInt( $40);
16362:  const 'URLPOLICY_LOG_ON_DISALLOW','LongWord').SetUInt( $80);
16363:  const 'URLPOLICY_MASK_PERMISSIONS','LongWord').SetUInt( $0f);
16364:  Function GetUrlPolicyPermissions( dw : DWORD) : DWORD');
16365:  Function SetUrlPolicyPermissions( dw, dw2 : DWORD) : DWORD');
16366:  const 'URLZONE_PREDEFINED_MIN','LongInt').SetInt( 0);
16367:  const 'URLZONE_LOCAL_MACHINE','LongInt').SetInt( 0);
16368:  const 'URLZONE_INTRANET','LongInt').SetInt( URLZONE_LOCAL_MACHINE + 1);
16369:  const 'URLZONE_TRUSTED','LongInt').SetInt( URLZONE_INTRANET + 1);
16370:  const 'URLZONE_INTERNET','LongInt').SetInt( URLZONE_TRUSTED + 1);
16371:  const 'URLZONE_UNTRUSTED','LongInt').SetInt( URLZONE_INTERNET + 1);
16372:  const 'URLZONE_PREDEFINED_MAX','LongInt').SetInt( 999);
16373:  const 'URLZONE_USER_MIN','LongInt').SetInt( 1000);
16374:  const 'URLZONE_USER_MAX','LongInt').SetInt( 10000);
16375:  const 'URLTEMPLATE_CUSTOM','LongWord').SetUInt( $00000000);
16376:  const 'URLTEMPLATE_PREDEFINED_MIN','LongWord').SetUInt( $00010000);
16377:  const 'URLTEMPLATE_LOW','LongWord').SetUInt( $00010000);
16378:  const 'URLTEMPLATE_MEDIUM','LongWord').SetUInt( $00011000);
16379:  const 'URLTEMPLATE_HIGH','LongWord').SetUInt( $00012000);
16380:  const 'URLTEMPLATE_PREDEFINED_MAX','LongWord').SetUInt( $00020000);
16381:  const 'MAX_ZONE_PATH','LongInt').SetInt( 260);
16382:  const 'MAX_ZONE_DESCRIPTION','LongInt').SetInt( 200);
16383:  const 'ZAFLAGS_CUSTOM_EDIT','LongWord').SetUInt( $00000001);
16384:  const 'ZAFLAGS_ADD_SITES','LongWord').SetUInt( $00000002);
16385:  const 'ZAFLAGS_REQUIRE_VERIFICATION','LongWord').SetUInt( $00000004);
16386:  const 'ZAFLAGS_INCLUDE_PROXY_OVERRIDE','LongWord').SetUInt( $00000008);
16387:  const 'ZAFLAGS_INCLUDE_INTRANET_SITES','LongWord').SetUInt( $00000010);
16388:  const 'ZAFLAGS_NO_UI','LongWord').SetUInt( $00000020);
16389:  const 'ZAFLAGS_SUPPORTS_VERIFICATION','LongWord').SetUInt( $00000040);
16390:  const 'ZAFLAGS_UNC_AS_INTRANET','LongWord').SetUInt( $00000080);
16391:  const 'ZAFLAGS_USE_LOCKED_ZONES','LongWord').SetUInt( $00010000);
16392:   //PZoneAttributes', '^TZoneAttributes // will not work');
16393:  _ZONEATTRIBUTES','record cbSize:ULONG;szDisplayName:array [0..260-1] of Char;szDescription:array [0..200 -
        1] of Char;szIconPath: array [0..260 - 1] of char; dwTemplateMinLevel: DWORD;  dwTemplateRecommended:
       DWORD;  dwTemplateCurrentLevel: DWORD;  dwFlags: DWORD; end');
16394:   { _ZONEATTRIBUTES = packed record
16395:     cbSize: ULONG;
16396:     szDisplayName: array [0..260 - 1] of WideChar;
16397:     szDescription: array [0..200 - 1] of WideChar;
16398:     szIconPath: array [0..260 - 1] of WideChar;
16399:     dwTemplateMinLevel: DWORD;
16400:     dwTemplateRecommended: DWORD;
16401:     dwTemplateCurrentLevel: DWORD;
16402:     dwFlags: DWORD;
16403:   end; }
16404:   TZoneAttributes', '_ZONEATTRIBUTES');
16405:   ZONEATTRIBUTES', '_ZONEATTRIBUTES');
16406:  const 'URLZONEREG_DEFAULT','LongInt').SetInt( 0);
16407:  const 'URLZONEREG_HKLM','LongInt').SetInt( URLZONEREG_DEFAULT + 1);
16408:  const 'URLZONEREG_HKCU','LongInt').SetInt( URLZONEREG_HKLM + 1);
16409:   SIRegister_IInternetZoneManager(CL);
16410:   SIRegister_IInternetZoneManagerEx(CL);
16411:  const 'SOFTDIST_FLAG_USAGE_EMAIL','LongWord').SetUInt( $00000001);
16412:  const 'SOFTDIST_FLAG_USAGE_PRECACHE','LongWord').SetUInt( $00000002);
16413:  const 'SOFTDIST_FLAG_USAGE_AUTOINSTALL','LongWord').SetUInt( $00000004);
16414:  const 'SOFTDIST_FLAG_DELETE_SUBSCRIPTION','LongWord').SetUInt( $00000008);
16415:  const 'SOFTDIST_ADSTATE_NONE','LongWord').SetUInt( $00000000);
16416:  const 'SOFTDIST_ADSTATE_AVAILABLE','LongWord').SetUInt( $00000001);
16417:  const 'SOFTDIST_ADSTATE_DOWNLOADED','LongWord').SetUInt( $00000002);
16418:  const 'SOFTDIST_ADSTATE_INSTALLED','LongWord').SetUInt( $00000003);
16419:   //PCodeBaseHold', '^TCodeBaseHold // will not work');
16420:   _tagCODEBASEHOLD', 'record cbSize : ULONG; szDistUnit : LPWSTR; '
16421:    +'szCodeBase : LPWSTR; dwVersionMS : DWORD; dwVersionLS : DWORD; dwStyle : DWORD; end');
16422:   TCodeBaseHold', '_tagCODEBASEHOLD');
16423:   CODEBASEHOLD', '_tagCODEBASEHOLD');
16424:   //PSoftDistInfo', '^TSoftDistInfo // will not work');
16425:   _tagSOFTDISTINFO', 'record cbSize : ULONG; dwFlags : DWORD; dwAd'
16426:    +'State : DWORD; szTitle : LPWSTR; szAbstract : LPWSTR; szHREF : LPWSTR; dwI'
16427:    +'nstalledVersionMS : DWORD; dwInstalledVersionLS : DWORD; dwUpdateVersionMS'
```

```
16428:    +' : DWORD; dwUpdateVersionLS : DWORD; dwAdvertisedVersionMS : DWORD; dwAdve'
16429:    +'rtisedVersionLS : DWORD; dwReserved : DWORD; end');
16430:   TSoftDistInfo', '_tagSOFTDISTINFO');
16431:   SOFTDISTINFO', '_tagSOFTDISTINFO');
16432:   SIRegister_ISoftDistExt(CL);
16433:  Function GetSoftwareUpdateInfo( szDistUnit : LPCWSTR; var dsi : TSoftDistInfo) : HResult');
16434:  Function SetSoftwareUpdateAdvertisementState(szDistUnit: LPCWSTR; dwAdState, dwAdvertisedVersionMS,
       dwAdvertisedVersionLS : DWORD) : HResult');
16435:   SIRegister_IDataFilter(CL);
16436:  // PProtocolFilterData', '^TProtocolFilterData // will not work');
16437:   _tagPROTOCOLFILTERDATA', 'record cbSize : DWORD; ProtocolSink : '
16438:    +'IInternetProtocolSink; Protocol : IInternetProtocol; Unk : IUnknown; dwFil'
16439:    +'terFlags : DWORD; end');
16440:   TProtocolFilterData', '_tagPROTOCOLFILTERDATA');
16441:   PROTOCOLFILTERDATA', '_tagPROTOCOLFILTERDATA');
16442:   //PDataInfo', '^TDataInfo // will not work');
16443:   _tagDATAINFO', 'record ulTotalSize : ULONG; ulavrPacketSize : UL'
16444:    +'ONG; ulConnectSpeed : ULONG; ulProcessorSpeed : ULONG; end');
16445:   TDataInfo', '_tagDATAINFO');
16446:   DATAINFO', '_tagDATAINFO');
16447:   SIRegister_IEncodingFilterFactory(CL);
16448:  Function IsLoggingEnabled( pszUrl : PChar) : BOOL');
16449:  //Function IsLoggingEnabledA( pszUrl : PAnsiChar) : BOOL');
16450:  //Function IsLoggingEnabledW( pszUrl : PWideChar) : BOOL');
16451:   //PHitLoggingInfo', '^THitLoggingInfo // will not work');
16452:   _tagHIT_LOGGING_INFO', 'record dwStructSize : DWORD; lpszLoggedU'
16453:    +rlName : LPSTR; StartTime : TSystemTime;EndTime:TSystemTime; lpszExtendedInfo : LPSTR; end');
16454:   THitLoggingInfo', '_tagHIT_LOGGING_INFO');
16455:   HIT_LOGGING_INFO', '_tagHIT_LOGGING_INFO');
16456:  Function WriteHitLogging( const Logginginfo : THitLoggingInfo) : BOOL');
16457: end;
16458:
16459: procedure SIRegister_DFFUtils(CL: TPSPascalCompiler);
16460: begin
16461:  Procedure reformatMemo( const m : TCustomMemo)');
16462:  Procedure SetMemoMargins( m : TCustomMemo; const L, T, R, B : integer)');
16463:  Procedure MoveToTop( memo : TMemo)');
16464:  Procedure ScrollToTop( memo : TMemo)');
16465:  Function LineNumberClicked( memo : TMemo) : integer');
16466:  Function MemoClickedLine( memo : TMemo) : integer');
16467:  Function ClickedMemoLine( memo : TMemo) : integer');
16468:  Function MemoLineClicked( memo : TMemo) : integer');
16469:  Function LinePositionClicked( Memo : TMemo) : integer');
16470:  Function ClickedMemoPosition( memo : TMemo) : integer');
16471:  Function MemoPositionClicked( memo : TMemo) : integer');
16472:  Procedure AdjustGridSize( grid : TDrawGrid)');
16473:  Procedure DeleteGridRow( Grid : TStringGrid; const ARow : integer)');
16474:  Procedure InsertgridRow( Grid : TStringGrid; const ARow : integer)');
16475:  Procedure Sortgrid( Grid : TStringGrid; const SortCol : integer);');
16476:  Procedure Sortgrid1(Grid:TStringGrid; const SortCol : integer; sortascending : boolean);');
16477:  Procedure sortstrDown( var s : string)');
16478:  Procedure sortstrUp( var s : string)');
16479:  Procedure rotatestrleft( var s : string)');
16480:  Function dffstrtofloatdef( s : string; default : extended) : extended');
16481:  Function deblank( s : string) : string');
16482:  Function IntToBinaryString( const n : integer; MinLength : integer) : string');
16483:  Procedure FreeAndClearListBox( C : TListBox);');
16484:  Procedure FreeAndClearMemo( C : TMemo);');
16485:  Procedure FreeAndClearStringList( C : TStringList);');
16486:  Function dffgetfilesize( f : TSearchrec) : int64');
16487: end;
16488:
16489: procedure SIRegister_MathsLib(CL: TPSPascalCompiler);
16490: begin
16491:   CL.AddTypeS('intset', 'set of byte');
16492:   TPoint64', 'record x : int64; y : int64; end');
16493:  Function GetNextPandigital( size : integer; var Digits : array of integer) : boolean');
16494:  Function IsPolygonal( T : int64; var rank : array of integer) : boolean');
16495:  Function GeneratePentagon( n : integer) : integer');
16496:  Function IsPentagon( p : integer) : boolean');
16497:  Function isSquare( const N : int64) : boolean');
16498:  Function isCube( const N : int64) : boolean');
16499:  Function isPalindrome( const n : int64) : boolean;');
16500:  Function isPalindrome1( const n : int64; var len : integer) : boolean;');
16501:  Function GetEulerPhi( n : int64) : int64');
16502:  Function dffIntPower( a, b : int64) : int64;');
16503:  Function IntPower1( a : extended; b : int64) : extended;');
16504:  Function gcd2( a, b : int64) : int64');
16505:  Function GCDMany( A : array of integer) : integer');
16506:  Function LCMMany( A : array of integer) : integer');
16507:  Procedure ContinuedFraction(A: array of int64;const wholepart:integer;var numerator,denominator:int64);
16508:  Function dffFactorial( n : int64) : int64');
16509:  Function digitcount( n : int64) : integer');
16510:  Function nextpermute( var a : array of integer) : boolean');
16511:  Function convertfloattofractionstring(N:extended; maxdenom:integer; multipleof : boolean) : string');
16512:  Function convertStringToDecimal( s : string; var n : extended) : Boolean');
16513:  Function InttoBinaryStr( nn : integer) : string');
16514:  Function StrtoAngle( const s : string; var angle : extended) : boolean');
16515:  Function AngleToStr( angle : extended) : string');
```

```
16516:  Function deg2rad( deg : extended) : extended');
16517:  Function rad2deg( rad : extended) : extended');
16518:  Function GetLongToMercProjection( const long : extended) : extended');
16519:  Function GetLatToMercProjection( const Lat : Extended) : Extended');
16520:  Function GetMercProjectionToLong( const ProjLong : extended) : extended');
16521:  Function GetMercProjectionToLat( const ProjLat : extended) : extended');
16522:   SIRegister_TPrimes(CL);
16523:   //RIRegister_TPrimes(CL);
16524:  //CL.AddConstantN('deg','LongInt').SetInt( char( 176));
16525:  CL.AddConstantN('minmark','LongInt').SetInt(( 180));
16526:  Function Random64( const N : Int64) : Int64;');
16527:  Procedure Randomize64');
16528:  Function Random641 : extended;');
16529:  Procedure GetParens( Variables : string; OpChar : char; var list : TStringlist)//DFFUtils
16530: end;
16531:
16532: procedure SIRegister_UGeometry(CL: TPSPascalCompiler);
16533: begin
16534:   TrealPoint', 'record x : extended; y : extended; end');
16535:   Tline', 'record p1 : TPoint; p2 : TPoint; end');
16536:   TRealLine', 'record p1 : TRealPoint; p2 : TRealPoint; end');
16537:   TCircle', 'record cx : integer; cy : integer; r : integer; end');
16538:   TRealCircle', 'record cx : extended; cy : extended; r : extended; end');
16539:   PPResult', '( PPoutside, PPInside, PPVertex, PPEdge, PPError )');
16540:  Function realpoint( x, y : extended) : TRealPoint');
16541:  Function dist( const p1, p2 : TrealPoint) : extended');
16542:  Function intdist( const p1, p2 : TPoint) : integer');
16543:  Function dffLine( const p1, p2 : TPoint) : Tline;');
16544:  Function Line1( const p1, p2 : TRealPoint) : TRealline;');
16545:  Function dffCircle( const cx, cy, R : integer) : TCircle;');
16546:  Function Circle1( const cx, cy, R : extended) : TRealCircle;');
16547:  Function GetTheta( const L : TLine) : extended;');
16548:  Function GetTheta1( const p1, p2 : TPoint) : extended;');
16549:  Function GetTheta2( const p1, p2 : TRealPoint) : extended;');
16550:  Procedure Extendline( var L : TLine; dist : integer);');
16551:  Procedure Extendline1( var L : TRealLine; dist : extended);');
16552:  Function Linesintersect( line1, line2 : TLine) : boolean');
16553:  Function ExtendedLinesIntersect(Line1,Line2:TLine; const extendlines:bool;var IP:TPoint):bool;
16554:  Function ExtendedLinesIntersect1(const Line1,Line2:TLine;const extendlines:bool;var IP:TRealPoint):bool;
16555:  Function Intersect( L1, L2 : TLine; var pointonborder : boolean; var IP : TPoint) : boolean');
16556:  Function PointPerpendicularLine( L : TLine; P : TPoint) : TLine');
16557:  Function PerpDistance( L : TLine; P : TPoint) : Integer');
16558:  Function AngledLineFromLine( L : TLine; P : TPoint; Dist : extended; alpha : extended) : TLine;');
16559:  Function
       AngledLineFromLine1(L:TLine;P:TPoint;Dist:extended;alpha:extended;useScreenCoordinates:bool):TLine;
16560:  Function PointInPoly( const p : TPoint; Points : array of TPoint) : PPResult');
16561:  Function PolygonArea(const points:array of TPoint;const screencoordinates:boolean;var
       Clockwise:bool):integer;
16562:  Procedure InflatePolygon(const points:array of Tpoint; var points2:array of TPoint;var area:integer;
       const screenCoordinates : boolean; const inflateby : integer)');
16563:  Function PolyBuiltClockwise(const points:array of TPoint;const screencoordinates:boolean):bool;
16564:  Function DegtoRad( d : extended) : extended');
16565:  Function RadtoDeg( r : extended) : extended');
16566:  Procedure TranslateLeftTo( var L : TLine; newend : TPoint);');
16567:  Procedure TranslateLeftTo1( var L : TrealLine; newend : TrealPoint);');
16568:  Procedure RotateRightEndBy( var L : TLine; alpha : extended)');
16569:  Procedure RotateRightEndTo( var L : TLine; alpha : extended);');
16570:  Procedure RotateRightEndTo1( var p1, p2 : Trealpoint; alpha : extended);');
16571:  Function CircleCircleIntersect( c1, c2 : TCircle; var IP1, Ip2 : TPoint) : boolean;');
16572:  Function CircleCircleIntersect1( c1, c2 : TRealCircle; var IP1, Ip2 : TRealPoint) : boolean;');
16573:  Function PointCircleTangentLines( const C : TCircle; const P : TPoint; var L1, L2 : TLine) : boolean');
16574:  Function CircleCircleExtTangentLines(C1,C2:TCircle;var C3:TCircle;var L1,L2,PL1,PL2,TL1,Tl2:TLine):Bool;
16575: end;
16576:
16577:
16578: procedure SIRegister_UAstronomy(CL: TPSPascalCompiler);
16579: begin
16580:   TCoordType', '( ctUnknown, ctAzAlt, ctEclLonLat, ctRADecl, ctHADecl, ctGalLonLat )');
16581:   TDTType', '( ttLocal, ttUT, ttGST, ttLST )');
16582:   TRPoint', 'record x : extended; y : extended; CoordType : TCoordType; end');
16583:   TSunrec', 'record TrueEclLon:extended;
       AppEclLon:extended;AUDistance:extended;TrueHADecl:TRPoint;TrueRADecl : TRPoint;
       TrueAzAl:TRPoint;AppHADecl:TRPoint;AppRADecl:TRPoint;AppAzAlt:TRpoint;SunMeanAnomaly:extended;end;
16584:   TMoonRec', 'record ECLonLat : TRPoint; AZAlt : TRPoint; RADecl :'
16585:    +' TRPoint; HorizontalParallax : extended; AngularDiameter : extended; KMtoE'
16586:    +'arth : extended; Phase : extended; end');
16587:   TMoonEclipseAdd', 'record UmbralStartTime : TDatetime; UmbralEnd'
16588:    +'Time : TDatetime; TotalStartTime : TDatetime; TotalEndTime : TDateTime; end');
16589:   TEclipseRec', 'record Msg : string; Status : integer; FirstConta'
16590:    +'ct : TDatetime; LastContact : TDateTime; Magnitude:Extended;MaxeclipseUTime:TDateTime;end');
16591:   TPlanet', '( MERCURY, VENUS, MARS, JUPITER, SATURN, URANUS, NEPTUNE, PLUTO )');
16592:   TPlanetRec', 'record AsOf : TDateTime; Name : string; MeanLon : '
16593:    +'extended; MeanLonMotion : extended; LonOfPerihelion : extended; Eccentrici'
16594:    +'ty : extended; Inclination : extended; LonAscendingNode : extended; SemiMa'
16595:    +'jorAxis : extended; AngularDiameter : extended; Magnitude : extended; end');
16596:   TPlanetLocRec', 'record PlanetBaseData : TPlanetrec; HelioCentricLonLat : TRpoint; RadiusVector :
       extended; UncorrectedEarthDistance : extended; GeoEclLonLat :TRpoint; CorrectedEarthDistance:extended;
       ApparentRaDecl:TRPoint; end');
16597:   SIRegister_TAstronomy(CL);
```

```
16598:  Function AngleToStr( angle : extended) : string');
16599:  Function StrToAngle( s : string; var angle : extended) : boolean');
16600:  Function HoursToStr24( t : extended) : string');
16601:  Function RPoint( x, y : extended) : TRPoint');
16602:  Function getStimename( t : TDTType) : string');
16603: end;
16604:
16605: procedure SIRegister_UCardComponentV2(CL: TPSPascalCompiler);
16606: begin
16607:   TCardValue', 'Integer');
16608:   TCardSuit', '( Spades, Diamonds, Clubs, Hearts )');
16609:   TShortSuit', '( cardS, cardD, cardC, cardH )');
16610:   Type(TDecks,Standard1,Standard2,Fishes1,Fishes2,Beach,Leaves1,Leaves2,Robot,Roses,Shell,Castle,Hand);
16611:   SIRegister_TCard(CL);
16612:   SIRegister_TDeck(CL);
16613: end;
16614:
16615: procedure SIRegister_UTGraphSearch(CL: TPSPascalCompiler);
16616: begin
16617:   tMethodCall', 'Procedure');
16618:   tVerboseCall', 'Procedure ( s : string)');
16619:  // PTEdge', '^TEdge // will not work');
16620:   TEdge', 'record FromNodeIndex : Integer; ToNodeIndex : Integer; '
16621:    +'Weight : integer; work : integer; Len : integer; Highlight : boolean; end');
16622:   SIRegister_TNode(CL);
16623:   SIRegister_TGraphList(CL);
16624: end;
16625:
16626: procedure SIRegister_UParser10(CL: TPSPascalCompiler);
16627: begin
16628:   ParserFloat', 'extended');
16629:   //PParserFloat', '^ParserFloat // will not work');
16630:   TDFFToken', '( variab, constant, minus, sum, diff, prod, divis, mod'
16631:    +'ulo, IntDiv, IntDIVZ, integerpower, realpower,square,third,fourth,FuncOneVar,FuncTwoVar )');
16632:   //POperation', '^TOperation // will not work');
16633:   TDFFOperation', 'record Arg1 : PParserFloat; Arg2 : PParserFloat; D'
16634:    +'est : PParserFloat; NextOperation : POperation; Operation : TMathProcedure'
16635:    +'; Token : TDFFToken; end');
16636:   TMathProcedure','procedure(AnOperation: TDFFOperation)');
16637:   (CL.FindClass('TOBJECT'),'EMathParserError');
16638:   CL.FindClass('TOBJECT'),'ESyntaxError');
16639:   (CL.FindClass('TOBJECT'),'EExpressionHasBlanks');
16640:   (CL.FindClass('TOBJECT'),'EExpressionTooComplex');
16641:   (CL.FindClass('TOBJECT'),'ETooManyNestings');
16642:   (CL.FindClass('TOBJECT'),'EMissMatchingBracket');
16643:   (CL.FindClass('TOBJECT'),'EBadName');
16644:   (CL.FindClass('TOBJECT'),'EParserInternalError');
16645:   ('TExParserExceptionEvent', 'Procedure ( Sender : TObject; E : Exception)');
16646:   SIRegister_TCustomParser(CL);
16647:   SIRegister_TExParser(CL);
16648: end;
16649:
16650:   function isService: boolean;
16651:   begin
16652:     result:= NOT(Application is TApplication);
16653:     {result:= Application is TServiceApplication;}
16654:   end;
16655:   function isApplication: boolean;
16656:   begin
16657:     result:= Application is TApplication;
16658:   end;
16659:   //SM_REMOTESESSION = $1000
16660:   function isTerminalSession: boolean;
16661:   begin
16662:     result:= GetSystemMetrics(SM_REMOTESESSION) > 0;
16663:   end;
16664:
16665: procedure SIRegister_cyIEUtils(CL: TPSPascalCompiler);
16666: begin
16667:   CL.AddTypeS('TwbPageSetup', 'record font : String; footer : String; header : '
16668:    +'String; margin_bottom : String; margin_left : String; margin_right : Strin'
16669:    +'g; margin_top : String; Print_Background : String; Shrink_To_Fit : String; end');
16670:  Function cyURLEncode( const S : string) : string');
16671:  Function MakeResourceURL(const ModuleName:string;const ResName:PChar;const ResType:PChar):string;
16672:  Function MakeResourceURL1(const Module:HMODULE;const ResName:PChar;const ResType:PChar):string;;
16673:  Function cyColorToHtml( aColor : TColor) : String');
16674:  Function HtmlToColor( aHtmlColor : String) : TColor');
16675:  //Function GetStreamEncoding( aStream : TStream) : TEncoding');
16676:  // Function IsStreamEncodedWith( aStream : TStream; Encoding : TEncoding) : Boolean');
16677:  Function AddHtmlUnicodePrefix( aHtml : String) : String');
16678:  Function RemoveHtmlUnicodePrefix( aHtml : String) : String');
16679:  Procedure GetPageSetupFromRegistry( var awbPageSetup : TwbPageSetup)');
16680:  Procedure SetPageSetupToRegistry( awbPageSetup : TwbPageSetup)');
16681:  CL.AddConstantN('IEBodyBorderless','String').SetString( 'none');
16682:  CL.AddConstantN('IEBodySingleBorder','String').SetString( '');
16683:  CL.AddConstantN('IEDesignModeOn','String').SetString( 'On');
16684:  CL.AddConstantN('IEDesignModeOff','String').SetString( 'Off');
16685:  CL.AddConstantN('cHtmlUnicodePrefixChar','Char').SetString( #$FEFF);
16686:  CL.AddConstantN('cHtmlUnicodePrefixChar','Char').SetString( #$FE);
```

```
16687: end;
16688:
16689:
16690: procedure SIRegister_UcomboV2(CL: TPSPascalCompiler);
16691: begin
16692:  CL.AddConstantN('UMaxEntries','LongInt').SetInt( 600);
16693:   CL.AddTypeS('TCombotype', '( Combinations, Permutations, CombinationsDown, Pe'
16694:    +'rmutationsDown, CombinationsCoLex, CombinationsCoLexDown, PermutationsRepe'
16695:    +'at, PermutationsWithRep, PermutationsRepeatDown, CombinationsWithrep, Comb'
16696:    +'inationsRepeat, CombinationsRepeatDown )');
16697:   CL.AddTypeS('TByteArray64', 'array[0..600 + 1] of int64;');
16698:   SIRegister_TComboSet(CL);
16699: end;
16700:
16701:  procedure SIRegister_cyBaseComm(CL: TPSPascalCompiler);
16702: begin
16703:   TcyCommandType', '( ctDevelopperDefined, ctUserDefined )');
16704:   TStreamContentType', '( scDevelopperDefined, scUserDefined, scString )');
16705:   TProcOnReceiveCommand', 'Procedure (Sender: TObject; aCommand: Word; userParam : Integer)');
16706:   TProcOnReceiveString', 'Procedure ( Sender : TObject; fromBaseCo'
16707:    +'mmHandle : THandle; aString : String; userParam : Integer)');
16708:   TProcOnReceiveMemoryStream', 'Procedure ( Sender : TObject; from'
16709:    +'BaseCommHandle : THandle; aStream : TMemoryStream; userParam : Integer)');
16710:   SIRegister_TcyBaseComm(CL);
16711:  CL.AddConstantN('MsgCommand','LongInt').SetInt( WM_USER + 1);
16712:  CL.AddConstantN('MsgResultOk','LongInt').SetInt( 99);
16713:  Function ValidateFileMappingName( aName : String) : String');
16714:  procedure makeCaption(leftSide, Rightside:string; form:TForm);
16715: end;
16716:
16717: procedure SIRegister_cyDERUtils(CL: TPSPascalCompiler);
16718: begin
16719:   CL.AddTypeS('DERString', 'String');
16720:   CL.AddTypeS('DERChar', 'Char');
16721:   CL.AddTypeS('TElementsType', '( etText, etExpressionKeyWord, etNumbers, etInt'
16722:    +'eger, etFloat, etPercentage, etwebSite, etWebMail, etMoney, etDate, etTextLine, etParagraph )');
16723:   CL.AddTypeS('TElementsTypes', 'set of TElementsType');
16724:   CL.AddTypeS('DERNString', 'String');
16725:  const DERDecimalSeparator','String').SetString( '.');
16726:  const DERDefaultChars','String')('+°@/%-
      _.:0123456789abcdefghijklmnopqrstuvwxyzABCDEFGHIJKLMNOPQRSTUVWXYZ');
16727:  const DERNDefaultChars','String').SetString( '/%-.0123456789abcdefghjkmnopqrstuvwxyz');
16728:  CL.AddDelphiFunction('Function isValidWebSiteChar( aChar : Char) : Boolean');
16729:  Function isValidWebMailChar( aChar : Char) : Boolean');
16730:  Function isValidwebSite( aStr : String) : Boolean');
16731:  Function isValidWebMail( aStr : String) : Boolean');
16732:  Function ValidateDate( aDERStr : DERString; var RsltFormat : String) : Boolean');
16733:  Function DERStrToDate( aDERStr, aFormat : String) : TDate');
16734:  Function IsDERChar( aChar : Char) : Boolean');
16735:  Function IsDERDefaultChar( aChar : Char) : Boolean');
16736:  Function IsDERMoneyChar( aChar : Char) : Boolean');
16737:  Function IsDERExceptionCar( aChar : Char) : Boolean');
16738:  Function IsDERSymbols( aDERString : String) : Boolean');
16739:  Function StringToDERCharSet( aStr : String) : DERString');
16740:  Function IsDERNDefaultChar( aChar : Char) : Boolean');
16741:  Function IsDERNChar( aChar : Char) : Boolean');
16742:  Function DERToDERNCharset( aDERStr : DERString) : DERNString');
16743:  Function DERExtractwebSite( aDERStr : DERString; SmartRecognition : Boolean) : String');
16744:  Function DERExtractWebMail( aDERStr : DERString) : String');
16745:  Function DERExtractPhoneNr( aDERStr : DERString) : String');
16746:  Function DERExecute(aDERStr:DERString;SmartNumbersRecognition,
      SmartWebsiteRecognition:Boolean):TElementsType;
16747:  Function DERExecute1(aDERStr : DERString; var RsltNumbers, RsltInteger, RsltFloat, RsltPercentage,
      RsltwebSite, RsltWebMail,RsltMoney,RsltDate:String;SmartNumbersRecognition,
      SmartWebsiteRecognition:Boolean):TElementsType;
16748:  Function RetrieveElementValue( aStr : String; SmartNumbersRecognition, SmartWebsiteRecognition: Boolean;
      aElementsType : TElementsType) : String;');
16749:  Procedure RetrieveElementValue1( aStr : String; SmartNumbersRecognition, SmartWebsiteRecognition :
      Boolean; var RsltDERStr : DERString; var RsltElementType : TElementsType);');
16750: end;
16751:
16752: procedure SIRegister_cyImage(CL: TPSPascalCompiler);
16753: begin
16754:   pRGBQuadArray', '^TRGBQuadArray // will not work');
16755:  Function BitmapsCompare(Bmp1:TBitmap;Bmp2:TBitmap;FirstCol,LastCol,FirstRow,LastRow:Int):Integer');
16756:  Procedure BitmapSetPercentBrightness( Bmp : TBitmap; IncPercent : Integer; RefreshBmp : Boolean)');
16757:  Procedure BitmapSetPixelsBrightness( Bmp : TBitmap; IncPixels : Integer; RefreshBmp : Boolean)');
16758:  Procedure BitmapSetPercentContrast( Bmp : TBitmap; IncPercent : Integer; RefreshBmp : Boolean)');
16759:  Procedure BitmapSetPixelsContrast( Bmp : TBitmap; IncPixels : Integer; RefreshBmp : Boolean)');
16760:  Procedure BitmapNegative( Bmp : TBitmap; RefreshBmp : Boolean)');
16761:  Procedure BitmapModifyRGB(Bmp:TBitmap;IncRed:Integer;IncGreen:Int;IncBlue:Int;RefreshBmp:Bool;
16762:  Procedure BitmapReplaceColor(Bmp : TBitmap; OldColor : TColor; NewColor : TColor; RangeRed, RangeGreen,
      RangeBlue : Word; SingleDestinationColor : Boolean; RefreshBmp : Boolean);');
16763:  Procedure BitmapReplaceColor1(Bmp:TBitmap; OldColor:TColor;NewColor:TColor;PercentRange1Red,
      PercentRange1Green, PercentRange1Blue:Extended;PercentRange2Red,PercentRange2Green,
      PercentRange2Blue:Double;SingleDestinationColor: Boolean;RefreshBmp:Bool;');
16764:  Procedure BitmapReplaceColors(Bmp: TBitmap; Array_OldPalette, Array_NewPalette : array of TColor;
      SingleDestinationColor, RefreshBmp : Boolean)');
16765:  Procedure BitmapResize(SourceBmp TBitmap;DestinationBmp:TBitmap;Percent:Extended;RefreshBmp : Boolean)');
```

```
16766:  Procedure BitmapRotate( Bmp : TBitmap; AngleDegree : Word; AdjustSize : Boolean; BkColor : TColor)');
16767:  Procedure BitmapBlur(SourceBmp:TBitmap;DestinationBmp:TBitmap;Pixels:Word;Percent:Integer;RefreshBmp:Bool;
16768:  Procedure GraphicMirror(Source:TGraphic;Destination:TCanvas;Left,Top:Integer;Horizontal,Vertical:Bool;
16769:  Procedure GraphicMirror1(Source:TGraphic;Destination:TBitmap;Horizontal:Boolean;Vertical:Boolean);');
16770:  Function BitmapCreate(BmpWidth:Integer;BmpHeight:Integer;BgColor:TColor;PixelFormat:TPixelFormat):TBitmap;
16771:  Procedure BitmapSaveToJpegFile( Bmp : TBitmap; FileName : String; QualityPercent : Word)');
16772:  Procedure JpegSaveToBitmapFile( JPEG : TJPEGImage; FileName : String)');
16773: end;
16774:
16775: procedure SIRegister_WaveUtils(CL: TPSPascalCompiler);
16776: begin
16777:   TMS2StrFormat', '( msHMSh, msHMS, msMSh, msMS, msSh, msS, msAh,msA )');
16778:   TPCMChannel', '( cMono, cStereo )');
16779:   TPCMSamplesPerSec', '( ss8000Hz, ss11025Hz, ss22050Hz, ss44100Hz, ss48000Hz )');
16780:   TPCMBitsPerSample', '( bs8Bit, bs16Bit )');
16781:   TPCMFormat', '( nonePCM, Mono8Bit8000Hz, Stereo8bit8000Hz, Mono1'
16782:    +'6bit8000Hz, Stereo16bit8000Hz, Mono8bit11025Hz, Stereo8bit11025Hz, Mono16b'
16783:    +'it11025Hz, Stereo16bit11025Hz, Mono8bit22050Hz, Stereo8bit22050Hz, Mono16b'
16784:    +'it22050Hz, Stereo16bit22050Hz, Mono8bit44100Hz, Stereo8bit44100Hz, Mono16b'
16785:    +'it44100Hz, Stereo16bit44100Hz, Mono8bit48000Hz, Stereo8bit48000Hz, Mono16b'
16786:    +'it48000Hz, Stereo16bit48000Hz )');
16787:   PWaveFormatEx', 'record wFormatTag : word; nChannels: word; nSamplesPerSec: DWORD; '
16788:    +'nAvgBytesPerSec: DWORD; nBlockAlign: Word; wBitsPerSample: Word;  ecbSiz: Word; end');
16789:    tWaveFormatEx', 'PWaveFormatEx');
16790:    HMMIO', 'Integer');
16791:   TWaveDeviceFormats', 'set of TPCMFormat');
16792:   TWaveOutDeviceSupport', '( dsVolume, dsStereoVolume, dsPitch, ds'
16793:    +'PlaybackRate, dsPosition, dsAsynchronize, dsDirectSound )');
16794:   CL.AddTypeS('TWaveOutDeviceSupports', 'set of TWaveOutDeviceSupport');
16795:   TWaveOutOption', '( woSetVolume, woSetPitch, woSetPlaybackRate )');
16796:   TWaveOutOptions', 'set of TWaveOutOption');
16797:   TStreamOwnership2', '( soReference, soOwned )');
16798:   TWaveStreamState', '( wssReady, wssReading, wssWriting, wssWritingEx )');
16799:  // PRawWave', '^TRawWave // will not work');
16800:   TRawWave', 'record pData : TObject; dwSize : DWORD; end');
16801:   CL.AddClassN(CL.FindClass('TOBJECT'),'EWaveAudioError');
16802:   CL.AddClassN(CL.FindClass('TOBJECT'),'EWaveAudioSysError');
16803:   CL.AddClassN(CL.FindClass('TOBJECT'),'EWaveAudioInvalidOperation');
16804:   TWaveAudioEvent', 'Procedure ( Sender : TObject)');
16805:   TWaveAudioGetFormatEvent', 'Procedure ( Sender : TObject; var pW'
16806:    +'aveFormat : PWaveFormatEx; var FreeIt : Boolean)');
16807:   TWaveAudioGetDataEvent', 'Function ( Sender : TObject; const Buf'
16808:    +'fer : TObject; BufferSize : DWORD; var NumLoops : DWORD) : DWORD');
16809:   TWaveAudioGetDataPtrEvent', 'Function ( Sender : TObject; var Bu'
16810:    +'ffer : TObject; var NumLoops : DWORD; var FreeIt : Boolean) : DWORD');
16811:   TWaveAudioDataReadyEvent', 'Procedure ( Sender : TObject; const '
16812:    +'Buffer : TObject; BufferSize : DWORD; var FreeIt : Boolean)');
16813:   TWaveAudioLevelEvent', 'Procedure ( Sender : TObject; Level : Integer)');
16814:   TWaveAudioFilterEvent', 'Procedure (Sender : TObject; const Buffer:TObject; BufferSize:DWORD);
16815:  GetWaveAudioInfo(mmIO:HMMIO;var pWaveFormat:PWaveFormatEx;var DataSize,DataOffset:DWORD):Bool;
16816:  CreateWaveAudio(mmIO: HMMIO; const pWaveFormat:PWaveFormatEx;var ckRIFF,ckData:TMMCKInfo):Bool;
16817:  CloseWaveAudio( mmIO : HMMIO; var ckRIFF, ckData : TMMCKInfo)');
16818:  GetStreamWaveAudioInfo(Stream:TStream; var pWaveFormat:PWaveFormatEx;var DataSize,DataOffset:DWORD):Bool;
16819:  CreateStreamWaveAudio(Stream: TStream;const pWaveFormat:PWaveFormatEx; var ckRIFF,ckData:TMMCKInfo):HMMIO;
16820:  OpenStreamWaveAudio( Stream : TStream) : HMMIO');
16821:  CalcWaveBufferSize( const pWaveFormat : PWaveFormatEx; Duration : DWORD) : DWORD');
16822:  GetAudioFormat( FormatTag : Word) : String');
16823:  GetWaveAudioFormat( const pWaveFormat : PWaveFormatEx) : String');
16824:  GetWaveAudioLength( const pWaveFormat : PWaveFormatEx; DataSize : DWORD) : DWORD');
16825:  GetWaveAudioBitRate( const pWaveFormat : PWaveFormatEx) : DWORD');
16826:  GetWaveAudioPeakLevel(const Data: TObject;DataSize:DWORD; const pWaveFormat:PWaveFormatEx): Integer');
16827:  InvertWaveAudio( const Data : TObject; DataSize : DWORD;const pWaveFormat : PWaveFormatEx): Boolean');
16828:  SilenceWaveAudio( const Data : TObject; DataSize : DWORD;const pWaveFormat : PWaveFormatEx): Boolean');
16829:  ChangeWaveAudioVolume(const Data:TObject;DataSize:DWORD;const pWaveFormat:PWaveFormatEx;Percent:Int):Bool;
16830:  MixWaveAudio( const RawWaves : TRawWave; Count : Integer; const pWaveFormat : PWaveFormatEx; Buffer :
       TObject; BufferSize : DWORD) : Boolean');
16831:  ConvertWaveFormat( const srcFormat : PWaveFormatEx; srcData : TObject; srcDataSize : DWORD; const
       dstFormat : PWaveFormatEx; var dstData : TObject; var dstDataSize : DWORD) : Boolean');
16832:  SetPCMAudioFormat(const pWaveFormat: PWaveFormatEx; Channels : TPCMChannel; SamplesPerSec :
       TPCMSamplesPerSec; BitsPerSample : TPCMBitsPerSample)');
16833:  Procedure SetPCMAudioFormatS( const pWaveFormat : PWaveFormatEx; PCMFormat : TPCMFormat)');
16834:  GetPCMAudioFormat( const pWaveFormat : PWaveFormatEx) : TPCMFormat');
16835:  GetWaveDataPositionOffset( const pWaveFormat : PWaveFormatEx; Position : DWORD) : DWORD');
16836:  MS2Str( Milliseconds : DWORD; Fmt : TMS2StrFormat) : String');
16837:  WaitForSyncObject( SyncObject : THandle; Timeout : DWORD) : DWORD');
16838:  //mmioStreamProc( lpmmIOInfo : PMMIOInfo; uMsg, lParam1, lParam2 : DWORD) : LRESULT');
16839: end;
16840:
16841: procedure SIRegister_NamedPipes(CL: TPSPascalCompiler);
16842: begin
16843:  'DEFAULT_PIPE_BUFFER_SIZE','LongInt').SetInt( 4096);
16844:  CL.AddConstantN('DEFAULT_PIPE_TIMEOUT','LongInt').SetInt( 5000);
16845:  'PIPE_NAMING_SCHEME','String').SetString( '\\%s\pipe\%s');
16846:  'WAIT_ERROR','LongWord').SetUInt( DWORD ( $FFFFFFFF ));
16847:  'WAIT_OBJECT_1','LongInt').SetInt( WAIT_OBJECT_0 + 1);
16848:  'STATUS_SUCCESS','LongWord').SetUInt( $00000000);
16849:  'STATUS_BUFFER_OVERFLOW','LongWord').SetUInt( $80000005);
16850:   CL.AddTypeS('TPipeDirection', '( pdir_Duplex, pdir_ClientToServer, pdir_ServerToClient )');
16851:   CL.AddTypeS('TPipeType', '( ptyp_ByteByte, ptyp_MsgByte, ptyp_MsgMsg )');
```

```
16852:   CL.AddTypeS('TOverlappedResult', '( ov_Failed, ov_Pending, ov_MoreData, ov_Complete )');
16853:   SIRegister_TNamedPipe(CL);
16854:   SIRegister_TServerPipe(CL);
16855:   SIRegister_TClientPipe(CL);
16856:  CL.AddDelphiFunction('Function CalculateTimeout( aBasis : DWORD) : DWORD');
16857:  Function HasOverlappedIoCompleted( const ov : OVERLAPPED) : Boolean');
16858:  Function GetOverlappedPipeResult(aHandle:THandle;const ov:OVERLAPPED;var dwBytes:DWORD;bWait:Boolean):
       TOverlappedResult;
16859:  Function GetStreamAsText( stm : TStream) : string');
16860:  Procedure SetStreamAsText( const aTxt : string; stm : TStream)');
16861: end;
16862:
16863: procedure SIRegister_DPUtils(CL: TPSPascalCompiler);
16864: begin
16865:  // CL.AddTypeS('pRGBTripleArray', '^TRGBTripleArray // will not work');
16866:   SIRegister_TThumbData(CL);
16867:  'PIC_BMP','LongInt').SetInt( 0);
16868:  'PIC_JPG','LongInt').SetInt( 1);
16869:  'THUMB_WIDTH','LongInt').SetInt( 60);
16870:  'THUMB_HEIGHT','LongInt').SetInt( 60);
16871:  Function IsEqualFile(Filename:string; Size:Integer; LastWriteTime : TDateTime): Boolean');
16872:  Procedure GetFileInfo(Filename : string; var Size : Integer; var LastWriteTime : TDateTime)');
16873:  Function ReadBitmap( Filehandle : Integer; Width, Height : Integer) : TBitmap');
16874:  Procedure WriteBitmap( Filehandle : Integer; bmp : TBitmap)');
16875:  Function OpenPicture( fn : string; var tp : Integer) : Integer');
16876:  Function ConvertPicture( pi : Integer; tp : Integer) : TBitmap');
16877:  Function LoadPicture( fn : string; var w, h : Integer) : TBitmap');
16878:  Function TurnBitmap( bmp : TBitmap; ang : Integer) : TBitmap');
16879:  Function RotateBitmap( Bitmap : TBitmap; Direction : Integer) : TBitmap');
16880:  Function StretchBitmap( Canvas : TCanvas; re : TRect; bmp : TBitmap) : TRect');
16881:  Function ThumbBitmap( Bitmap : TBitmap; Width, Height : Integer) : TBitmap');
16882:  Procedure ClearFrame( Canvas : TCanvas; Rect : TRect; Width, Height : Integer)');
16883:  Procedure FindFiles( path, mask : string; items : TStringList)');
16884:  Function LetFileName( s : string) : string');
16885:  Function LetParentPath( path : string) : string');
16886:  Function AddBackSlash( path : string) : string');
16887:  Function CutBackSlash( path : string) : string');
16888: end;
16889:
16890: procedure SIRegister_CommonTools(CL: TPSPascalCompiler);
16891: begin
16892:  //'BYTES','LongInt').SetInt( 1);
16893:  'KBYTES','LongInt').SetInt( 1024);
16894:  'DBG_ALIVE','LongWord').SetUInt( Integer ( $11BABE11 ));
16895:  'DBG_DESTROYING','LongWord').SetUInt( Integer ( $44FADE44 ));
16896:  'DBG_GONE','LongWord').SetUInt( $99AC1D99);
16897:  'SHELL_NS_MYCOMPUTER','String').SetString( '::{20D04FE0-3AEA-1069-A2D8-08002B30309D}');
16898:   SIRegister_MakeComServerMethodsPublic(CL);
16899:   CL.AddTypeS('TSomeFileInfo', '( fi_DisplayType, fi_Application )');
16900:  Function IsFlagSet( dwTestForFlag, dwFlagSet : DWORD) : Boolean');
16901:  Procedure TBSetFlag( const dwThisFlag : DWORD; var dwFlagSet : DWORD; aSet : Boolean)');
16902:  Function TBGetTempFolder : string');
16903:  Function TBGetTempFile : string');
16904:  Function TBGetModuleFilename : string');
16905:  Function FormatModuleVersionInfo( const aFilename : string) : string');
16906:  Function GetVersionInfoString( const aFile, aEntry : string; aLang : WORD) : string');
16907:  Function TBGetFileSize( aFile : string; aMultipleOf : Integer) : Integer');
16908:  Function FormatAttribString( aAttr : Integer) : string');
16909:  Function GetSomeFileInfo( aFile : string; aWhatInfo : TSomeFileInfo) : string');
16910:  Function ShellRecycle( aWnd : HWND; aFileOrFolder : string) : Boolean');
16911:  Function IsDebuggerPresent : BOOL');
16912:  Function TBNotImplemented : HRESULT');
16913: end;
16914:
16915: procedure SIRegister_D2_VistaHelperU(CL: TPSPascalCompiler);
16916: begin
16917:   //CL.AddTypeS('OSVERSIONINFOEXA', '_OSVERSIONINFOEXA');
16918:   //CL.AddTypeS('TOSVersionInfoExA', '_OSVERSIONINFOEXA');
16919:   CL.AddTypeS('TOSVersionInfoEx', 'TOSVersionInfo');
16920:   CL.AddTypeS('TDrivesProperty', 'array[1..26] of boolean;');
16921:   //TDrivesProperty = array['A'..'Z'] of boolean;
16922:  Function TBSetSystemTime( DateTime : TDateTime; DOW : word) : boolean');
16923:  Function IsElevated : Boolean');
16924:  Procedure CoCreateInstanceAsAdmin(aHWnd:HWND;const aClassID:TGUID;const aIID:TGUID;out aObj:TObject);
16925:   CL.AddTypeS('TPasswordUsage', '( pu_None, pu_Default, pu_Defined )');
16926:  Function TrimNetResource( UNC : string) : string');
16927:  Procedure GetFreeDrives( var FreeDrives : TDrivesProperty)');
16928:  Procedure GetMappedDrives( var MappedDrives : TDrivesProperty)');
16929:  Function MapDrive(UNCPath:string; Drive : char; PasswordUsage : TPasswordUsage; Password : string;
       UserUsage : TPasswordUsage; User : string; Comment : string) : boolean');
16930:  Function UnmapDrive( Drive : char; Force : boolean) : boolean');
16931:  Function TBIsWindowsVista : Boolean');
16932:  Procedure SetVistaFonts( const AForm : TForm)');
16933:  Procedure SetVistaContentFonts( const AFont : TFont)');
16934:  Function GetProductType( var sType : String) : Boolean');
16935:  Function lstrcmp( lpString1, lpString2 : PChar) : Integer');
16936:  Function lstrcmpi( lpString1, lpString2 : PChar) : Integer');
16937:  Function lstrcpyn( lpString1, lpString2 : PChar; iMaxLength : Integer) : PChar');
16938:  Function lstrcpy( lpString1, lpString2 : PChar) : PChar');
```

```
16939:  Function lstrcat( lpString1, lpString2 : PChar) : PChar');
16940:  Function lstrlen( lpString : PChar) : Integer');
16941:  Function GetTokenInformation( TokenHandle : THandle; TokenInformationClass : TTokenInformationClass;
       TokenInformation : ___Pointer; TokenInformationLength : DWORD; var ReturnLength : DWORD) : BOOL');
16942:  Function SetTokenInformation( TokenHandle : THandle; TokenInformationClass : TTokenInformationClass;
       TokenInformation : ___Pointer; TokenInformationLength : DWORD) : BOOL');
16943: end;
16944:
16945: procedure SIRegister_dwsXPlatform(CL: TPSPascalCompiler);
16946: begin
16947:  'cLineTerminator','Char').SetString( #10);
16948:  'cLineTerminators','String').SetString( #13#10);
16949:  'INVALID_HANDLE_VALUE','LongInt').SetInt( DWORD ( - 1 ));
16950:   SIRegister_TFixedCriticalSection(CL);
16951:   SIRegister_TMultiReadSingleWrite(CL);
16952:  CL.AddDelphiFunction('Procedure SetDecimalSeparator( c : Char)');
16953:  Function GetDecimalSeparator : Char');
16954:  TCollectFileProgressEvent', 'Procedure ( const directory : String; var skipScan : Boolean)');
16955:  Procedure CollectFiles(const directory,fileMask:UnicodeString; list:TStrings;
       recurseSubdirectories:Boolean; onProgress : TCollectFileProgressEvent)');
16956:   CL.AddTypeS('NativeInt', 'Integer');
16957:   //CL.AddTypeS('PNativeInt', '^NativeInt // will not work');
16958:   CL.AddTypeS('NativeUInt', 'Cardinal');
16959:   //CL.AddTypeS('PNativeUInt', '^NativeUInt // will not work');
16960:   //CL.AddTypeS('TBytes', 'array of Byte');
16961:   CL.AddTypeS('RawByteString', 'UnicodeString');
16962:   //CL.AddTypeS('PNativeInt', '^NativeInt // will not work');
16963:   //CL.AddTypeS('PUInt64', '^UInt64 // will not work');
16964:   SIRegister_TPath(CL);
16965:   SIRegister_TFile(CL);
16966:   SIRegister_TdwsThread(CL);
16967:  Function GetSystemMilliseconds : Int64');
16968:  Function UTCDateTime : TDateTime');
16969:  Function UnicodeFormat(const fmt:UnicodeString; const args : array of const): UnicodeString');
16970:  Function UnicodeCompareStr( const S1, S2 : UnicodeString) : Integer');
16971:  Function dwsAnsiCompareText( const S1, S2 : UnicodeString) : Integer');
16972:  Function dwsAnsiCompareStr( const S1, S2 : UnicodeString) : Integer');
16973:  Function UnicodeComparePChars( p1 : PChar; n1 : Integer; p2 : PChar; n2 : Integer) : Integer;');
16974:  Function UnicodeComparePChars1( p1, p2 : PChar; n : Integer) : Integer;');
16975:  Function UnicodeLowerCase( const s : UnicodeString) : UnicodeString');
16976:  Function UnicodeUpperCase( const s : UnicodeString) : UnicodeString');
16977:  Function ASCIICompareText( const s1, s2 : UnicodeString) : Integer');
16978:  Function ASCIISameText( const s1, s2 : UnicodeString) : Boolean');
16979:  Function InterlockedIncrement( var val : Integer) : Integer');
16980:  Function InterlockedDecrement( var val : Integer) : Integer');
16981:  Procedure FastInterlockedIncrement( var val : Integer)');
16982:  Procedure FastInterlockedDecrement( var val : Integer)');
16983:  Function InterlockedExchangePointer( var target : ___Pointer; val : ___Pointer) : ___Pointer');
16984:  Procedure SetThreadName( const threadName : Char; threadID : Cardinal)');
16985:  Procedure dwsOutputDebugString( const msg : UnicodeString)');
16986:  Procedure WriteToOSEventLog(const logName,logCaption,logDetails:UnicodeString;const logRawData:Str);
16987:  Function TryTextToFloat(const s:PChar;var value:Extended;const formatSettings:TFormatSettings):Bool;
16988:  Procedure VarCopy( out dest : Variant; const src : Variant)');
16989:  Function VarToUnicodeStr( const v : Variant) : UnicodeString');
16990:  Function LoadTextFromBuffer( const buf : TBytes) : UnicodeString');
16991:  Function LoadTextFromStream( aStream : TStream) : UnicodeString');
16992:  Function LoadTextFromFile( const fileName : UnicodeString) : UnicodeString');
16993:  Procedure SaveTextToUTF8File( const fileName, text : UnicodeString)');
16994:  Function OpenFileForSequentialReadOnly( const fileName : UnicodeString) : THandle');
16995:  Function OpenFileForSequentialWriteOnly( const fileName : UnicodeString) : THandle');
16996:  Procedure CloseFileHandle( hFile : THandle)');
16997:  Function FileCopy(const existing, new : UnicodeString; failIfExists : Boolean):Boolean');
16998:  Function FileMove( const existing, new : UnicodeString) : Boolean');
16999:  Function dwsFileDelete( const fileName : String) : Boolean');
17000:  Function FileRename( const oldName, newName : String) : Boolean');
17001:  Function dwsFileSize( const name : String) : Int64');
17002:  Function dwsFileDateTime( const name : String) : TDateTime');
17003:  Function DirectSet8087CW( newValue : Word) : Word');
17004:  Function DirectSetMXCSR( newValue : Word) : Word');
17005:  Function TtoObject( const T: byte) : TObject');
17006:  Function TtoPointer( const T: byte) : ___Pointer');
17007:  Procedure GetMemForT(var T: byte; Size : integer)');
17008:  Function FindDelimiter( const Delimiters, S : string; StartIdx : Integer) : Integer');
17009: end;
17010:
17011: procedure SIRegister_AdSocket(CL: TPSPascalCompiler);
17012: begin
17013:  'IPStrSize','LongInt').SetInt( 15);
17014:  'CM_APDSOCKETMESSAGE','LongWord').SetUInt( WM_USER + $0711);
17015:  'CM_APDSOCKETQUIT','LongWord').SetUInt( WM_USER + $0712);
17016:  'ADWSBASE','LongInt').SetInt( 9000);
17017:   CL.AddTypeS('TCMAPDSocketMessage', 'record Msg : Cardinal; Socket : TSocket; '
17018:    +'SelectEvent : Word; SelectError : Word; Result : Longint; end');
17019:   SIRegister_EApdSocketException(CL);
17020:   TWsMode', '( wsClient, wsServer )');
17021:   TWsNotifyEvent', 'Procedure ( Sender : TObject; Socket : TSocket');
17022:   TWsSocketErrorEvent', 'Procedure ( Sender : TObject; Socket : TSocket; ErrCode : Integer)');
17023:   SIRegister_TApdSocket(CL);
17024: end;
```

```
17025:
17026: procedure SIRegister_AdPort(CL: TPSPascalCompiler);
17027: begin
17028:   SIRegister_TApdCustomComPort(CL);
17029:   SIRegister_TApdComPort(CL);
17030:  Function ComName( const ComNumber : Word) : ShortString');
17031:  Function SearchComPort( const C : TComponent) : TApdCustomComPort');
17032: end;
17033:
17034: procedure SIRegister_PathFunc(CL: TPSPascalCompiler);
17035: begin
17036:  Function inAddBackslash( const S : String) : String');
17037:  Function PathChangeExt( const Filename, Extension : String) : String');
17038:  Function PathCharCompare( const S1, S2 : PChar) : Boolean');
17039:  Function PathCharIsSlash( const C : Char) : Boolean');
17040:  Function PathCharIsTrailByte( const S : String; const Index : Integer) : Boolean');
17041:  Function PathCharLength( const S : String; const Index : Integer) : Integer');
17042:  Function inPathCombine( const Dir, Filename : String) : String');
17043:  Function PathCompare( const S1, S2 : String) : Integer');
17044:  Function PathDrivePartLength( const Filename : String) : Integer');
17045:  Function PathDrivePartLengthEx(const Filename:String;const IncludeSignificantSlash:Bool):Int;
17046:  Function inPathExpand( const Filename : String) : String');
17047:  Function PathExtensionPos( const Filename : String) : Integer');
17048:  Function PathExtractDir( const Filename : String) : String');
17049:  Function PathExtractDrive( const Filename : String) : String');
17050:  Function PathExtractExt( const Filename : String) : String');
17051:  Function PathExtractName( const Filename : String) : String');
17052:  Function PathExtractPath( const Filename : String) : String');
17053:  Function PathIsRooted( const Filename : String) : Boolean');
17054:  Function PathLastChar( const S : String) : PChar');
17055:  Function PathLastDelimiter( const Delimiters, S : string) : Integer');
17056:  Function PathLowercase( const S : String) : String');
17057:  Function PathNormalizeSlashes( const S : String) : String');
17058:  Function PathPathPartLength(const Filename:String;const IncludeSlashesAfterPath:Bool):Int;
17059:  Function PathPos( Ch : Char; const S : String) : Integer');
17060:  Function PathStartsWith( const S, AStartsWith : String) : Boolean');
17061:  Function PathStrNextChar( const S : PChar) : PChar');
17062:  Function PathStrPrevChar( const Start, Current : PChar) : PChar');
17063:  Function PathStrScan( const S : PChar; const C : Char) : PChar');
17064:  Function inRemoveBackslash( const S : String) : String');
17065:  Function RemoveBackslashUnlessRoot( const S : String) : String');
17066:  Procedure PathFuncRunTests( const AlsoTestJapaneseDBCS : Boolean)');
17067: end;
17068:
17069:
17070: procedure SIRegister_CmnFunc2(CL: TPSPascalCompiler);
17071: begin
17072:  NEWREGSTR_PATH_SETUP','String').SetString( 'Software\Microsoft\Windows\CurrentVersion');
17073:  NEWREGSTR_PATH_EXPLORER','String').SetString( NEWREGSTR_PATH_SETUP + '\Explorer');
17074:  NEWREGSTR_PATH_SPECIAL_FOLDERS','String').SetString(NEWREGSTR_PATH_EXPLORER + '\Shell Folders');
17075:  NEWREGSTR_PATH_UNINSTALL','String').SetString( NEWREGSTR_PATH_SETUP + '\Uninstall');
17076:  NEWREGSTR_VAL_UNINSTALLER_DISPLAYNAME','String').SetString( 'DisplayName');
17077:  NEWREGSTR_VAL_UNINSTALLER_COMMANDLINE','String').SetString( 'UninstallString');
17078:  KEY_WOW64_64KEY','LongWord').SetUInt( $0100);
17079:   //CL.AddTypeS('PLeadByteSet', '^TLeadByteSet // will not work');
17080:   CL.AddTypeS('TLeadByteSet', 'set of Char');
17081:   SIRegister_TOneShotTimer(CL);
17082:   CL.AddTypeS('TRegView', '( rvDefault, rv32Bit, rv64Bit )');
17083:  'RegViews64Bit','LongInt').Value.ts32 := ord(rv64Bit);
17084:  Function NewFileExists( const Name : String) : Boolean');
17085:  Function inDirExists( const Name : String) : Boolean');
17086:  Function FileOrDirExists( const Name : String) : Boolean');
17087:  Function IsDirectoryAndNotReparsePoint( const Name : String) : Boolean');
17088:  Function GetIniString( const Section, Key : String; Default:String; const Filename:String): String');
17089:  Function GetIniInt(const Section,Key:String;const Default,Min,Max:Longint;const Filenam:String):Longint;
17090:  Function GetIniBool( const Section,Key:String; const Default:Boolean;const Filename:String): Boolean');
17091:  Function IniKeyExists( const Section, Key, Filename : String) : Boolean');
17092:  Function IsIniSectionEmpty( const Section, Filename : String) : Boolean');
17093:  Function SetIniString( const Section, Key, Value, Filename : String) : Boolean');
17094:  Function SetIniInt(const Section,Key:String;const Value: Longint;const Filename: String):Boolean');
17095:  Function SetIniBool(const Section,Key:String;const Value: Boolean;const Filename: String):Boolean');
17096:  Procedure DeleteIniEntry( const Section, Key, Filename : String)');
17097:  Procedure DeleteIniSection( const Section, Filename : String)');
17098:  Function GetEnv( const EnvVar : String) : String');
17099:  Function GetCmdTail : String');
17100:  Function GetCmdTailEx( StartIndex : Integer) : String');
17101:  Function NewParamCount : Integer');
17102:  Function NewParamStr( Index : Integer) : string');
17103:  Function AddQuotes( const S : String) : String');
17104:  Function RemoveQuotes( const S : String) : String');
17105:  Function inGetShortName( const LongName : String) : String');
17106:  Function inGetWinDir : String');
17107:  Function inGetSystemDir : String');
17108:  Function GetSysWow64Dir : String');
17109:  Function GetSysNativeDir( const IsWin64 : Boolean) : String');
17110:  Function inGetTempDir : String');
17111:  Function StringChange( var S : String; const FromStr, ToStr : String) : Integer');
17112:  Function StringChangeEx(var S:String;const FromStr,ToStr:String;const SupportDBCS:Bool):Int;
17113:  Function AdjustLength( var S : String; const Res : Cardinal) : Boolean');
```

```
17114:  Function UsingWinNT : Boolean');
17115:  Function ConvertConstPercentStr( var S : String) : Boolean');
17116:  Function ConvertPercentStr( var S : String) : Boolean');
17117:  Function ConstPos( const Ch : Char; const S : String) : Integer');
17118:  Function SkipPastConst( const S : String; const Start : Integer) : Integer');
17119:  Function RegQueryStringValue( H : HKEY; Name : PChar; var ResultStr : String) : Boolean');
17120:  Function RegQueryMultiStringValue( H : HKEY; Name : PChar; var ResultStr : String):Boolean;
17121:  Function RegValueExists( H : HKEY; Name : PChar) : Boolean');
17122:  Function RegCreateKeyExView(const RegView:TRegView;hKey:HKEY;lpSubKey:PChar;Reserved:DWORD;lpClass:PChar;
        dwOptions:DWORD;samDesired:REGSAM;lpSecurityAttributes:TObject;var
        phkResult:HKEY;lpdwDisposition:DWORD):Longint;
17123:  Function RegOpenKeyExView(const
        RegView:TRegView;hKey:HKEY;lpSubKey:PChar;ulOptions:DWORD;samDesired:REGSAM;var phkResult:HKEY):Longint;
17124:  Function RegDeleteKeyView( const RegView : TRegView; const Key : HKEY; const Name : PChar) : Longint;
17125:  Function RegDeleteKeyIncludingSubkeys(const RegView:TRegView;const Key:HKEY;const Name:PChar):Longint;
17126:  Function RegDeleteKeyIfEmpty(const RegView:TRegView;const RootKey:HKEY;const SubkeyName:PChar):Longint;
17127:  Function GetShellFolderPath( const FolderID : Integer) : String');
17128:  Function IsAdminLoggedOn : Boolean');
17129:  Function IsPowerUserLoggedOn : Boolean');
17130:  Function IsMultiByteString( const S : AnsiString) : Boolean');
17131:  Function FontExists( const FaceName : String) : Boolean');
17132:  //Procedure FreeAndNil( var Obj)');
17133:  Function SafeLoadLibrary( const Filename : String; ErrorMode : UINT) : HMODULE');
17134:  Function GetUILanguage : LANGID');
17135:  Function RemoveAccelChar( const S : String) : String');
17136:  Function GetTextWidth(const DC : HDC; S : String; const Prefix:Boolean):Integer');
17137:  Function AddPeriod( const S : String) : String');
17138:  Function GetExceptMessage : String');
17139:  Function GetPreferredUIFont : String');
17140:  Function IsWildcard( const Pattern : String) : Boolean');
17141:  Function WildcardMatch( const Text, Pattern : PChar) : Boolean');
17142:  Function IntMax( const A, B : Integer) : Integer');
17143:  Function Win32ErrorString( ErrorCode : Integer) : String');
17144:  Procedure GetLeadBytes( var ALeadBytes : TLeadByteSet)');
17145:  Function inCompareMem( P1, P2 : TObject; Length : Integer) : Boolean');
17146:  Function DeleteDirTree( const Dir : String) : Boolean');
17147:  Function SetNTFSCompression(const FileOrDir: String; Compress : Boolean) : Boolean');
17148:  Procedure AddToWindowMessageFilterEx( const Wnd : HWND; const Msg : UINT)');
17149:  // CL.AddTypeS('TSysCharSet', 'set of AnsiChar');
17150:  Function inCharInSet( C : Char; const CharSet : TSysCharSet) : Boolean');
17151:  Function ShutdownBlockReasonCreate( Wnd : HWND; const Reason : String) : Boolean');
17152:  Function ShutdownBlockReasonDestroy( Wnd : HWND) : Boolean');
17153:  Function TryStrToBoolean( const S : String; var BoolResult : Boolean) : Boolean');
17154:  Procedure WaitMessageWithTimeout( const Milliseconds : DWORD)');
17155:  Function MoveFileReplace(const ExistingFileName, NewFileName : String) : Boolean');
17156:  Procedure TryEnableAutoCompleteFileSystem( Wnd : HWND)');
17157: end;
17158:
17159: procedure SIRegister_CmnFunc(CL: TPSPascalCompiler);
17160: begin
17161:   SIRegister_TWindowDisabler(CL);
17162:   TMsgBoxType', '( mbInformation, mbConfirmation, mbError, mbCriticalError )');
17163:   TMsgBoxCallbackFunc','procedure(const Flags:LongInt;const After:Bool;const Param:LongInt);
17164:  Procedure UpdateHorizontalExtent( const ListBox : TCustomListBox)');
17165:  Function MinimizePathName(const Filename:String; const Font:TFont;MaxLen:Integer):String;
17166:  Function AppMessageBox( const Text, Caption : PChar; Flags : Longint) : Integer');
17167:  Function MsgBoxP( const Text,Caption: PChar; const Typ: TMsgBoxType;const Buttons:Cardinal):Int;
17168:  Function inMsgBox(const Text,Caption:String; const Typ: TMsgBoxType;const Buttons:Cardinal):Int;
17169:  Function MsgBoxFmt(const Text:String;const Args:array of const;const Caption:String;const
        Typ:TMsgBoxType;const Buttons:Cardinal):Integer');
17170:  Procedure ReactivateTopWindow');
17171:  Procedure SetMessageBoxCaption( const Typ : TMsgBoxType; const NewCaption : PChar)');
17172:  Procedure SetMessageBoxRightToLeft( const ARightToLeft : Boolean)');
17173:  Procedure SetMessageBoxCallbackFunc(const AFunc : TMsgBoxCallbackFunc; const AParam : LongInt)');
17174: end;
17175:
17176: procedure SIRegister_ImageGrabber(CL: TPSPascalCompiler);
17177: begin
17178:   SIRegister_TImageGrabber(CL);
17179:   SIRegister_TCaptureDrivers(CL);
17180:   SIRegister_TCaptureDriver(CL);
17181: end;
17182:
17183: procedure SIRegister_SecurityFunc(CL: TPSPascalCompiler);
17184: begin
17185:  Function GrantPermissionOnFile(const DisableFsRedir:Boolean; Filename:String;const
        Entries:TGrantPermissionEntry; const EntryCount:Integer):Boolean');
17186:  Function GrantPermissionOnKey(const RegView:TRegView;const RootKey:HKEY;const Subkey:String;const
        Entries: TGrantPermissionEntry; const EntryCount:Integer): Boolean');
17187: end;
17188:
17189: procedure SIRegister_RedirFunc(CL: TPSPascalCompiler);
17190: begin
17191:   CL.AddTypeS('TPreviousFsRedirectionState', record DidDisable : Boolean; OldValue : ___Pointer; end');
17192:  CL.AddDelphiFunction('Function AreFsRedirectionFunctionsAvailable : Boolean');
17193:  Function DisableFsRedirectionIf(const Disable:Boolean;var PreviousState:TPreviousFsRedirectionState):Boo;
17194:  Procedure RestoreFsRedirection( const PreviousState : TPreviousFsRedirectionState)');
17195:  Function CreateDirectoryRedir( const DisableFsRedir : Boolean; const Filename : String) : BOOL');
17196:  Function CreateProcessRedir(const DisableFsRedir:Boolean;const lpApplicationName:PChar;const
        lpCommandLine:PChar; const lpProcessAttributes, lpThreadAttributes:PSecurityAttributes;const
        bInheritHandles:BOOL; const dwCreationFlags:DWORD;const lpEnvironment:Pointer; const
        lpCurrentDirectory:PChar; const lpStartupInfo : TStartupInfo; var
        lpProcessInformation:TProcessInformation):BOOL;
```

```
17197:  Function CopyFileRedir(const DisableFsRedir:Boolean; const ExistingFilename, NewFilename : String; const
        FailIfExists : BOOL) : BOOL');
17198:  Function DeleteFileRedir( const DisableFsRedir : Boolean; const Filename : String) : BOOL');
17199:  Function DirExistsRedir( const DisableFsRedir : Boolean; const Filename : String) : Boolean');
17200:  Function FileOrDirExistsRedir( const DisableFsRedir : Boolean; const Filename : String) : Boolean');
17201:  Function FindFirstFileRedir( const DisableFsRedir : Boolean; const Filename : String; var FindData :
        TWin32FindData) : THandle');
17202:  Function GetFileAttributesRedir( const DisableFsRedir : Boolean; const Filename : String) : DWORD');
17203:  Function GetShortNameRedir( const DisableFsRedir : Boolean; const Filename : String) : String');
17204:  Function GetVersionNumbersRedir(const DisableFsRedir:Boolean; const Filename:String; var VersionNumbers :
        TFileVersionNumbers) : Boolean');
17205:  Function IsDirectoryAndNotReparsePointRedir(const DisableFsRedir:Boolean;const Name:String):Bool;
17206:  Function MoveFileRedir(const DisableFsRedir:Bool;const ExistingFilename,NewFilename:String):BOOL;
17207:  Function MoveFileExRedir(const DisableFsRedir:Bool;const ExistingFilen,NewFilename:String;const
        Flags:DWORD):BOOL;
17208:  Function NewFileExistsRedir( const DisableFsRedir : Boolean; const Filename : String) : Boolean');
17209:  Function RemoveDirectoryRedir( const DisableFsRedir : Boolean; const Filename : String) : BOOL');
17210:  Function SetFileAttributesRedir(const DisableFsRedir:Bool;const Filename:String;const Attrib:DWORD):BOOL;
17211:  Function SetNTFSCompressionRedir(const DisableFsRedir:Boolean;const FileOrDir:String;Compress:Bool:Bool;
17212:   SIRegister_TFileRedir(CL);
17213:   SIRegister_TTextFileReaderRedir(CL);
17214:   SIRegister_TTextFileWriterRedir(CL);
17215: end;
17216:
17217: procedure SIRegister_Int64Em(CL: TPSPascalCompiler);
17218: begin
17219:   //CL.AddTypeS('LongWord', 'Cardinal');
17220:   CL.AddTypeS('Integer64', 'record Lo : LongWord; Hi : LongWord; end');
17221:  Function Compare64( const N1, N2 : Integer64) : Integer');
17222:  Procedure Dec64( var X : Integer64; N : LongWord)');
17223:  Procedure Dec6464( var X : Integer64; const N : Integer64)');
17224:  Function Div64( var X : Integer64; const Divisor : LongWord) : LongWord');
17225:  Function Inc64( var X : Integer64; N : LongWord) : Boolean');
17226:  Function Inc6464( var X : Integer64; const N : Integer64) : Boolean');
17227:  Function Integer64ToStr( X : Integer64) : String');
17228:  Function Mod64( const X : Integer64; const Divisor : LongWord) : LongWord');
17229:  Function Mul64( var X : Integer64; N : LongWord) : Boolean');
17230:  Procedure Multiply32x32to64( N1, N2 : LongWord; var X : Integer64)');
17231:  Procedure Shr64( var X : Integer64; Count : LongWord)');
17232:  Function StrToInteger64( const S : String; var X : Integer64) : Boolean');
17233: end;
17234:
17235: procedure SIRegister_InstFunc(CL: TPSPascalCompiler);
17236: begin
17237:   //CL.AddTypeS('PSimpleStringListArray', '^TSimpleStringListArray // will not work');
17238:   SIRegister_TSimpleStringList(CL);
17239:   CL.AddTypeS('TExecWait', '( ewNoWait, ewWaitUntilTerminated, ewWaitUntilIdle)');
17240:   CL.AddTypeS('TDetermineDefaultLanguageResult', '( ddNoMatch, ddMatch, ddMatchLangParameter )');
17241:   CL.AddTypeS('TMD5Digest', 'array[0..15] of Byte;');
17242:   CL.AddTypeS('TSHA1Digest', 'array[0..19] of Byte;');
17243:  // TMD5Digest = array[0..15] of Byte;
17244:   //     TSHA1Digest = array[0..19] of Byte;
17245:  Function CheckForMutexes( Mutexes : String) : Boolean');
17246:  Function CreateTempDir : String');
17247:  Function DecrementSharedCount( const RegView : TRegView; const Filename : String) : Boolean');
17248:  Procedure DelayDeleteFile( const DisableFsRedir : Boolean; const Filename : String; const MaxTries,
        FirstRetryDelayMS, SubsequentRetryDelayMS : Integer)');
17249:  //Function DelTree( const DisableFsRedir : Boolean; const Path : String; const IsDir, DeleteFiles,
        DeleteSubdirsAlso, BreakOnError : Boolean; const DeleteDirProc : TDeleteDirProc; const DeleteFileProc :
        TDeleteFileProc; const Param : Pointer) : Boolean');
17250:  //Function DetermineDefaultLanguage( const GetLanguageEntryProc : TGetLanguageEntryProc; const Method :
        TSetupLanguageDetectionMethod; const LangParameter : String; var ResultIndex : Integer) :
        TDetermineDefaultLanguageResult');
17251:  //Procedure EnumFileReplaceOperationsFilenames(const EnumFunc:TEnumFROFilenamesProc;Param:Pointer);
17252:  Function GenerateNonRandomUniqueFilename( Path : String; var Filename : String) : Boolean');
17253:  Function GenerateUniqueName(const DisableFsRedir:Bool;Path:String;const Extension:String):String;
17254:  Function GetComputerNameString : String');
17255:  Function GetFileDateTime(const DisableFsRedir:Boolean;const Filename:String;var DateTime:TFileTime):Bool;
17256:  Function GetMD5OfFile( const DisableFsRedir : Boolean; const Filename : String) : TMD5Digest');
17257:  Function GetMD5OfAnsiString( const S : AnsiString) : TMD5Digest');
17258: // Function GetMD5OfUnicodeString( const S : UnicodeString) : TMD5Digest');
17259:  Function GetSHA1OfFile(const DisableFsRedir:Boolean;const Filename:String):TSHA1Digest');
17260:  Function GetSHA1OfAnsiString( const S : AnsiString) : TSHA1Digest');
17261: // Function GetSHA1OfUnicodeString( const S : UnicodeString) : TSHA1Digest');
17262:  Function GetRegRootKeyName( const RootKey : HKEY) : String');
17263:  Function GetSpaceOnDisk(const DisableFsRedir:Bool;const DriveRoot:String;var FreeBytes,
        TotBytes:Int64):Bool;
17264:  Function GetSpaceOnNearestMountPoint(const DisableFsRedir:Bool;const StartDir:String;var FreeBytes,
        TotalBytes: Integer64):Bool;
17265:  Function GetUserNameString : String');
17266:  Procedure IncrementSharedCount(const RegView:TRegView;const Filename:String;const AlreadyExisted:Boolean);
17267:  //Function InstExec( const DisableFsRedir : Boolean; const Filename, Params : String; WorkingDir :
        String; const Wait:TExecWait;const ShowCmd:Integer;const ProcessMessagesProc:TProcedure;var
        ResultCode:Integer) : Boolean');
17268: // Function InstShellExec( const Verb, Filename, Params : String; WorkingDir : String; const Wait :
        TExecWait; const ShowCmd:Integer;const ProcessMessagesProc:TProcedure;var ResultCode:Integer):Boolean;
17269:  Procedure InternalError( const Id : String)');
17270:  Procedure InternalErrorFmt( const S : String; const Args : array of const)');
17271:  Function IsDirEmpty( const DisableFsRedir : Boolean; const Dir : String) : Boolean');
```

```
17272:  Function IsProtectedSystemFile(const DisableFsRedir:Boolean; const Filename:String) : Boolean');
17273:  Function MakePendingFileRenameOperationsChecksum : TMD5Digest');
17274:  Function ModifyPifFile( const Filename : String; const CloseOnExit : Boolean) : Boolean');
17275:  Procedure RaiseFunctionFailedError( const FunctionName : String)');
17276:  Procedure RaiseOleError( const FunctionName : String; const ResultCode : HRESULT)');
17277:  Procedure RefreshEnvironment');
17278:  Function ReplaceSystemDirWithSysWow64( const Path : String) : String');
17279:  Function ReplaceSystemDirWithSysNative( Path : String; const IsWin64 : Boolean) : String');
17280:  Procedure UnregisterFont( const FontName, FontFilename : String)');
17281:  Function RestartComputer : Boolean');
17282:  Procedure RestartReplace( const DisableFsRedir : Boolean; TempFile, DestFile : String)');
17283:  Procedure SplitNewParamStr( const Index : Integer; var AName, AValue : String)');
17284:  Procedure Win32ErrorMsg( const FunctionName : String)');
17285:  Procedure Win32ErrorMsgEx( const FunctionName : String; const ErrorCode : DWORD)');
17286:  Function inForceDirectories(const DisableFsRedir:Boolean; Dir : String) : Boolean');
17287:  //from Func2
17288:  //Function inCreateShellLink( const Filename, Description, ShortcutTo, Parameters, WorkingDir : String;
      IconFilename : String; const IconIndex, ShowCmd : Integer; const HotKey : Word; FolderShortcut : Boolean; '
17289:   //+'const AppUserModelID:String;const ExcludeFromShowInNewInstall,PreventPinning:Bool):String');
17290:  Procedure RegisterTypeLibrary( const Filename : String)');
17291:  //Procedure UnregisterTypeLibrary( const Filename : String)');
17292:  //Function UnpinShellLink( const Filename : String) : Boolean');}
17293:  function getVersionInfoEx3: TOSVersionInfoEx;');
17294:  Function GetVersionEx3(out verinfo: TOSVersionInfoEx): boolean;');
17295:  procedure InitOle;');
17296:  Function ExpandConst( const S : String) : String');
17297:  Function ExpandConstEx( const S : String; const CustomConsts : array of String) : String');
17298:  Function ExpandConstEx2(const S:Str;const CustConsts:array of Str;const DoExpandIndividualConst:Bool):Str;
17299:  Function ExpandConstIfPrefixed( const S : String) : String');
17300:  Procedure LogWindowsVersion');
17301:  Function EvalCheck( const Expression : String) : Boolean');
17302: end;
17303:
17304: procedure SIRegister_unitResourceDetails(CL: TPSPascalCompiler);
17305: begin
17306:   CL.AddClassN(CL.FindClass('TOBJECT'),'TResourceDetails');
17307:   //CL.AddTypeS('TResourceDetailsClass', 'class of TResourceDetails');
17308:   SIRegister_TResourceModule(CL);
17309:   SIRegister_TResourceDetails(CL);
17310:   SIRegister_TAnsiResourceDetails(CL);
17311:   SIRegister_TUnicodeResourceDetails(CL);
17312:  Procedure RegisterResourceDetails( resourceClass : TResourceDetailsClass)');
17313:  Procedure UnRegisterResourceDetails( resourceClass : TResourceDetailsClass)');
17314:  Function ResourceWideCharToStr( var wstr : PWideChar; codePage : Integer) : string');
17315:  Procedure ResourceStrToWideChar( const s : string; var p : PWideChar; codePage : Integer)');
17316:  Function ResourceNameToInt( const s : string) : Integer');
17317:  Function CompareDetails( p1, p2 : TObject(Pointer)) : Integer');
17318: end;
17319:
17320:
17321: procedure SIRegister_TSimpleComPort(CL: TPSPascalCompiler);
17322: begin
17323:   //with RegClassS(CL,'TObject', 'TSimpleComPort') do
17324:   with CL.AddClassN(CL.FindClass('TObject'),'TSimpleComPort') do begin
17325:     RegisterMethod('Constructor Create');
17326:     RegisterMethod('Procedure Free');
17327:     RegisterMethod('Procedure Open( PortNumber : Integer; const Parameters : String)');
17328:     RegisterMethod('Procedure WriteString( const S : String)');
17329:     RegisterMethod('Procedure ReadString( var S : String)');
17330:   end;
17331:  Ex.: SimpleComPort:= TSimpleComPort.Create;
17332:       SimpleComPort.Open(1, 'baud=115200 parity=N data=8 stop=1');
17333:       SimpleComPort.WriteString(AsciiChar);
17334: end;
17335:
17336:
17337: procedure SIRegister_Console(CL: TPSPascalCompiler);
17338: begin
17339:  CL.AddConstantN('White','LongInt').SetInt( 15); }
17340: // CL.AddConstantN('Blink','LongInt').SetInt( 128);
17341:  ('conBW40','LongInt').SetInt( 0);
17342:  ('conCO40','LongInt').SetInt( 1);
17343:  ('conBW80','LongInt').SetInt( 2);
17344:  ('conCO80','LongInt').SetInt( 3);
17345:  ('conMono','LongInt').SetInt( 7);
17346:  CL.AddConstantN('conFont8x8','LongInt').SetInt( 256);
17347:  //CL.AddConstantN('C40','').SetString( CO40);
17348:  //CL.AddConstantN('C80','').SetString( CO80);
17349:  Function conReadKey : Char');
17350:  Function conKeyPressed : Boolean');
17351:  Procedure conGotoXY( X, Y : Smallint)');
17352:  Function conWhereX : Integer');
17353:  Function conWhereY : Integer');
17354:  Procedure conTextColor( Color : Byte);');
17355:  Function conTextColor1 : Byte;');
17356:  Procedure conTextBackground( Color : Byte);');
17357:  Function conTextBackground1 : Byte;');
17358:  Procedure conTextMode( Mode : Word)');
17359:  Procedure conLowVideo');
```

```
17360:  Procedure conHighVideo');
17361:  Procedure conNormVideo');
17362:  Procedure conClrScr');
17363:  Procedure conClrEol');
17364:  Procedure conInsLine');
17365:  Procedure conDelLine');
17366:  Procedure conWindow( Left, Top, Right, Bottom : Integer)');
17367:  Function conScreenWidth : Smallint');
17368:  Function conScreenHeight : Smallint');
17369:  Function conBufferWidth : Smallint');
17370:  Function conBufferHeight : Smallint');
17371:  procedure InitScreenMode;');
17372: end;
17373:
17374: (*----------------------------------------------------------------------------*)
17375: procedure SIRegister_testutils(CL: TPSPascalCompiler);
17376: begin
17377:   SIRegister_TNoRefCountObject(CL);
17378:  Procedure FreeObjects( List : TFPList)');
17379:  Procedure GetMethodList( AObject : TObject; AList : TStrings);');
17380:  Procedure GetMethodList1( AClass : TClass; AList : TStrings);');
17381: end;
17382:
17383: procedure SIRegister_ToolsUnit(CL: TPSPascalCompiler);
17384: begin
17385:  'MaxDataSet','LongInt').SetInt( 35);
17386:   //CL.AddTypeS('TDBConnectorClass', 'class of TDBConnector');
17387:   SIRegister_TDBConnector(CL);
17388:   SIRegister_TDBBasicsTestSetup(CL);
17389:   SIRegister_TTestDataLink(CL);
17390:  'testValuesCount','LongInt').SetInt( 25);
17391:  Procedure InitialiseDBConnector');
17392:  Procedure FreeDBConnector');
17393:  Function DateTimeToTimeString( d : tdatetime) : string');
17394:  Function TimeStringToDateTime( d : String) : TDateTime');
17395: end;
17396:
17397: procedure SIRegister_fpcunit(CL: TPSPascalCompiler);
17398: begin
17399:   SIRegister_EAssertionFailedError(CL);
17400:   CL.AddTypeS('TTestStep', '( stSetUp, stRunTest, stTearDown, stNothing )');
17401:   CL.AddTypeS('TRunMethod', 'Procedure');
17402:   CL.AddClassN(CL.FindClass('TOBJECT'),'TTestResult');
17403:   SIRegister_TTest(CL);
17404:   SIRegister_TAssert(CL);
17405:   SIRegister_TTestFailure(CL);
17406:   SIRegister_ITestListener(CL);
17407:   SIRegister_TTestCase(CL);
17408:   //CL.AddTypeS('TTestCaseClass', 'class of TTestCase');
17409:   SIRegister_TTestSuite(CL);
17410:   SIRegister_TTestResult(CL);
17411:  Function ComparisonMsg( const aExpected : string; const aActual : string) : string');
17412: end;
17413:
17414: procedure SIRegister_cTCPBuffer(CL: TPSPascalCompiler);
17415: begin
17416:   TOBJECT'),'ETCPBuffer');
17417:   TTCPBuffer', 'record Ptr : TObject; Size : Integer; Max : Intege'
17418:    +r; Head : Integer; Used : Integer; end');
17419:  'ETHERNET_MTU_100MBIT','LongInt').SetInt( 1500);
17420:  'ETHERNET_MTU_1GBIT','LongInt').SetInt( 9000);
17421:  'TCP_BUFFER_DEFAULTMAXSIZE','LongInt').SetInt( ETHERNET_MTU_1GBIT * 4);
17422:  'TCP_BUFFER_DEFAULTBUFSIZE','LongInt').SetInt( ETHERNET_MTU_100MBIT * 4);
17423:  Procedure TCPBufferInitialise(var TCPBuf:TTCPBuffer;const TCPBufMaxSize:Int;const TCPBufSize:Int;
17424:  Procedure TCPBufferFinalise( var TCPBuf : TTCPBuffer)');
17425:  Procedure TCPBufferPack( var TCPBuf : TTCPBuffer)');
17426:  Procedure TCPBufferResize( var TCPBuf : TTCPBuffer; const TCPBufSize : Integer)');
17427:  Procedure TCPBufferExpand( var TCPBuf : TTCPBuffer; const Size : Integer)');
17428:  Procedure TCPBufferShrink( var TCPBuf : TTCPBuffer)');
17429:  Function TCPBufferAddPtr( var TCPBuf : TTCPBuffer; const Size : Integer) : Pointer');
17430:  Procedure TCPBufferAddBuf( var TCPBuf : TTCPBuffer; const Buf : string; const Size : Integer)');
17431:  Function TCPBufferPeekPtr( const TCPBuf : TTCPBuffer; var BufPtr : Pointer) : Integer');
17432:  Function TCPBufferPeek( var TCPBuf : TTCPBuffer; var Buf: string; const Size:Integer): Integer');
17433:  Function TCPBufferRemove(var TCPBuf : TTCPBuffer;var Buf: string; const Size:Integer): Integer');
17434:  Procedure TCPBufferClear( var TCPBuf : TTCPBuffer)');
17435:  Function TCPBufferDiscard( var TCPBuf : TTCPBuffer; const Size : Integer) : Integer');
17436:  Function TCPBufferUsed( const TCPBuf : TTCPBuffer) : Integer');
17437:  Function TCPBufferEmpty( const TCPBuf : TTCPBuffer) : Boolean');
17438:  Function TCPBufferAvailable( const TCPBuf : TTCPBuffer) : Integer');
17439:  Function TCPBufferPtr( const TCPBuf : TTCPBuffer) : Pointer');
17440:  Procedure TCPBufferSetMaxSize( var TCPBuf : TTCPBuffer; const MaxSize : Integer)');
17441: end;
17442:
17443: procedure SIRegister_Glut(CL: TPSPascalCompiler);
17444: begin
17445:   //CL.AddTypeS('PInteger', '^Integer // will not work');
17446:   //CL.AddTypeS('PPChar', '^PChar // will not work');
17447:  CL.AddConstantN('GLUT_API_VERSION','LongInt').SetInt( 3);
17448:  CL.AddConstantN('GLUT_XLIB_IMPLEMENTATION','LongInt').SetInt( 12);
```

```
17449:  CL.AddConstantN('GLUT_RGB','LongInt').SetInt( 0);
17450:  CL.AddConstantN('GLUT_GAME_MODE_REFRESH_RATE','LongInt').SetInt( 5);
17451:  CL.AddConstantN('GLUT_GAME_MODE_DISPLAY_CHANGED','LongInt').SetInt( 6);
17452:  Procedure LoadGlut( const dll : String)');
17453:  Procedure FreeGlut');
17454: end;
17455:
17456: procedure SIRegister_LEDBitmaps(CL: TPSPascalCompiler);
17457: begin
17458:   CL.AddTypeS('TLEDColor', '( ledcGreen, ledcRed, ledcGray )');
17459:  Function GetLEDBitmapHandle( Color : TLEDColor; State : Boolean) : THandle');
17460: end;
17461:
17462: procedure SIRegister_SwitchLed(CL: TPSPascalCompiler);
17463: begin
17464:   TLedColor', '( Aqua, Pink, Purple, Red, Yellow, Green, Blue, Orange, Black )');
17465:   TTLedState', '( LedOn, LedOff, LedDisabled )');
17466:   SIRegister_TSwitchLed(CL);
17467:  //CL.AddDelphiFunction('Procedure Register');
17468: end;
17469:
17470: procedure SIRegister_FileClass(CL: TPSPascalCompiler);
17471: begin
17472:   CL.AddTypeS('TFileCreateDisposition', '( fdCreateAlways, fdCreateNew, fdOpenE'
17473:    +'xisting, fdOpenAlways, fdTruncateExisting )');
17474:   CL.AddTypeS('TIFileAccess', '( faRead, faWrite, faReadWrite )');
17475:   CL.AddTypeS('TIFileSharing', '( fsNone, fsRead, fsWrite, fsReadWrite )');
17476:   SIRegister_TCustomFile(CL);
17477:   SIRegister_TIFile(CL);
17478:   SIRegister_TMemoryFile(CL);
17479:   SIRegister_TTextFileReader(CL);
17480:   SIRegister_TTextFileWriter(CL);
17481:   SIRegister_TFileMapping(CL);
17482:   SIRegister_EFileError(CL);
17483: end;
17484:
17485: procedure SIRegister_FileUtilsClass(CL: TPSPascalCompiler);
17486: begin
17487:   CL.AddTypeS('TFileAttributes', '( ffaReadOnly, ffaHidden, ffaSysFile, ffaVolumeID'
17488:    +', ffaDirectory, ffaArchive, ffaAnyFile )');
17489:   CL.AddTypeS('TAttributeSet', 'set of TFileAttributes');
17490:   SIRegister_TFileSearch(CL);
17491: end;
17492:
17493: procedure SIRegister_uColorFunctions(CL: TPSPascalCompiler);
17494: begin
17495:  TRGBType', 'record RedHex : string; GreenHex : string; BlueHex :'
17496:    + string; Red : integer; Green : integer; Blue : integer; end');
17497:  Function FadeColor( aColor : Longint; aFade : integer) : Tcolor');
17498:  Function CountColor( aColor : Tcolor; CompareColor : Tcolor; AdjustVale:integer):Tcolor;
17499: end;
17500:
17501: procedure SIRegister_uSettings(CL: TPSPascalCompiler);
17502: begin
17503:  Procedure SaveOscSettings');
17504:  Procedure GetOscSettings');
17505: end;
17506:
17507: procedure SIRegister_cyDebug(CL: TPSPascalCompiler);
17508: begin
17509:   TProcProcessEvent', 'Procedure ( Sender : TObject; Index : Integer)');
17510:   RecProcess', 'record Name : ShortString; DurationMs : Cardinal; '
17511:    FirstDurationMs : Cardinal; LastDurationMs : Cardinal; MinDurationMs : Int'
17512:    64; MaxDurationMs : Cardinal; MarksCount : Integer; ArrayMarks : array of '
17513:    Cardinal; EnterCount : Integer; ExitCount : Integer; end');
17514:   SIRegister_TcyDebug(CL);
17515: end;
17516:
17517: (*----------------------------------------------------------------------------*)
17518: procedure SIRegister_cyCopyFiles(CL: TPSPascalCompiler);
17519: begin
17520:   TCopyFileResult', '( cfCreate, cfOverwrite, cfNoNeed, cfForceDirectoryError, cfCopyError )');
17521:   TCopyFileExists', '( feDoNothing, feCopy, feCopyIfModified, feCopyIfMoreRecent )');
17522:   TCopyFileNotExists', '( fnDoNothing, fnCopy, fnCopyForceDir )');
17523:   SIRegister_TDestinationOptions(CL);
17524:   TProcCustomCopyFileEvent', 'Procedure ( Sender : TObject; var CopyFileResult : TCopyFileResult)');
17525:   TProcOnCopyFileProgressEvent','Procedure(Sender:TObject;FileBytes,
      TransferedBytes:int64;PercentDone:Int64);
17526:   TProcOnCustomSetFileDestination', 'Procedure ( Sender : TObject; var FileName : String)');
17527:   SIRegister_TcyCopyFiles(CL);
17528:  Function cyCopyFile(FromFile,ToFile: String; FileExists:TCopyFileExists;FileNotExists:TCopyFileNotExists;
      ResetAttr:boolean): TCopyFileResult');
17529:  Function cyCopyFileEx( FromFile,ToFile: String;FileExists: TCopyFileExists;FileNotExists
      TCopyFileNotExists; ResetAttr:boolean; aProgressBar:TProgressBar): TCopyFileResult');
17530:  Function cyCopyFilesEx(SourcePath, DestinationPath, IncludeFilters, ExcludeFilters : String; ArchiveFiles,
      ReadOnlyFiles, HiddenFiles, SystemFiles : TcyFileAttributeMode; FileExists : TCopyFileExists;'
17531:                       + FileNotExists: TCopyFileNotExists; SubFolders, ResetAttributes:Boolean) : Integer');
17532: end;
17533:
```

```
17534: procedure SIRegister_cySearchFiles(CL: TPSPascalCompiler);
17535: begin
17536:   CL.AddTypeS('TcyFileAttributeMode', '( faYes, faNo, faBoth )');
17537:   SIRegister_TcyFileAttributes(CL);
17538:   SIRegister_TSearchRecInstance(CL);
17539:   TOption', '( soOnlyDirs, soIgnoreAttributes, soIgnoreMaskInclude, soIgnoreMaskExclude )');
17540:   TOptions', 'set of TOption');
17541:   TSearchState', '( ssIdle, ssPaused, ssSearch, ssPausing, ssResuming, ssAborting )');
17542:   TProcOnValidateFileEvent Procedure(Sender:TObject;ValidMaskIncl,ValidMaskExcl,ValidAttribs:bool;var
      Accept:bool;
17543:   TProcOnValidateDirectoryEvent','Procedure(Sender:TObject;Directory:String;var Accept:boolean)');
17544:   SIRegister_TcyCustomSearchFiles(CL);
17545:   SIRegister_TcySearchFiles(CL);
17546:  Function FileNameRespondToMask( aFileName : String; aMask : String) : Boolean');
17547:  Function IscyFolder( aSRec : TSearchrec) : Boolean');
17548: end;
17549:
17550: procedure SIRegister_jcontrolutils(CL: TPSPascalCompiler);
17551: begin
17552:  Function jCountChar( const s : string; ch : char) : integer');
17553:  Procedure jSplit( const Delimiter : char; Input : string; Strings : TStrings)');
17554:  Function jNormalizeDate(const Value: string; theValue: TDateTime;const theFormat:string): string');
17555:  Function jNormalizeTime(const Value: string; theValue: TTime;const theFormat : string) : string');
17556:  Function jNormalizeDateTime(const Value:string;theValue:TDateTime;const theFormat:string):string');
17557:  Function jNormalizeDateSeparator( const s : string) : string');
17558:  Function jIsValidDateString( const Value : string) : boolean');
17559:  Function jIsValidTimeString( const Value : string) : boolean');
17560:  Function jIsValidDateTimeString( const Value : string) : boolean');
17561: end;
17562:
17563: procedure SIRegister_kcMapViewer(CL: TPSPascalCompiler);
17564: begin
17565:   CL.AddClassN(CL.FindClass('TOBJECT'),'TMapViewer');
17566:   CL.AddTypeS('TMapSource', '( msNone, msGoogleNormal, msGoogleSatellite, msGoo'
17567:    +'gleHybrid, msGooglePhysical, msGooglePhysicalHybrid, msOpenStreetMapMapnik'
17568:    +', msOpenStreetMapOsmarender, msOpenCycleMap, msVirtualEarthBing, msVirtual'
17569:    +'EarthRoad, msVirtualEarthAerial, msVirtualEarthHybrid, msYahooNormal, msYa'
17570:    +'hooSatellite, msYahooHybrid, msOviNormal, msOviSatellite, msOviHybrid, msOviPhysical )');
17571:   TArea', 'record top : Int64; left : Int64; bottom : Int64; right: Int64; end');
17572:   TRealArea', 'record top : Extended; left : Extended; bottom : Extended; right : Extended; end');
17573:   TIntPoint', 'record X : Int64; Y : Int64; end');
17574:   TkcRealPoint', 'record X : Extended; Y : Extended; end');
17575:   TOnBeforeDownloadEvent', 'Procedure ( Url : string; str : TStream; var CanHandle : Boolean)');
17576:   TOnAfterDownloadEvent', 'Procedure ( Url : string; str : TStream)');
17577:   SIRegister_TCustomDownloadEngine(CL);
17578:   SIRegister_TCustomGeolocationEngine(CL);
17579:   SIRegister_TMapViewer(CL);
17580: end;
17581:
17582: procedure SIRegister_cparserutils(CL: TPSPascalCompiler);
17583: begin
17584:  (*CL.AddDelphiFunction('Function isFunc( name : TNamePart) : Boolean');*)
17585:  CL.AddDelphiFunction('Function isUnnamedFunc( name : TNamepart) : Boolean');
17586:  Function isPtrToFunc( name : TNamePart) : Boolean');
17587:  Function isFuncRetFuncPtr( name : TNamePart) : Boolean');
17588:  Function isPtrToFuncRetFuncPtr( name : TNamePart) : Boolean');
17589:  Function GetFuncParam( name : TNamePart) : TNamePart');
17590:  Function isArray( name : TNamePart) : Boolean');
17591:  Function GetArrayPart( name : TNamePart) : TNamePart');
17592:  Function GetIdFromPart( name : TNamePart) : AnsiString');
17593:  Function GetIdPart( name : TNamePart) : TNamePart');
17594:  Function isNamePartPtrToFunc( part : TNamePart) : Boolean');
17595:  Function isAnyBlock( part : TNamePart) : Boolean');*)
17596:   CL.AddTypeS('TLineInfo', 'record linestart : Integer; lineend : Integer; end');
17597:   SIRegister_TLineBreaker(CL);
17598:   CL.AddTypeS('TNameKind', 'Integer');
17599:   CL.AddClassN(CL.FindClass('TOBJECT'),'TNamePart');
17600:   //CL.AddTypeS('TFuncParam', 'record prmtype : TEntity; name : TNamePart; end');
17601:  Function SphericalMod( X : Extended) : Extended');
17602:  Function cSign( Value : Extended) : Extended');
17603:  Function LimitFloat( const eValue, eMin, eMax : Extended) : Extended');
17604:  Function AngleToRadians( iAngle : Extended) : Extended');
17605:  Function RadiansToAngle( eRad : Extended) : Extended');
17606:  Function Cross180( iLong : Double) : Boolean');
17607:  Function Mod180( Value : integer) : Integer');
17608:  Function Mod180Float( Value : Extended) : Extended');
17609:  Function MulDivFloat( a, b, d : Extended) : Extended');
17610:  Function LongDiff( iLong1, iLong2 : Double) : Double');
17611:  Procedure Bmp_AssignFromPersistent( Source : TPersistent; Bmp : TbitMap)');
17612:  Function Bmp_CreateFromPersistent( Source : TPersistent) : TbitMap');
17613:  Function FixFilePath( const Inpath, CheckPath : string) : string');
17614:  Function UnFixFilePath( const Inpath, CheckPath : string) : string');
17615:  Procedure FillStringList( sl : TStringList; const aText : string)');
17616: end;
17617:
17618: procedure SIRegister_LedNumber(CL: TPSPascalCompiler);
17619: begin
17620:   TLedSegmentSize', 'Integer');
17621:   TLedNumberBorderStyle', '( lnbNone, lnbSingle, lnbSunken, lnbRaised )');
```

```
17622:   SIRegister_TCustomLEDNumber(CL);
17623:   SIRegister_TLEDNumber(CL);
17624: end;
17625:
17626: procedure SIRegister_StStrL(CL: TPSPascalCompiler);
17627: begin
17628:   CL.AddTypeS('LStrRec', 'record AllocSize : Longint; RefCount : Longint; Length : Longint; end');
17629:    CL.AddTypeS('AnsiChar', 'Char');
17630:     CL.AddTypeS('BTable', 'array[0..255] of Byte');       //!!!
17631:   CL.AddDelphiFunction('Function HexBL( B : Byte) : AnsiString');
17632:  Function HexWL( W : Word) : AnsiString');
17633:  Function HexLL( L : LongInt) : AnsiString');
17634:  Function HexPtrL( P : ___Pointer) : AnsiString');
17635:  Function BinaryBL( B : Byte) : AnsiString');
17636:  Function BinaryWL( W : Word) : AnsiString');
17637:  Function BinaryLL( L : LongInt) : AnsiString');
17638:  Function OctalBL( B : Byte) : AnsiString');
17639:  Function OctalWL( W : Word) : AnsiString');
17640:  Function OctalLL( L : LongInt) : AnsiString');
17641:  Function Str2Int16L( const S : AnsiString; var I : SmallInt) : Boolean');
17642:  Function Str2WordL( const S : AnsiString; var I : Word) : Boolean');
17643:  Function Str2LongL( const S : AnsiString; var I : LongInt) : Boolean');
17644:  Function Str2RealL( const S : AnsiString; var R : Double) : Boolean');
17645:  Function Str2RealL( const S : AnsiString; var R : Real) : Boolean');
17646:  Function Str2ExtL( const S : AnsiString; var R : Extended) : Boolean');
17647:  Function Long2StrL( L : LongInt) : AnsiString');
17648:  Function Real2StrL( R : Double; Width : Byte; Places : ShortInt) : AnsiString');
17649:  Function Ext2StrL( R : Extended; Width : Byte; Places : ShortInt) : AnsiString');
17650:  Function ValPrepL( const S : AnsiString) : AnsiString');
17651:  Function CharStrL( C : Char; Len : Cardinal) : AnsiString');
17652:  Function PadChL( const S : AnsiString; C : AnsiChar; Len : Cardinal) : AnsiString');
17653:  Function PadLL( const S : AnsiString; Len : Cardinal) : AnsiString');
17654:  Function LeftPadChL( const S : AnsiString; C : AnsiChar; Len : Cardinal) : AnsiString');
17655:  Function LeftPadL( const S : AnsiString; Len : Cardinal) : AnsiString');
17656:  Function TrimLeadL( const S : AnsiString) : AnsiString');
17657:  Function TrimTrailL( const S : AnsiString) : AnsiString');
17658:  Function TrimL( const S : AnsiString) : AnsiString');
17659:  Function TrimSpacesL( const S : AnsiString) : AnsiString');
17660:  Function CenterChL( const S : AnsiString; C : AnsiChar; Len : Cardinal) : AnsiString');
17661:  Function CenterL( const S : AnsiString; Len : Cardinal) : AnsiString');
17662:  Function EntabL( const S : AnsiString; TabSize : Byte) : AnsiString');
17663:  Function DetabL( const S : AnsiString; TabSize : Byte) : AnsiString');
17664:  Function ScrambleL( const S, Key : AnsiString) : AnsiString');
17665:  Function SubstituteL( const S, FromStr, ToStr : AnsiString) : AnsiString');
17666:  Function FilterL( const S, Filters : AnsiString) : AnsiString');
17667:  Function CharExistsL( const S : AnsiString; C : AnsiChar) : Boolean');
17668:  Function CharCountL( const S : AnsiString; C : AnsiChar) : Cardinal');
17669:  Function WordCountL( const S, WordDelims : AnsiString) : Cardinal');
17670:  Function WordPositionL( N : Cardinal; const S, WordDelims : AnsiString; var Pos : Cardinal) : Boolean');
17671:  Function ExtractWordL( N : Cardinal; const S, WordDelims : AnsiString) : AnsiString');
17672:  Function AsciiCountL( const S, WordDelims : AnsiString; Quote : AnsiChar) : Cardinal');
17673:  Function AsciiPositionL(N: Cardinal;const S,WordDelims:AnsiString;Quote:AnsiChar;var Pos:Cardinal):Bool;
17674:  Function ExtractAsciiL( N : Cardinal; const S, WordDelims : AnsiString; Quote : AnsiChar) : AnsiString');
17675:  Procedure WordWrapL(const InSt:AnsiString;var OutSt,Overlap:AnsiString;Margin:Cardinal;PadToMargin:Bool;
17676:  Procedure WordWrap(const InSt:AnsiString;var OutSt,Overlap:AnsiString;Margin:Cardinal;PadToMargin:Bool;
17677:  Function CompStringL( const S1, S2 : AnsiString) : Integer');
17678:  Function CompUCStringL( const S1, S2 : AnsiString) : Integer');
17679:  Function SoundexL( const S : AnsiString) : AnsiString');
17680:  Function MakeLetterSetL( const S : AnsiString) : Longint');
17681:  Procedure BMMakeTableL( const MatchString : AnsiString; var BT : BTable)');
17682:  Function BMSearchL(var Buffer,BufLength:Cardinal;var BT:BTable;const MatchString:AnsiString;var
       Pos:Card):Bool;
17683:  Function BMSearchUCL( var Buffer, BufLength : Cardinal; var BT : BTable; const MatchString : AnsiString;
       var Pos : Cardinal) : Boolean');
17684:  Function DefaultExtensionL( const Name, Ext : AnsiString) : AnsiString');
17685:  Function ForceExtensionL( const Name, Ext : AnsiString) : AnsiString');
17686:  Function JustFilenameL( const PathName : AnsiString) : AnsiString');
17687:  Function JustNameL( const PathName : AnsiString) : AnsiString');
17688:  Function JustExtensionL( const Name : AnsiString) : AnsiString');
17689:  Function JustPathnameL( const PathName : AnsiString) : AnsiString');
17690:  Function AddBackSlashL( const DirName : AnsiString) : AnsiString');
17691:  Function CleanPathNameL( const PathName : AnsiString) : AnsiString');
17692:  Function HasExtensionL( const Name : AnsiString; var DotPos : Cardinal) : Boolean');
17693:  Function CommaizeL( L : LongInt) : AnsiString');
17694:  Function CommaizeChL( L : Longint; Ch : AnsiChar) : AnsiString');
17695:  Function FloatFormL(const Mask:AnsiString;R:TstFloat;const LtCurr,RtCurr:AnsiString;Sep,
       DecPt:Char):AnsiString;
17696:  Function LongIntFormL(const Mask:AnsiString;L:LongInt;const LtCurr,
       RtCurr:AnsiString;Sep:Char):AnsiString);
17697:  Function StrChPosL( const P : AnsiString; C : AnsiChar; var Pos : Cardinal) : Boolean');
17698:  Function StrStPosL( const P, S : AnsiString; var Pos : Cardinal) : Boolean');
17699:  Function StrStCopyL( const S : AnsiString; Pos, Count : Cardinal) : AnsiString');
17700:  Function StrChInsertL( const S : AnsiString; C : AnsiChar; Pos : Cardinal) : AnsiString');
17701:  Function StrStInsertL( const S1, S2 : AnsiString; Pos : Cardinal) : AnsiString');
17702:  Function StrChDeleteL( const S : AnsiString; Pos : Cardinal) : AnsiString');
17703:  Function StrStDeleteL( const S : AnsiString; Pos, Count : Cardinal) : AnsiString');
17704:  Function ContainsOnlyL( const S, Chars : AnsiString; var BadPos : Cardinal) : Boolean');
17705:  Function ContainsOtherThanL( const S, Chars : AnsiString; var BadPos : Cardinal) : Boolean');
17706:  Function CopyLeftL( const S : AnsiString; Len : Cardinal) : AnsiString');
```

```
17707:  Function CopyMidL( const S : AnsiString; First, Len : Cardinal) : AnsiString');
17708:  Function CopyRightL( const S : AnsiString; First : Cardinal) : AnsiString');
17709:  Function CopyRightAbsL( const S : AnsiString; NumChars : Cardinal) : AnsiString');
17710:  Function CopyFromNthWordL(const S,WordDelims:AString;const AWord:AString;N:Cardinal;var
       SubString:AString):Bool;
17711:  Function CopyFromToWordL(const S,WordDelims,Word1,Word2:AnsiString;N1,N2:Cardinal;var
       SubString:AnsiString):Bool;
17712:  Function CopyWithinL( const S, Delimiter : AnsiString; Strip : Boolean) : AnsiString');
17713:  Function DeleteFromNthWordL( const S, WordDelims : AnsiString; const AWord : AnsiString; N : Cardinal;
       var SubString : AnsiString) : Boolean');
17714:  Function DeleteFromToWordL( const S, WordDelims, Word1, Word2 : AnsiString; N1, N2 : Cardinal; var
       SubString : AnsiString) : Boolean');
17715:  Function DeleteWithinL( const S, Delimiter : AnsiString) : AnsiString');
17716:  Function ExtractTokensL(const S,
       Delims:AnsiString;QuoteChar:AnsiChar;AllowNulls:Bool;Tokens:TStrings):Cardinal;
17717:  Function IsChAlphaL( C : AnsiChar) : Boolean');
17718:  Function IsChNumericL( C : AnsiChar; const Numbers : AnsiString) : Boolean');
17719:  Function IsChAlphaNumericL( C : AnsiChar; const Numbers : AnsiString) : Boolean');
17720:  Function IsStrAlphaL( const S : AnsiString) : Boolean');
17721:  Function IsStrNumericL( const S, Numbers : AnsiString) : Boolean');
17722:  Function IsStrAlphaNumericL( const S, Numbers : AnsiString) : Boolean');
17723:  Function KeepCharsL( const S, Chars : AnsiString) : AnsiString');
17724:  Function LastWordL( const S, WordDelims, AWord : AnsiString; var Position : Cardinal) : Boolean');
17725:  Function LastWordAbsL( const S, WordDelims : AnsiString; var Position : Cardinal) : Boolean');
17726:  Function LastStringL( const S, AString : AnsiString; var Position : Cardinal) : Boolean');
17727:  Function LeftTrimCharsL( const S, Chars : AnsiString) : AnsiString');
17728:  Function ReplaceWordL(const S, WordDelims,OldWord,NewWord:AnsiString;N:Card;var
       Replacements:Card):AnsiString;
17729:  Function ReplaceWordAllL(const S,WordDelims,OldWord,NewWord:AnsiString;var
       Replacements:Cardinal):AnsiString');
17730:  Function ReplaceStringL(const S,OldString,NewString:AnsiString;N:Cardinal;var
       Replacements:Cardinal):AnsiString;
17731:  Function ReplaceStringAllL(const S,OldString,NewString:AnsiString; var Replacements:Cardinal):AnsiString;
17732:  Function RepeatStringL(const RepeatString:AnsiString;var Repetitions:Cardinal;MaxLen:Cardinal):AnsiString;
17733:  Function RightTrimCharsL( const S, Chars : AnsiString) : AnsiString');
17734:  Function StrWithinL( const S, SearchStr : string; Start : Cardinal; var Position : Cardinal) : boolean');
17735:  Function TrimCharsL( const S, Chars : AnsiString) : AnsiString');
17736:  Function WordPosL(const S,WordDelims,AWord: AnsiString;N:Cardinal;var Position:Cardinal):Bool;
17737:  Function WordPos(const S,WordDelims,AWord:AnsiString;N:Cardinal;var Position:Cardinal):Bool;
17738:  end;
17739:
17740:  procedure SIRegister_pwnative_out(CL: TPSPascalCompiler);
17741: begin
17742:  CL.AddConstantN('STDIN','LongInt').SetInt( 0);
17743:  ('STDOUT','LongInt').SetInt( 1);
17744:  ('STDERR','LongInt').SetInt( 2);
17745:  Procedure NativeWrite( s : astr);');
17746:  Procedure NativeWrite1( PString : PChar);');
17747:  Procedure NativeWrite2( Buffer : PChar; NumChars : Cardinal);');
17748:  Procedure NativeWriteLn( s : astr);');
17749:  Procedure NativeWriteLn1;');
17750: end;
17751:
17752: procedure SIRegister_synwrap1(CL: TPSPascalCompiler);
17753: begin
17754:   CL.AddTypeS(TSynwInfo', 'record Err : byte; UrlHtml : ansistring; ErrResponse
17755:    : integer; UltimateURL : ansistring; Headers : ansistring; end');
17756:   CL.AddTypeS('TUrlInfo', 'record Err : byte; UltimateURL : string; end');
17757:  Function GetHttpFile( const Url, UserAgent, Outfile : string; verbose : boolean): TSynwInfo;');
17758:  Function GetHttpFile1( const Url, UserAgent, Outfile : string) : TSynwInfo;');
17759:  Function GetHttpFile2( const Url, Outfile : string) : TSynwInfo;');
17760:  Function GetHttpFile3( const Url, outfile : string; verbose : boolean) : TSynwInfo;');
17761:  Function GetHtm( const Url : string) : string;');
17762:  Function GetHtm1( const Url, UserAgent : string) : string;');
17763:  Function GetUrl( const Url : string; verbose : boolean) : TSynwInfo;');
17764:  Function GetUrl1( const Url, useragent : string) : TSynwInfo;');
17765:  Function GetUrl2( const Url : string) : TSynwInfo;');
17766:  Function GetUrl3( const Url : string; const http : THTTPSend; verbose : boolean): TUrlInfo;');
17767:  Function GetUrl4( const Url : string; const http : THTTPSend) : TUrlInfo;');
17768:  Procedure StrToStream( s : String; strm : TMemoryStream)');
17769:  Function StrLoadStream( strm : TStream) : String');
17770:
17771: end;
17772:
17773: procedure SIRegister_HTMLUtil(CL: TPSPascalCompiler);
17774: begin
17775:  Function GetVal( const tag, attribname_ci : string) : string');
17776:  Function GetTagName( const Tag : string) : string');
17777:  Function GetUpTagName( const tag : string) : string');
17778:  Function GetNameValPair( const tag, attribname_ci : string) : string');
17779:  Function GetValFromNameVal( const namevalpair : string) : string');
17780:  Function GetNameValPair_cs( const tag, attribname : string) : string');
17781:  Function GetVal_JAMES( const tag, attribname_ci : string) : string');
17782:  Function GetNameValPair_JAMES( const tag, attribname_ci : string) : string');
17783:  Function CopyBuffer( StartIndex : PChar; Len : integer) : string');
17784:  Function Ucase( s : string) : string');
17785: end;
17786:
17787: procedure SIRegister_pwmain(CL: TPSPascalCompiler);
```

```
17788: begin
17789:  CL.AddConstantN('FUTURE_COOKIE','String').SetString( 'Mon, 01 Dec 2099 12:00:00 GMT');
17790:  EXPIRED_COOKIE','String').SetString( 'Mon, 01 Jan 2001 12:00:00 GMT');
17791:  'SECURE_OFF','LongInt').SetInt( 0);
17792:  'SECURE_ON','LongInt').SetInt( 2);
17793:  'SECURE_FILTER','LongInt').SetInt( 3);
17794:   THandle or DWord!
17795:  //  astr = ansistring;
17796:   CL.AddTypeS('pastr', 'ansistring');
17797:   CL.AddTypeS('TFilterFunc', 'function(const s: pastr): pastr;');
17798:   uses pwinit at begin
17799:   //type  TFilterFunc = function(const s: astr): astr;
17800:  Demo: ..\maxbox3\examples2\519_powtils.txt
17801:
17802:  //CL.AddConstantN('CASE_SENSITIVE','Boolean')BoolToStr( false);
17803:  //CL.AddConstantN('CASE_IGNORE','Boolean')BoolToStr( false);
17804:  Procedure pwInit');
17805:  Procedure OffReadln');
17806:  Function Lcase( const s : pastr) : pastr');
17807:  Function Ucase( const s : pastr) : pastr');
17808:  Function CountPostVars : longword');
17809:  Function GetPostVar( const name : pastr) : pastr;');
17810:  Function GetPostVar1( const name : pastr; filter : TFilterFunc) : pastr;');
17811:  Function GetPostVar_S( const name : pastr; Security : integer) : pastr');
17812:  Function GetPostVar_SF( const name : pastr; Security : integer) : pastr');
17813:  Function GetPostVarAsFloat( const name : pastr) : double');
17814:  Function GetPostVarAsInt( const name : pastr) : longint');
17815:  Function GetPostVar_SafeHTML( const name : pastr) : pastr');
17816:  Function FetchPostVarName( idx : longword) : pastr');
17817:  Function FetchPostVarVal( idx : longword) : pastr;');
17818:  Function FetchPostVarVal1( idx : longword; filter : TFilterFunc) : pastr;');
17819:  Function FetchPostVarName_S( idx : longword; Security : integer) : pastr');
17820:  Function FetchPostVarVal_S( idx : longword; Security : integer) : pastr');
17821:  Function IsPostVar( const name : pastr) : boolean');
17822:  Function CountAny : longword');
17823:  Function GetAny( const name : pastr) : pastr;');
17824:  Function GetAny1( const name : pastr; filter : TFilterFunc) : pastr;');
17825:  Function GetAny_S( const name : pastr; Security : integer) : pastr');
17826:  Function GetAnyAsFloat( const name : pastr) : double');
17827:  Function GetAnyAsInt( const name : pastr) : longint');
17828:  Function IsAny( const name : pastr) : byte');
17829:  Function CountCookies : longword');
17830:  Function FetchCookieName( idx : longword) : pastr');
17831:  Function FetchCookieVal( idx : longword) : pastr;');
17832:  Function FetchCookieVal1( idx : longword; filter : TFilterFunc) : pastr;');
17833:  Function GetCookie( const name : pastr) : pastr;');
17834:  Function GetCookie1( const name : pastr; filter : TFilterFunc) : pastr;');
17835:  Function GetCookieAsFloat( const name : pastr) : double');
17836:  Function GetCookieAsInt( const name : pastr) : longint');
17837:  Function IsCookie( const name : pastr) : boolean');
17838:  Function SetCookie( const name, value : pastr) : boolean');
17839:  Function SetCookieAsFloat( const name : pastr; value : double) : boolean');
17840:  Function SetCookieAsInt( const name : pastr; value : longint) : boolean');
17841:  Function SetCookieEx( const name, value, path, domain, expiry : pastr) : boolean');
17842:  Function SetCookieAsFloatEx(const name:pastr;value : double; const path,domain,expiry:pastr):bool;
17843:  Function SetCookieAsIntEx( const name:pastr;value : longint; const path,domain,expiry:pastr):bool;
17844:  Function UnsetCookie( const name : pastr) : boolean');
17845:  Function UnsetCookieEx( const name, path, domain : pastr) : boolean');
17846:  Function FilterHtml( const input : pastr) : pastr');
17847:  Function FilterHtml_S( const input : pastr; security : integer) : pastr');
17848:  Function TrimBadChars( const input : pastr) : pastr');
17849:  Function TrimBadFile( const input : pastr) : pastr');
17850:  Function TrimBadDir( const input : pastr) : pastr');
17851:  Function TrimBad_S( const input : pastr; security : integer) : pastr');
17852:  Function CountHeaders : longword');
17853:  Function FetchHeaderName( idx : longword) : pastr');
17854:  Function FetchHeaderVal( idx : longword) : pastr');
17855:  Function GetHeader( const name : pastr) : pastr');
17856:  Function IsHeader( const name : pastr) : boolean');
17857:  Function SetHeader( const name, value : pastr) : boolean');
17858:  Function UnsetHeader( const name : pastr) : boolean');
17859:  Function PutHeader( const header : pastr) : boolean');
17860:  Procedure Out1( const s : pastr)');
17861:  Procedure OutLn( const s : pastr)');
17862:  Procedure OutA( args : array of const)');
17863:  Procedure OutF( const s : pastr)');
17864:  Procedure OutLnF( const s : pastr)');
17865:  Procedure OutFF( const s : pastr)');
17866:  Procedure OutF_FI( const s : pastr; HTMLFilter : boolean)');
17867:  Procedure OutLnFF( const s : pastr)');
17868:  Procedure OutLnF_FI( const s : pastr; HTMLFilter : boolean)');
17869:  Function FileOut( const fname : pastr) : word');
17870:  Function ResourceOut( const fname : pastr) : word');
17871:  Procedure BufferOut( const buff, len : LongWord)');
17872:  Function TemplateOut( const fname : pastr; HtmlFilter : boolean) : word;');
17873:  Function TemplateOut1( const fname : pastr) : word;');
17874:  Function TemplateOut2( const fname : pastr; filter : TFilterFunc) : word;');
17875:  Function TemplateOut3( const fname : pastr; HtmlFilter : boolean) : word;');
17876:  Function TemplateRaw( const fname : pastr) : word');
```

```
17877:  Function Fmt( const s : pastr) : pastr;');
17878:  Function Fmt1( const s : pastr; filter : TFilterFunc) : pastr;');
17879:  Function FmtFilter( const s : pastr) : pastr');
17880:  Function Fmt_SF(const s:pastr;HTMLFilter:bool;filter:TFilterFunc;FilterSecurity,TrimSecurity:int):pastr;
17881:  Function Fmt_SF1(const s:pastr; HTMLFilter:boolean; FilterSecurity, TrimSecurity : integer) : pastr;');
17882:  Function CountRtiVars : longword');
17883:  Function FetchRtiName( idx : longword) : pastr');
17884:  Function FetchRtiVal( idx : longword) : pastr');
17885:  Function GetRti( const name : pastr) : pastr');
17886:  Function GetRtiAsFloat( const name : pastr) : double');
17887:  Function GetRtiAsInt( const name : pastr) : longint');
17888:  Function IsRti( const name : pastr) : boolean');
17889:  Procedure SetRTI( const name, value : pastr)');
17890:  Function FetchUpfileName( idx : longword) : pastr');
17891:  Function GetUpfileName( const name : pastr) : pastr');
17892:  Function GetUpfileSize( const name : pastr) : longint');
17893:  Function GetUpfileType( const name : pastr) : pastr');
17894:  Function CountUpfiles : longword');
17895:  Function IsUpfile( const name : pastr) : boolean');
17896:  Function SaveUpfile( const name, fname : pastr) : boolean');
17897:  Function CountVars : longword');
17898:  Function FetchVarName( idx : longword) : pastr');
17899:  Function FetchVarVal( idx : longword) : pastr;');
17900:  Function FetchVarVal1( idx : longword; filter : TFilterFunc) : pastr;');
17901:  Function GetVar( const name : pastr) : pastr;');
17902:  Function GetVar1( const name : pastr; filter : TFilterFunc) : pastr;');
17903:  Function GetVar_S( const name : pastr; security : integer) : pastr');
17904:  Function GetVarAsFloat( const name : pastr) : double');
17905:  Function GetVarAsInt( const name : pastr) : longint');
17906:  Procedure SetVar( const name, value : pastr)');
17907:  Procedure SetVarAsFloat( const name : pastr; value : double)');
17908:  Procedure SetVarAsInt( const name : pastr; value : longint)');
17909:  Function IsVar( const name : pastr) : byte');
17910:  Procedure UnsetVar( const name : pastr)');
17911:  Function LineEndToBR( const s : pastr) : pastr');
17912:  Function RandomStr( len : longint) : pastr');
17913:  Function XorCrypt( const s : pastr; key : byte) : pastr');
17914:  Function CountCfgVars : longword');
17915:  Function FetchCfgVarName( idx : longword) : pastr');
17916:  Function FetchCfgVarVal( idx : longword) : pastr');
17917:  Function IsCfgVar( const name : pastr) : boolean');
17918:  Function SetCfgVar( const name, value : pastr) : boolean');
17919:  Function GetCfgVar( const name : pastr) : pastr');
17920:  Procedure ThrowErr( const s : pastr)');
17921:  Procedure ThrowWarn( const s : pastr)');
17922:  Procedure ErrWithHeader( const s : pastr)');
17923:   CL.AddTypeS('TWebVar', 'record name : pastr; value : pastr; end');
17924:   CL.AddTypeS('TWebVars', 'array of TWebVar');
17925:  Function iUpdateWebVar(var webv : TWebVars; const name, value:pastr; upcased:boolean):boolean');
17926:  Function iAddWebCfgVar( const name, value : pastr) : boolean');
17927:  Procedure iAddWebVar( var webv : TWebVars; const name, value : pastr)');
17928:  Procedure iSetRTI( const name, value : pastr)');
17929:  Function iCustomSessUnitSet : boolean');
17930:  Function iCustomCfgUnitSet : boolean');
17931: end;
17932:
17933: procedure SIRegister_W32VersionInfo(CL: TPSPascalCompiler);
17934: begin
17935:   SIRegister_TProjectVersionInfo(CL);
17936:  CL.AddDelphiFunction('Function MSLanguageToHex( const s : string) : string');
17937:  Function MSHexToLanguage( const s : string) : string');
17938:  Function MSCharacterSetToHex( const s : string) : string');
17939:  Function MSHexToCharacterSet( const s : string) : string');
17940:  Function MSLanguages : TStringList');
17941:  Function MSHexLanguages : TStringList');
17942:  Function MSCharacterSets : TStringList');
17943:  Function MSHexCharacterSets : TStringList');
17944: end;
17945:
17946: procedure SIRegister_IpUtils(CL: TPSPascalCompiler);
17947: begin
17948:   TIpHandle', 'Cardinal');
17949:   TIpMD5StateArray', 'array[0..3] of DWORD;');
17950:   CL.AddTypeS('TIpMD5CountArray', 'array[0..1] of DWORD;');
17951:   TIpMD5ByteBuf', 'array[0..63] of Byte;');
17952:   TIpMD5LongBuf', 'array[0..15] of DWORD;');
17953:   TIpMD5Digest', 'array[0..15] of Byte;');
17954:   TIpLineTerminator', '( ltNone, ltCR, ltLF, ltCRLF, ltOther )');
17955:   TIpMD5Context', 'record State : TIpMD5StateArray; Count : TIpMD5'
17956:    +'CountArray; ByteBuf : TIpMD5ByteBuf; end');
17957:   CL.AddClassN(CL.FindClass('TOBJECT'),'EIpBaseException');
17958:   CL.AddClassN(CL.FindClass('TOBJECT'),'EIpAccessException');
17959:   CL.AddClassN(CL.FindClass('TOBJECT'),'EIpHtmlException');
17960:   SIRegister_TIpBaseAccess(CL);
17961:   SIRegister_TIpBasePersistent(CL);
17962:   //TIpComponentClass', 'class of TIpBaseComponent');
17963:   SIRegister_TIpBaseComponent(CL);
17964:   SIRegister_TIpBaseWinControl(CL);
17965:  Function InClassA( Addr : LongInt) : Boolean');
```

```
17966:  Function InClassB( Addr : LongInt) : Boolean');
17967:  Function InClassC( Addr : LongInt) : Boolean');
17968:  Function InClassD( Addr : LongInt) : Boolean');
17969:  Function InMulticast( Addr : LongInt) : Boolean');
17970:  Function IpCharCount( const Buffer, BufSize : DWORD; C : AnsiChar) : DWORD');
17971:  Function IpCompStruct( const S1, S2, Size : Cardinal) : Integer');
17972:  Function IpMaxInt( A, B : Integer) : Integer');
17973:  Function IpMinInt( A, B : Integer) : Integer');
17974:  Procedure IpSafeFree( var Obj: TObject)');
17975:  Function IpShortVersion : string');
17976:  Function IpInternetSumPrim( var Data, DataSize, CurCrc : DWORD) : DWORD');
17977:  Function IpInternetSumOfStream( Stream : TStream; CurCrc : DWORD) : DWORD');
17978:  Function IpInternetSumOfFile( const FileName : string) : DWORD');
17979:  Function MD5SumOfFile( const FileName : string) : string');
17980:  Function MD5SumOfStream( Stream : TStream) : string');
17981:  Function MD5SumOfStreamDigest( Stream : TStream) : TIpMD5Digest');
17982:  Function MD5SumOfString( const S : string) : string');
17983:  Function MD5SumOfStringDigest( const S : string) : TIpMD5Digest');
17984:  Function SafeYield : LongInt');
17985:  Function AllTrimSpaces( Strng : string) : string');
17986:  Function IpCharPos( C : AnsiChar; const S : string) : Integer');
17987:  Function CharPosIdx( C : AnsiChar; const S : string; Idx : Integer) : Integer');
17988:  Function NthCharPos( C : AnsiChar; const S : string; Nth : Integer) : Integer');
17989:  Function RCharPos( C : AnsiChar; const S : string) : Integer');
17990:  Function RCharPosIdx( C : AnsiChar; const S : string; Idx : Integer) : Integer');
17991:  Function RNthCharPos( C : AnsiChar; const S : string; Nth : Integer) : Integer');
17992:  Function IpRPos( const Substr : string; const S : string) : Integer');
17993:  Function IpPosIdx( const SubStr, S : string; Idx : Integer) : Integer');
17994:   ACharSet', 'set of AnsiChar');
17995:   TIpAddrRec', 'record Scheme : string; UserName : string; Password string; Authority : string;
17996:    Port : string; Path : string; Fragment : string; Query : string; QueryDelim : AnsiChar; end');
17997:  Procedure Initialize( var AddrRec : TIpAddrRec)');
17998:  Procedure Finalize( var AddrRec : TIpAddrRec)');
17999:  Function ExtractEntityName( const NamePath : string) : string');
18000:  Function ExtractEntityPath( const NamePath : string) : string');
18001:  Function IpParseURL( const URL : string; var Rslt : TIpAddrRec) : Boolean');
18002:  Function BuildURL( const OldURL, NewURL : string) : string');
18003:  Function PutEscapes( const S : string; EscapeSet : ACharSet) : string');
18004:  Function RemoveEscapes( const S : string; EscapeSet : ACharSet) : string');
18005:  Procedure SplitParams( const Parms : string; Dest : TStrings)');
18006:  Function NetToDOSPath( const PathStr : string) : string');
18007:  Function DOSToNetPath( const PathStr : string) : string');
18008:  Procedure SplitHttpResponse( const S : string; var V, MsgID, Msg : string)');
18009:  Procedure FieldFix( Fields : TStrings)');
18010:  Function AppendSlash( APath : string) : string');
18011:  Function RemoveSlash( APath : string) : string');
18012:  Function GetParentPath( const Path : string) : string');
18013:  Function GetLocalContent( const TheFileName : string) : string');
18014:  Function IPDirExists( Dir : string) : Boolean');
18015:  Function GetTemporaryFile( const Path : string) : string');
18016:  Function GetTemporaryPath : string');
18017:  Function AppendBackSlash( APath : string) : string');
18018:  Function IpRemoveBackSlash( APath : string) : string');
18019:  Function INetDateStrToDateTime( const DateStr : string) : TDateTime');
18020:  Function DateTimeToINetDateTimeStr( DateTime : TDateTime) : string');
18021:  Function IpTimeZoneBias : Integer');
18022:  Procedure SplitCookieFields( const Data : string; Fields : TStrings)');
18023: end;
18024:
18025: procedure SIRegister_LrtPoTools(CL: TPSPascalCompiler);
18026: begin
18027:   CL.AddTypeS('TPOStyle', '( postStandard, postPropName, postFull )');
18028:  Procedure Lrt2Po( const LRTFile : string; POStyle : TPOStyle)');
18029:  Procedure CombinePoFiles( SL : TStrings; const FName : string)');
18030: end;
18031:
18032: procedure SIRegister_GPS(CL: TPSPascalCompiler);
18033: begin
18034:  CL.AddConstantN('MAX_SATS','LongInt').SetInt( 12);
18035:  GPSMSG_START','String').SetString( '$');
18036:  GPSMSG_STOP','String').SetString( '*');
18037:  SEC_BETWEEN_SEG','LongInt').SetInt( 5);
18038:   CL.AddTypeS('TSatellite', 'record Identification : Shortint; Elevation : Shor'
18039:    +'tint; Azimut : Smallint; SignLevel : Smallint; end');
18040:   CL.AddTypeS('TSatellites', 'array[1..12] of TSatellite');
18041:  //TSatellites = array[1..MAX_SATS] of TSatellite;
18042:   TGPSSatEvent', 'Procedure ( Sender : TObject; NbSat, NbSatUse: Shortint; Sats : TSatellites)');
18043:   TGPSDatas', 'record Latitude : Double; Longitude : Double; Heigh'
18044:    tAboveSea : Double; Speed : Double; UTCTime : TDateTime; Valid : Boolean; '
18045:    NbrSats : Shortint; NbrSatsUsed : Shortint; Course : Double; end');
18046:   CL.AddTypeS('TGPSDatasEvent', 'Procedure ( Sender : TObject; GPSDatas : TGPSDatas)');
18047:   CL.AddTypeS('TMsgGP', '( msgGP, msgGPGGA, msgGPGLL, msgGPGSV, msgGPRMA, msgGPRMC, msgGPZDA )');
18048:   CL.AddTypeS('TSpeedUnit', '( suKilometre, suMile, suNauticalMile )');
18049:   SIRegister_TGPSLink(CL);
18050:   SIRegister_TCustomGPS(CL);
18051:   SIRegister_TGPS(CL);
18052:   SIRegister_TGPStoGPX(CL);
18053:   SIRegister_TGPSSpeed(CL);
18054:   SIRegister_TGPSSatellitesPosition(CL);
```

```
18055:   SIRegister_TGPSSatellitesReception(CL);
18056:   SIRegister_TGPSCompass(CL);
18057:  //CL.AddDelphiFunction('Procedure Register( )');
18058:  Function IndexMsgGP( StrMsgGP : String) : TMsgGP');
18059:  Function StrCoordToAngle( Point : Char; Angle : String) : Double');
18060:  Function StrTimeToTime( const Time : String) : TDateTime');
18061:  Function StrToInteger( const Str : String) : Integer');
18062:  Function StrToReal( const Str : String) : Extended');
18063:  Function GPSRotatePoint( Angle : Double; Ct, Pt : TPoint) : TPoint');
18064:  Procedure LoadRessource( RessourceName : String; ImageList : TImageList)');
18065:  end;
18066:
18067:  procedure SIRegister_NMEA(CL: TPSPascalCompiler);
18068: begin
18069:  NMEADataArray', 'array of string');
18070:  Procedure TrimNMEA( var S : string)');
18071:  Procedure ExpandNMEA( var S : string)');
18072:  Function ParseNMEA( S : string) : NMEADataArray');
18073:  Function ChkValidNMEA( S : string) : Boolean');
18074:  Function IdNMEA( S : string) : string');
18075:  Function ChkSumNMEA( const S : string) : string');
18076:  Function PosInDeg( const PosStr : string) : Double');
18077:  Function DateTimeNMEA( const StrD, StrT : string) : TDateTime');
18078:  Function SysClockSet( const StrD, StrT : string) : Boolean');
18079:  function Ticks2Secs(Ticks : LongInt) : LongInt;');
18080:  function Secs2Ticks(Secs : LongInt) : LongInt;');
18081:  function MSecs2Ticks(MSecs : LongInt) : LongInt;');
18082: end;
18083:
18084: procedure SIRegister_SortUtils(CL: TPSPascalCompiler);
18085: begin
18086:   CL.AddTypeS('SortType1', 'Byte');
18087:   CL.AddTypeS('SortType2', 'Double');
18088:   CL.AddTypeS('SortType3', 'DWord');
18089:   //CL.AddTypeS('PDWordArray', '^DWordArray // will not work');
18090:   CL.AddTypeS('TDataRecord4', 'record Value : Integer; Data : Integer; end');
18091:  Function('Procedure QuickSort( var List : array of SortType1; Min, Max : Integer)');
18092:  Procedure QuickSortDWord( var List : array of SortType3; Min, Max : Integer)');
18093:  Procedure QuickSortDataRecord4( var List : array of TDataRecord4; Count : Integer)');
18094:  Procedure HeapSort( var List : array of SortType1; Count : DWord; FirstNeeded : DWord)');
18095:  Function QuickSelect( var List : array of SortType1; Min, Max, Wanted : Integer) : SortType1');
18096:  Function QuickSelectDouble( var List : array of SortType2; Min, Max, Wanted : Integer) : SortType2');
18097:  Function QuickSelectDWord( var List : array of SortType3; Min, Max, Wanted : Integer) : SortType3');
18098: end;
18099:
18100: procedure SIRegister_BitmapConversion(CL: TPSPascalCompiler);
18101: begin
18102:  // TMatrix3x3 = array[1..3,1..3] of Double;
18103:  // TMatrix4x4 = array[1..4,1..4] of Double;
18104:  CL.AddTypeS('TMatrix3x31', 'array[1..3] of Double');
18105:  CL.AddTypeS('TMatrix3x3', 'array[1..3] of TMatrix3x31');
18106:  CL.AddTypeS('TMatrix4x41', 'array[1..4] of Double');
18107:  CL.AddTypeS('TMatrix4x4', 'array[1..4] of TMatrix4x41');
18108:  Procedure ColorTransform( A, B, C : Byte; out X, Y, Z : Byte; const T : TMatrix4x4);');
18109:  Procedure ColorTransform1( A, B, C : Byte; out X, Y, Z : Float; const T : TMatrix4x4);');
18110:  Procedure ColorTransform2( const A, B, C : Float; out X, Y, Z : Byte; const T : TMatrix4x4);');
18111:  Procedure ColorTransformHSI2RGB( H, S, I : Byte; out R, G, B : Byte)');
18112:  Procedure ColorTransformRGB2HSI( R, G, B : Byte; out H, S, I : Byte)');
18113:  Procedure ColorTransformRGB2Lab( R, G, B : Byte; out L, a_, b_ : Byte)');
18114:  Procedure ColorTransformLab2RGB( L, a_, b_ : Byte; out R, G, B : Byte)');
18115:  Procedure ColorTransformRGB2LOCO( R, G, B : Byte; out S0, S1, S2 : Byte)');
18116:  Procedure ColorTransformLOCO2RGB( S0, S1, S2 : Byte; out R, G, B : Byte)');
18117:  Procedure ConvertColorSpace( Image : TLinarBitmap; const T : TMatrix4x4; NewImage : TLinarBitmap);');
18118:  //Procedure
       ConvertColorSpace1(Image:TLinarBitmap;ColorTransform:TColorTransformProc;NewImage:TLinarBitmap);');
18119:  Procedure ConvertToGrayscale( const Image, GrayImage : TLinarBitmap);');
18120:  Procedure ConvertToGrayscale1( const Image : TLinarBitmap);');
18121: end;
18122:
18123: procedure SIRegister_ZDbcUtils(CL: TPSPascalCompiler);
18124: begin
18125:  { TZSQLType = (zsqlstUnknown, zsqlstBoolean, zsqlstByte, zsqlstShort, zsqlstInteger, zsqlstLong,
18126:     zsqlstFloat, zsqlstDouble, zsqlstBigDecimal, zsqlstString, zsqlstUnicodeString, zsqlstBytes,
18127:     zsqlstDate, zsqlstTime, zsqlstTimestamp, zsqlstDataSet, zsqlstGUID,
18128:     stAsciiStream, stUnicodeStream, stBinaryStream);}
18129:  Function ResolveConnectionProtocol( Url : string; SupportedProtocols : TStringDynArray) : string');
18130:  //Procedure ResolveDatabaseUrl( const Url: string; Info:TStrings; var HostName:string; var
       Port:Integer;var Database : string; var UserName : string; var Password : string; ResultInfo : TStrings)');
18131:  Function CheckConvertion( InitialType : TZSQLType; ResultType : TZSQLType) : Boolean');
18132:  Function DefineColumnTypeName( ColumnType : TZSQLType) : string');
18133:  Procedure RaiseSQLException( E : Exception)');
18134:  //Procedure CopyColumnsInfo( FromList : TObjectList; ToList : TObjectList)');
18135:  Function ToLikeString( const Value : string) : string');
18136:  Function GetSQLHexWideString( Value : PChar; Len : Integer; ODBC : Boolean) : WideString');
18137:  Function GetSQLHexAnsiString( Value : PChar; Len : Integer; ODBC : Boolean) : RawByteString');
18138:  Function GetSQLHexString( Value : PChar; Len : Integer; ODBC : Boolean) : String');
18139:  Function WideStringStream( const AString : WideString) : TStream');
18140:  function ConvertAdoToTypeName(FieldType: SmallInt): string;
18141:  function GetTableName(const AField: TField): string;');
```

```
18142:  function GetFieldName(const AField: TField): string;');
18143: end;
18144:
18145: procedure SIRegister_JclTD32(CL: TPSPascalCompiler);
18146:   CL.AddTypeS('TSymbolInfo', 'record Size : Word; SymbolType : Word; end');
18147:   //CL.AddTypeS('PSymbolInfos', '^TSymbolInfos // will not work');
18148:   SIRegister_TJclModuleInfo(CL);
18149:   SIRegister_TJclLineInfo(CL);
18150:   SIRegister_TJclSourceModuleInfo(CL);
18151:   SIRegister_TJclSymbolInfo(CL);
18152:   SIRegister_TJclProcSymbolInfo(CL);
18153:   CL.AddClassN(CL.FindClass('TOBJECT'),'TJclLocalProcSymbolInfo');
18154:   CL.AddClassN(CL.FindClass('TOBJECT'),'TJclGlobalProcSymbolInfo');
18155:   SIRegister_TJclTD32InfoParser(CL);
18156:   SIRegister_TJclTD32InfoScanner(CL);
18157:   SIRegister_TJclPeBorTD32Image(CL);
18158: end;
18159:
18160: procedure SIRegister_JvIni(CL: TPSPascalCompiler);
18161: begin
18162:   CL.AddTypeS('TReadObjectEvent', 'Function ( Sender : TObject; const Section, '
18163:    +'Item, Value : string) : TObject');
18164:   TWriteObjectEvent', 'Procedure ( Sender : TObject; const Section, Item: string; Obj: TObject)');
18165:  Function StringToFontStyles( const Styles : string) : TFontStyles');
18166:  Function FontStylesToString( Styles : TFontStyles) : string');
18167:  Function FontToString( Font : TFont) : string');
18168:  Procedure StringToFont( const Str : string; Font : TFont)');
18169:  Function RectToStr( Rect : TRect) : string');
18170:  Function StrToRect( const Str : string; const Def : TRect) : TRect');
18171:  Function JPointToStr( P : TPoint) : string');
18172:  Function JStrToPoint( const Str : string; const Def : TPoint) : TPoint');
18173:  Function DefProfileName : string');
18174:  Function DefLocalProfileName : string');
18175:  CL.AddConstantN('idnListItem','String').SetString( 'Item');
18176: end;
18177:
18178: procedure SIRegister_JvHtControls(CL: TPSPascalCompiler);
18179: begin
18180:  Procedure ItemHtDrawEx( Canvas : TCanvas; Rect : TRect; const State : TOwnerDrawState; const Text :
       string; const HideSelColor : Boolean; var PlainItem : string; var Width : Integer; CalcWidth : Boolean)');
18181:  Function ItemHtDraw( Canvas : TCanvas; Rect : TRect; const State : TOwnerDrawState; const Text : string;
       const HideSelColor : Boolean) : string');
18182:  Function ItemHtWidth( Canvas : TCanvas; Rect : TRect; const State : TOwnerDrawState; const Text : string;
       const HideSelColor : Boolean) : Integer');
18183:  Function ItemHtPlain( const Text : string) : string');
18184:  Procedure ExecuteHyperlink(Sender:TObject;HyperLinkClick:TJvHyperLinkClickEvent;const LinkName:string);
18185:  Function IsHyperLink(Canvas:TCanvas;Rect:TRect;const Text:string;MouseX,MouseY:Integer;var
       HyperLink:string):Bool;
18186: end;
18187:
18188: function TRestRequest_createStringStreamFromStringList(strings: TStringList): TStringStream;
18189:
18190: {A simple Oscilloscope using  TWaveIn class.
18191:  More info at http://www.delphiforfun.org/programs/oscilloscope.htm }
18192: uses
18193:   Forms,
18194:   U_Oscilloscope4 in 'U_Oscilloscope4.pas' {frmMain},
18195:   ufrmOscilloscope4 in 'ufrmOscilloscope4.pas' {frmOscilloscope: TFrame},
18196:   uColorFunctions in 'uColorFunctions.pas',
18197:   AMixer in 'AMixer.pas',
18198:   uSettings in 'uSettings.pas',
18199:   UWavein4 in 'UWavein4.pas',
18200:   U_Spectrum4 in 'U_Spectrum4.pas' {Form2},
18201:   ufrmInputControl4 in 'ufrmInputControl4.pas' {frmInputControl: TFrame};
18202:
18203: Functions_max hex in the box maXbox
18204: functionslist.txt
18205: FunctionsList1 3.9.9.86/88/91/92/94/95/96/98/100/101/110/
18206:
18207: ********************************************************************************
18208: Procedure
18209: PROCEDURE SIZE 8444 8396 8289 8242 7507 7401 6792 6310 5971 4438 3797 3600
18210: Procedure ***************************Now the Procedure list******************
18211: Procedure ( ACol, ARow : Integer; Items : TStrings)
18212: Procedure ( Agg : TAggregate)
18213: Procedure ( ASender : TComponent; const AReplyStatus : TReplyStatus)
18214: Procedure ( ASender : TComponent; const AString : String; var AMsg : TIdMessage)
18215: Procedure ( ASender : TComponent; var AMsg : TIdMessage)
18216: Procedure ( ASender : TObject; const ABytes : Integer)
18217: Procedure ( ASender : TObject; VStream : TStream)
18218: Procedure ( AThread : TIdThread)
18219: Procedure ( AWebModule : TComponent)
18220: Procedure ( Column : TColumn)
18221: Procedure ( const AUsername : String; const APassword : String; AAuthenticationResult : Boolean)
18222: Procedure ( const iStart : integer; const sText : string)
18223: Procedure ( Control : TCustomTabControl; TabIndex : Integer; const Rect : TRect; Active : Boolean)
18224: Procedure ( Database : TDatabase; LoginParams : TStrings)
18225: Procedure (DataSet:TCustomClientDataSet;E:EReconcileError;UpdateKind:TUpdateKind;var
       Action:TReconcileAction)
```

```
18226: Procedure ( DATASET : TDATASET)
18227: Procedure ( DataSet:TDataSet; E:EDatabaseError;UpdateKind:TUpdateKind;var UpdateAction: TUpdateAction)
18228: Procedure ( DATASET : TDATASET; E : TObject; var ACTION : TDATAACTION)
18229: Procedure ( DataSet : TDataSet; UpdateKind : TUpdateKind; var UpdateAction : TUpdateAction)
18230: Procedure ( DATASET : TDATASET; var ACCEPT : BOOLEAN)
18231: Procedure ( DBCtrlGrid : TDBCtrlGrid; Index : Integer)
18232: Procedure ( Done : Integer)
18233: Procedure ( HeaderControl : TCustomHeaderControl; Section : THeaderSection)
18234: Procedure (HeaderControl:TCustomHeaderControl;Section:THeaderSection; const Rect:TRect;Pressed:Boolean)
18235: Procedure ( HeaderControl:TCustomHeaderControl;Sect:THeaderSection;Width:Int;State:TSectionTrackState)
18236: Procedure ( HeaderControl : THeaderControl; Section : THeaderSection)
18237: Procedure (HeaderControl:THeaderControl;Section: THeaderSection; const Rect:TRect; Pressed : Boolean)
18238: Procedure (HeaderControl:THeaderControl;Section:THeaderSection;Width:Integer;State : TSectionTrackState)
18239: Procedure (Sender: TCustomListView;const ARect: TRect;Stage:TCustomDrawStage;var DefaultDraw: Boolean)
18240: Procedure ( Sender : TCustomListView; const ARect : TRect; var DefaultDraw : Boolean)
18241: Procedure ( Sender : TCustomListView; Item : TListItem; Rect : TRect; State : TOwnerDrawState)
18242: Procedure ( Sender : TCustomTreeView; const ARect : TRect; var DefaultDraw : Boolean)
18243: Procedure ( SENDER : TFIELD; const TEXT : String)
18244: Procedure ( SENDER : TFIELD; var TEXT : STRING; DISPLAYTEXT : BOOLEAN)
18245: Procedure ( Sender : TIdTelnet; const Buffer : String)
18246: Procedure ( Sender : TIdTelnet; Status : TIdTelnetCommand)
18247: Procedure ( SENDER : TOBJECT; ACANVAS : TCANVAS; ARECT : TRECT; SELECTED : BOOLEAN)
18248: Procedure ( SENDER : TOBJECT; ACANVAS : TCANVAS; ARECT : TRECT; STATE : TOWNERDRAWSTATE)
18249: Procedure ( SENDER : TOBJECT; ACANVAS : TCANVAS; var WIDTH, HEIGHT : INTEGER)
18250: Procedure ( Sender : TObject; ACol, ARow : Longint; const Value : string)
18251: Procedure ( Sender : TObject; ACol, ARow : Longint; Rect : TRect; State : TGridDrawState)
18252: Procedure ( Sender : TObject; ACol, ARow : Longint; var CanSelect : Boolean)
18253: Procedure ( Sender : TObject; ACol, ARow : Longint; var Value : string)
18254: Procedure ( Sender : TObject; Button : TMPBtnType)
18255: Procedure ( Sender : TObject; Button : TMPBtnType; var DoDefault : Boolean)
18256: Procedure ( Sender : TObject; Button : TUDBtnType)
18257: Procedure ( Sender : TObject; Canvas : TCanvas; PageRect : TRect; var DoneDrawing : Boolean)
18258: Procedure ( Sender: TObject; ClientSocket: TServerClientWinSocket; var SocketThread : TServerClientThread)
18259: Procedure ( Sender : TObject; Column : TListColumn)
18260: Procedure ( Sender : TObject; Column : TListColumn; Point : TPoint)
18261: Procedure ( Sender : TObject; Connecting : Boolean)
18262: Procedure (Sender:TObject;const PapSize:SmallInt;const Orient:TPrtOrient;const PageTy:TPageTy;var
       DoneDraw:Bool
18263: Procedure (Sender:TObject; const Rect : TRect; DataCol : Integer; Column: TColumn; State : TGridDrawState)
18264: Procedure ( Sender : TObject; const Rect : TRect; Field : TField; State : TGridDrawState)
18265: Procedure (Sender: TObject; const UserString:string;var DateAndTime:TDateTime;var AllowChange:Boolean)
18266: Procedure ( Sender : TObject; E : Exception; var Handled : Boolean)
18267: Procedure ( Sender : TObject; FromIndex, ToIndex : Longint)
18268: Procedure ( Sender : TObject; FromSection, ToSection : THeaderSection; var AllowDrag : Boolean)
18269: Procedure ( Sender : TObject; Index : LongInt)
18270: Procedure ( Sender : TObject; Item : TListItem)
18271: Procedure ( Sender : TObject; Item : TListItem; Change : TItemChange)
18272: Procedure ( Sender : TObject; Item : TListItem; Change : TItemChange; var AllowChange : Boolean)
18273: Procedure ( Sender : TObject; Item : TListItem; Selected : Boolean)
18274: Procedure ( Sender : TObject; Item : TListItem; var AllowEdit : Boolean)
18275: Procedure ( Sender : TObject; Item : TListItem; var S : string)
18276: Procedure ( Sender : TObject; Item1, Item2 : TListItem; Data : Integer; var Compare : Integer)
18277: Procedure ( Sender : TObject; ModalResult : TModalResult; var CanClose : Boolean)
18278: Procedure ( Sender : TObject; Month : LongWord; var MonthBoldInfo : LongWord)
18279: Procedure ( Sender : TObject; NewTab : Integer; var AllowChange : Boolean)
18280: Procedure ( Sender : TObject; Node : TTreeNode)
18281: Procedure ( Sender : TObject; Node : TTreeNode; var AllowChange : Boolean)
18282: Procedure ( Sender : TObject; Node : TTreeNode; var AllowCollapse : Boolean)
18283: Procedure ( Sender : TObject; Node : TTreeNode; var AllowEdit : Boolean)
18284: Procedure ( Sender : TObject; Node : TTreeNode; var AllowExpansion : Boolean)
18285: Procedure ( Sender : TObject; Node : TTreeNode; var S : string)
18286: Procedure ( Sender : TObject; Node1, Node2 : TTreeNode; Data : Integer; var Compare : Integer)
18287: Procedure ( Sender : TObject; NumObjects, NumChars : Integer; var SaveClipboard : Boolean)
18288: Procedure ( Sender : TObject; Rect : TRect)
18289: Procedure ( Sender : TObject; Request : TWebRequest; Response : TWebResponse; var Handled : Boolean)
18290: Procedure (Sender:TObject;Shift:TShiftState;X,Y:Integer;Orient:TPageScrollerOrientation;var Delta:Int
18291: Procedure ( Sender : TObject; Socket : TCustomWinSocket)
18292: Procedure (Sender:TObject; Socket:TCustomWinSocket;ErrorEvent: TErrorEvent; var ErrorCode : Integer)
18293: Procedure ( Sender : TObject; Socket : TCustomWinSocket; SocketEvent : TSocketEvent)
18294: Procedure ( Sender : TObject; Socket : TSocket; var ClientSocket : TServerClientWinSocket)
18295: Procedure ( SENDER : TOBJECT; SOURCE : TMENUITEM; REBUILD : BOOLEAN)
18296: Procedure ( Sender : TObject; StartPos, EndPos : Integer; var AllowChange : Boolean)
18297: Procedure ( Sender : TObject; TabCanvas : TCanvas; R : TRect; Index : Integer; Selected : Boolean)
18298: Procedure ( Sender : TObject; TabIndex : Integer; var ImageIndex : Integer)
18299: Procedure ( Sender : TObject; Thread : TServerClientThread)
18300: Procedure ( Sender : TObject; TickCount : Cardinal; var Reset : Boolean)
18301: Procedure ( Sender : TObject; Username, Password : string)
18302: Procedure ( Sender : TObject; var AllowChange : Boolean)
18303: Procedure ( Sender : TObject; var AllowChange : Boolean; NewValue : SmallInt; Direction:TUpDownDirection)
18304: Procedure ( Sender : TObject; var Caption : string; var Alignment : THTMLCaptionAlignment)
18305: Procedure ( Sender : TObject; var Continue : Boolean)
18306: Procedure (Sender:TObject;var dest:string;var NumRedirect:Int;var Handled:bool; var VMethod:TIdHTTPMethod)
18307: Procedure ( Sender : TObject; var Username : string)
18308: Procedure ( Sender : TObject; Wnd : HWND)
18309: Procedure ( Sender : TToolbar; Button : TToolButton)
18310: Procedure ( Sender : TToolBar; const ARect : TRect; Stage : TCustomDrawStage; var DefaultDraw : Boolean)
18311: Procedure ( Sender : TToolBar; const ARect : TRect; var DefaultDraw : Boolean)
18312: Procedure ( Sender : TToolbar; Index : Integer; var Allow : Boolean)
18313: Procedure ( Sender : TToolbar; Index : Integer; var Button : TToolButton)
```

```
18314: Procedure ( StatusBar : TCustomStatusBar; Panel : TStatusPanel; const Rect : TRect)
18315: Procedure ( StatusBar : TStatusBar; Panel : TStatusPanel; const Rect : TRect)
18316: Procedure (var FieldNames:TWideStrings;SQL:WideString; var BindAllFields:Boolean;var TableName: WideString)
18317: Procedure ( var FieldNames : TWideStrings; SQL : WideString; var TableName : WideString)
18318: procedure (Sender: TObject)
18319: procedure (Sender: TObject; var Done: Boolean)
18320: procedure (Sender: TObject; var Key: Word; Shift: TShiftState);
18321: procedure _T(Name: tbtString; v: Variant);
18322: Procedure AbandonSignalHandler( RtlSigNum : Integer)
18323: Procedure Abort
18324: Procedure About1Click( Sender : TObject)
18325: Procedure Accept( Socket : TSocket)
18326: Procedure AESSymetricExecute(const plaintext, ciphertext, password: string)
18327: Procedure AESEncryptFile(const plaintext, ciphertext, password: string)
18328: Procedure AESDecryptFile(const replaintext, ciphertext, password: string)
18329: Procedure AESEncryptString(const plaintext: string; var ciphertext: string; password: string)
18330: Procedure AESDecryptString(var plaintext: string; const ciphertext: string; password: string)
18331: Procedure Add( Addend1, Addend2 : TMyBigInt)
18332: Procedure ADD( const AKEY, AVALUE : VARIANT)
18333: Procedure Add( const Key : string; Value : Integer)
18334: Procedure ADD( const NAME, FIELDS : String; OPTIONS : TINDEXOPTIONS)
18335: Procedure ADD( FIELD : TFIELD)
18336: Procedure ADD( ITEM : TMENUITEM)
18337: Procedure ADD( POPUP : TPOPUPMENU)
18338: Procedure AddCharacters( xCharacters : TCharSet)
18339: Procedure AddDriver( const Name : string; List : TStrings)
18340: Procedure AddImages( Value : TCustomImageList)
18341: Procedure AddIndex( const Name, Fields : string; Options : TIndexOptions; const DescFields : string)
18342: Procedure AddLambdaTransitionTo( oState : TniRegularExpressionState)
18343: Procedure AddLoader( Loader : TBitmapLoader)
18344: Procedure ADDPARAM( VALUE : TPARAM)
18345: Procedure AddPassword( const Password : string)
18346: Procedure AddStandardAlias( const Name, Path, DefaultDriver : string)
18347: Procedure AddState( oState : TniRegularExpressionState)
18348: Procedure AddStrings( Strings : TStrings);
18349: procedure AddStrings(Strings: TStrings);
18350: Procedure AddStrings1( Strings : TWideStrings);
18351: Procedure AddStringTerm( var sString : string; const sTerm : string; const sSeparator : string)
18352: Procedure AddToRecentDocs( const Filename : string)
18353: Procedure AddTransitionTo( oState : TniRegularExpressionState; xCharacters : TCharset)
18354: Procedure AllFunctionsList1Click( Sender : TObject)
18355: procedure AllObjectsList1Click(Sender: TObject);
18356: Procedure Allocate( AAllocateBytes : Integer)
18357: procedure AllResourceList1Click(Sender: TObject);
18358: Procedure AnsiAppend( var dst : AnsiString; const src : AnsiString)
18359: Procedure AnsiAssign( var dst : AnsiString; var src : AnsiString)
18360: Procedure AnsiDelete( var dst : AnsiString; index, count : Integer)
18361: Procedure AnsiFree( var s : AnsiString)
18362: Procedure AnsiFromWide( var dst : AnsiString; const src : WideString)
18363: Procedure AnsiInsert( var dst : AnsiString; const src : AnsiString; index : Integer)
18364: Procedure AnsiSetLength( var dst : AnsiString; len : Integer)
18365: Procedure AnsiString_to_stream( const Value : ansistring; Destin : TStream)
18366: Procedure AntiFreeze;
18367: Procedure APPEND
18368: Procedure Append( const S : WideString)
18369: procedure Append(S: string);
18370: Procedure AppendByte( var VBytes : TIdBytes; AByte : byte)
18371: Procedure AppendBytes( var VBytes : TIdBytes; AAdd : TIdBytes)
18372: Procedure AppendChunk( Val : OleVariant)
18373: Procedure AppendData( const Data : OleVariant; HitEOF : Boolean)
18374: Procedure AppendStr( var Dest : string; S : string)
18375: Procedure AppendString( var VBytes : TIdBytes; const AStr : String; ALength : Integer)
18376: Procedure ApplyRange
18377: procedure Arc(X1, Y1, X2, Y2, X3, Y3, X4, Y4: Integer);
18378: Procedure Arrange( Code : TListArrangement)
18379: procedure Assert(expr : Boolean; const msg: string);
18380: procedure Assert2(expr : Boolean; const msg: string);
18381: Procedure Assign( AList : TCustomBucketList)
18382: Procedure Assign( Other : TObject)
18383: Procedure Assign( Source : TDragObject)
18384: Procedure Assign( Source : TPersistent)
18385: Procedure Assign(Source: TPersistent)
18386: procedure Assign2(mystring, mypath: string);
18387: Procedure AssignCurValues( Source : TDataSet);
18388: Procedure AssignCurValues1( const CurValues : Variant);
18389: Procedure ASSIGNFIELD( FIELD : TFIELD)
18390: Procedure ASSIGNFIELDVALUE( FIELD : TFIELD; const VALUE : VARIANT)
18391: Procedure AssignFile(var F: Text; FileName: string)
18392: procedure AssignFile(var F: TextFile; FileName: string)
18393: procedure AssignFileRead(var mystring, myfilename: string);
18394: procedure AssignFileWrite(mystring, myfilename: string);
18395: Procedure AssignTo( Other : TObject)
18396: Procedure AssignValues( Value : TParameters)
18397: Procedure ASSIGNVALUES( VALUE : TPARAMS)
18398: Procedure AssociateExtension( IconPath, ProgramName, Path, Extension : string)
18399: Procedure Base64_to_stream( const Base64 : ansistring; Destin : TStream)
18400: Procedure Base64ToVar( NatData : Pointer; const SoapData : WideString);
18401: Procedure Base64ToVar1( var V : Variant; const SoapData : WideString);
18402: Procedure BcdAdd( const bcdIn1, bcdIn2 : TBcd; var bcdOut : TBcd)
```

```
18403: Procedure BcdDivide( Dividend, Divisor : string; var bcdOut : TBcd);
18404: Procedure BcdDivide1( const Dividend, Divisor : TBcd; var bcdOut : TBcd);
18405: Procedure BcdDivide2( const Dividend : TBcd; const Divisor : Double; var bcdOut : TBcd);
18406: Procedure BcdDivide3( const Dividend : TBcd; const Divisor : string; var bcdOut : TBcd);
18407: Procedure BcdMultiply( const bcdIn1, bcdIn2 : TBcd; var bcdOut : TBcd);
18408: Procedure BcdMultiply1( const bcdIn : TBcd; const DoubleIn : Double; var bcdOut : TBcd);
18409: Procedure BcdMultiply2( const bcdIn : TBcd; const StringIn : string; var bcdOut : TBcd);
18410: Procedure BcdMultiply3( StringIn1, StringIn2 : string; var bcdOut : TBcd);
18411: Procedure BcdSubtract( const bcdIn1, bcdIn2 : TBcd; var bcdOut : TBcd)
18412: Procedure BcdToBytes( Value : TBcd; Bytes : array of byte)
18413: procedure Beep
18414: Procedure BeepOk
18415: Procedure BeepQuestion
18416: Procedure BeepHand
18417: Procedure BeepExclamation
18418: Procedure BeepAsterisk
18419: Procedure BeepInformation
18420: procedure BEGINDRAG(IMMEDIATE:BOOLEAN)
18421: Procedure BeginLayout
18422: Procedure BeginTimer( const Delay, Resolution : Cardinal)
18423: Procedure BeginUpdate
18424: procedure BeginUpdate;
18425: procedure BigScreen1Click(Sender: TObject);
18426: procedure BinToHex(Buffer: PChar; Text: PChar; BufSize: Integer);
18427: Procedure BitsToBooleans( const Bits : Byte; var B : TBooleanArray; AllBits : Boolean);
18428: Procedure BitsToBooleans1( const Bits : Word; var B : TBooleanArray; AllBits : Boolean);
18429: Procedure BitsToBooleans2( const Bits : Integer; var B : TBooleanArray; AllBits : Boolean);
18430: Procedure BitsToBooleans3( const Bits : Int64; var B : TBooleanArray; AllBits : Boolean);
18431: Procedure BoldDays(Days : array of LongWord; var MonthBoldInfo : LongWord)
18432: Procedure BooleansToBits( var Dest : Byte; const B : TBooleanArray);
18433: Procedure BooleansToBits1( var Dest : Word; const B : TBooleanArray);
18434: Procedure BooleansToBits2( var Dest : Integer; const B : TBooleanArray);
18435: Procedure BooleansToBits3( var Dest : Int64; const B : TBooleanArray);
18436: Procedure BreakPointMenuClick( Sender : TObject)
18437: procedure BRINGTOFRONT
18438: procedure BringToFront;
18439: Procedure btnBackClick( Sender : TObject)
18440: Procedure btnBrowseClick( Sender : TObject)
18441: Procedure BtnClick( Index : TNavigateBtn)
18442: Procedure btnLargeIconsClick( Sender : TObject)
18443: Procedure BuildAndSendRequest( AURI : TIdURI)
18444: Procedure BuildCache
18445: Procedure BurnMemory( var Buff, BuffLen : integer)
18446: Procedure BurnMemoryStream( Destructo : TMemoryStream)
18447: Procedure CalculateFirstSet
18448: Procedure Cancel
18449: procedure CancelDrag;
18450: Procedure CancelEdit
18451: procedure CANCELHINT
18452: Procedure CancelRange
18453: Procedure CancelUpdates
18454: Procedure CancelWriteBuffer
18455: Procedure Capture1(ADest:TStream;out VLineCount:Integer;const ADelim:string;const AIsRFCMessage:Bool;
18456: Procedure Capture2( ADest : TStrings; const ADelim : string; const AIsRFCMessage : Boolean);
18457: Procedure Capture3(ADest:TStrings;out VLineCount:Integer;const ADelim:string;const AIsRFCMessage:Bool
18458: procedure CaptureScreenFormat(vname: string; vextension: string);
18459: procedure CaptureScreenPNG(vname: string);
18460: procedure CardinalsToI64(var I: Int64; const LowPart, HighPart: Cardinal);
18461: procedure CASCADE
18462: Procedure CastNativeToSoap(Info:PTypeInfo;var SoapData:WideString;NatData:Pointer;var IsNull: Boolean)
18463: Procedure CastSoapToVariant( SoapInfo : PTypeInfo; const SoapData : WideString; NatData : Pointer);
18464: Procedure cbPathClick( Sender : TObject)
18465: Procedure cbPathKeyDown( Sender : TObject; var Key : Word; Shift : TShiftState)
18466: Procedure cedebugAfterExecute( Sender : TPSScript)
18467: Procedure cedebugBreakpoint( Sender : TObject; const FileName : String; Position, Row, Col : Cardinal)
18468: Procedure cedebugCompile( Sender : TPSScript)
18469: Procedure cedebugExecute( Sender : TPSScript)
18470: Procedure cedebugIdle( Sender : TObject)
18471: Procedure cedebugLineInfo( Sender : TObject; const FileName : String; Position, Row, Col : Cardinal)
18472: Procedure CenterHeight( const pc, pcParent : TControl)
18473: Procedure CenterDlg(AForm: TForm; MForm: TForm);   { Zentriert Forms }
18474: Procedure CenterForm(AForm: TForm; MForm: TForm);   { Zentriert Forms }
18475: Procedure Change
18476: procedure ChangeBiDiModeAlignment(var Alignment: TAlignment);
18477: Procedure Changed
18478: Procedure ChangeDir( const ADirName : string)
18479: Procedure ChangeDirUp
18480: Procedure ChangeEntryTransitions( oNewState : TniRegularExpressionState)
18481: Procedure ChangeLevelBy( Value : TChangeRange)
18482: Procedure ChDir(const s: string)
18483: Procedure Check(Status: Integer)
18484: Procedure CheckCommonControl( CC : Integer)
18485: Procedure CHECKFIELDNAME( const FIELDNAME : String)
18486: Procedure CHECKFIELDNAMES( const FIELDNAMES : String)
18487: Procedure CheckForDisconnect(const ARaiseExceptionIfDisconnected: boolean;const AIgnoreBuffer:bool)
18488: Procedure CheckForGracefulDisconnect( const ARaiseExceptionIfDisconnected : Boolean)
18489: Procedure CheckToken( T : Char)
18490: procedure CheckToken(t:char)
18491: Procedure CheckTokenSymbol( const S : string)
```

```
18492: procedure CheckTokenSymbol(s:string)
18493: Procedure CheckToolMenuDropdown( ToolButton : TToolButton)
18494: procedure Chord(X1, Y1, X2, Y2, X3, Y3, X4, Y4: Integer);
18495: Procedure CIED65ToCIED50( var X, Y, Z : Extended)
18496: Procedure CIELABToBGR( const Source, Target : Pointer; const Count : Cardinal);
18497: procedure CipherFile1Click(Sender: TObject);
18498: Procedure Clear;
18499: Procedure Clear1Click( Sender : TObject)
18500: Procedure ClearColor( Color : TColor)
18501: Procedure CLEARITEM( AITEM : TMENUITEM)
18502: Procedure ClearMapping
18503: Procedure ClearSelection( KeepPrimary : Boolean)
18504: Procedure ClearWriteBuffer
18505: Procedure Click
18506: Procedure Close
18507: Procedure Close1Click( Sender : TObject)
18508: Procedure CloseDatabase( Database : TDatabase)
18509: Procedure CloseDataSets
18510: Procedure CloseDialog
18511: Procedure CloseFile(var F: Text);
18512: Procedure Closure
18513: Procedure CMYKToBGR( const Source, Target : Pointer; const BitsPerSample : Byte; Count : Cardinal);
18514: Procedure CMYKToBGR1( const C, M, Y, K, Target : Pointer; const BitsPerSample : Byte; Count : Cardinal);
18515: Procedure CodeCompletionList1Click( Sender : TObject)
18516: Procedure ColEnter
18517: Procedure Collapse
18518: Procedure Collapse( Recurse : Boolean)
18519: Procedure ColorRGBToHLS( clrRGB : TColorRef; var Hue, Luminance, Saturation : Word)
18520: Procedure CommaSeparatedToStringList( AList : TStrings; const Value : string)
18521: Procedure CommitFreeAndNil( var Transaction : TDBXTransaction)
18522: Procedure Compile1Click( Sender : TObject)
18523: procedure ComponentCount1Click(Sender: TObject);
18524: Procedure Compress(azipfolder, azipfile: string)
18525: Procedure DeCompress(azipfolder, azipfile: string)
18526: Procedure XZip(azipfolder, azipfile: string)
18527: Procedure XUnZip(azipfolder, azipfile: string)
18528: Procedure Connect( const ATimeout : Integer)
18529: Procedure Connect( Socket : TSocket)
18530: procedure Console1Click(Sender: TObject);
18531: Procedure Continue
18532: Procedure ContinueCount( var Counter : TJclCounter)
18533: procedure CONTROLDESTROYED(CONTROL:TCONTROL)
18534: Procedure ConvertStreamFromAnsiToUTF8( Src, Dst : TStream; cp : integer)
18535: Procedure ConvertStreamFromUTF8ToAnsi( Src, Dst : TStream; cp : integer)
18536: Procedure ConvertImage(vsource, vdestination: string);
18537: // Ex. ConvertImage(Exepath+'my233_bmp.bmp',Exepath+'mypng111.png')
18538: Procedure ConvertBitmap(vsource, vdestination: string);
18539: Procedure ConvertToGray(Cnv: TCanvas);
18540: Procedure Copy( Buffer : TRecordBuffer; Dest : TBytes; Offset : Integer; Length : Integer)
18541: Procedure Copy( Buffer : TValueBuffer; Dest : TBytes; Offset : Integer; Count : Integer);
18542: Procedure Copy1( Source : TBytes; Offset : Integer; Buffer : TValueBuffer; Count : Integer);
18543: Procedure CopyBytesToHostLongWord(const ASource:TIdBytes;const ASourceIndex:Integer;var VDest:LongWord)
18544: Procedure CopyBytesToHostWord( const ASource : TIdBytes; const ASourceIndex : Integer; var VDest : Word)
18545: Procedure CopyFrom( mbCopy : TMyBigInt)
18546: Procedure CopyMemoryStream( Source, Destination : TMemoryStream)
18547: procedure CopyRect(const Dest: TRect; Canvas: TCanvas;const Source: TRect);
18548: Procedure CopyTIdByteArray( const ASource : array of Byte; const ASourceIndex : Integer; var VDest : array
       of Byte; const ADestIndex : Integer; const ALength : Integer)
18549: Procedure CopyTIdBytes(const ASrc:TIdBytes;const ASrcIdx:Int;var VDest:TIdBytes;const ADestIdx:Int;const
       ALen:Int)
18550: Procedure CopyTIdCardinal( const ASource : Cardinal; var VDest : TIdBytes; const ADestIndex : Integer)
18551: Procedure CopyTIdInt64( const ASource : Int64; var VDest : TIdBytes; const ADestIndex : Integer)
18552: Procedure CopyTIdIPV6Address(const ASource:TIdIPv6Address; var VDest: TIdBytes; const ADestIndex : Integer)
18553: Procedure CopyTIdLongWord( const ASource : LongWord; var VDest : TIdBytes; const ADestIndex : Integer)
18554: Procedure CopyTIdNetworkLongWord( const ASource : LongWord; var VDest : TIdBytes; const ADestIndex:Integer)
18555: Procedure CopyTIdNetworkWord( const ASource : Word; var VDest : TIdBytes; const ADestIndex : Integer)
18556: Procedure CopyTIdString(const ASource:String;var VDest:TIdBytes;const ADestIndex:Integer;ALength: Integer)
18557: Procedure CopyTIdWord( const ASource : Word; var VDest : TIdBytes; const ADestIndex : Integer)
18558: Procedure CopyToClipboard
18559: Procedure CountParts
18560: Procedure CreateDataSet
18561: Procedure CreateEmptyFile( const FileName : string)
18562: Procedure CreateFileFromString( const FileName, Data : string)
18563: Procedure CreateFromDelta( Source : TPacketDataSet)
18564: procedure CREATEHANDLE
18565: Procedure CreatePipeStreams(var InPipe:TInputPipeStream;var
       OutPipe:TOutputPipeStream;SecAttr:PSecurityAttributes; BufSize:Longint);
18566: Procedure CreateProcAsUser( const UserDomain, UserName, PassWord, CommandLine : string)
18567: Procedure CreateProcAsUserEx(const UserDomain,UserName,Password,CommandLine:string;const Environment:PChar)
18568: Procedure CreateTable
18569: Procedure CreateUDLFile( const FileName, ProviderName, DataSourceName : WideString)
18570: procedure CSyntax1Click(Sender: TObject);
18571: Procedure CurrencyToComp( Value : Currency; var Result : Comp)
18572: Procedure CURSORPOSCHANGED
18573: procedure CutFirstDirectory(var S: String)
18574: Procedure DataBaseError(const Message: string)
18575: Procedure DateTimeToString( var Result : string; Format : string; DateTime : TDateTime);
18576: procedure DateTimeToString(var Result: string; const Format: string; DateTime: TDateTime)
18577: Procedure DateTimeToSystemTime( DateTime : TDateTime; var SystemTime : TSystemTime)
```

```
18578: procedure DateTimeToSystemTime(const DateTime: TDateTime; var SystemTime: TSystemTime);
18579: Procedure DBIError(errorCode: Integer)
18580: Procedure DebugOutput( const AText : string)
18581: procedure Debugln(DebugLOGFILE: string; Event_message: string);
18582: Procedure DebugRun1Click( Sender : TObject)
18583: procedure Dec;
18584: Procedure DecodeDate( DateTime : TDateTime; var Year, Month, Day : Word)
18585: procedure DecodeDate(const DateTime: TDateTime; var Year, Month, Day: Word);
18586: Procedure DecodeDateDay( const AValue : TDateTime; out AYear, ADayOfYear : Word)
18587: Procedure DecodeDateMonthWeek(const AValue:TDateTime;out AYear, AMonth,AWeekOfMonth,ADayOfWeek : Word)
18588: Procedure DecodeDateTime(const AValue:TDateTime;out AYear,AMonth,ADay,AHour,AMin,ASec,AMillSec:Word)
18589: Procedure DecodeDateWeek( const AValue : TDateTime; out AYear, AWeekOfYear, ADayOfWeek : Word)
18590: Procedure DecodeDayOfWeekInMonth(const AValue:TDateTime;out AYear,AMonth,ANthDayOfWeek,ADayOfWeek:Word)
18591: Procedure DecodeTime( DateTime : TDateTime; var Hour, Min, Sec, MSec : Word)
18592: procedure DecodeTime(const DateTime: TDateTime; var Hour, Min, Sec, MSec: Word);
18593: Procedure Decompile1Click( Sender : TObject)
18594: Procedure DefaultDrawColumnCell(const Rect : TRect; DataCol:Integer;Column:TColumn;State:TGridDrawState)
18595: Procedure DefaultDrawDataCell( const Rect : TRect; Field : TField; State : TGridDrawState)
18596: Procedure DeferLayout
18597: Procedure defFileread
18598: procedure DEFOCUSCONTROL(CONTROL:TWINCONTROL;REMOVING:BOOLEAN)
18599: Procedure DelayMicroseconds( const MicroSeconds : Integer)
18600: Procedure Delete
18601: Procedure Delete( const AFilename : string)
18602: Procedure Delete( const Index : Integer)
18603: Procedure DELETE( INDEX : INTEGER)
18604: Procedure Delete( Index : LongInt)
18605: Procedure Delete( Node : TTreeNode)
18606: procedure Delete(var s: AnyString; ifrom, icount: Longint);
18607: Procedure DeleteAlias( const Name : string)
18608: Procedure DeleteDriver( const Name : string)
18609: Procedure DeleteIndex( const Name : string)
18610: Procedure DeleteKey( const Section, Ident : String)
18611: Procedure DeleteRecords
18612: Procedure DeleteRecords( AffectRecords : TAffectRecords)
18613: Procedure DeleteString( var pStr : String; const pDelStr : string)
18614: Procedure DeleteTable
18615: procedure DelphiSite1Click(Sender: TObject);
18616: Procedure Deselect
18617: Procedure Deselect( Node : TTreeNode)
18618: procedure DestroyComponents
18619: Procedure DestroyHandle
18620: Procedure Diff( var X : array of Double)
18621: procedure Diff(var X: array of Double);
18622: Procedure DirCreate( const DirectoryName : String)');
18623: procedure DISABLEALIGN
18624: Procedure DisableConstraints
18625: Procedure Disconnect
18626: Procedure Disconnect( Socket : TSocket)
18627: Procedure Dispose
18628: procedure Dispose(P: PChar)
18629: Procedure DivMod( Dividend : Integer; Divisor : Word; var Result, Remainder : Word)
18630: Procedure DoKey( Key : TDBCtrlGridKey)
18631: Procedure DomToTree(anXmlNode: IXMLNode; aTreeNode: TTreeNode; aTreeView: TTreeView);
18632: Procedure DomToTreeJ(anXmlNode: TJvXMLNode; aTreeNode: TTreeNode; aTreeView: TTreeView);
18633: Procedure Dormant
18634: Procedure DoubleToBcd1( const AValue : Double; var bcd : TBcd);
18635: Procedure DoubleToBytes( Value : Double; Bytes : array of byte)
18636: Procedure DoubleToComp( Value : Double; var Result : Comp)
18637: Procedure doWebCamPic(picname: string); //eg: c:\mypic.png
18638: Procedure Draw( Canvas : TCanvas; X, Y, Index : Integer; Enabled : Boolean);
18639: procedure Draw(X, Y: Integer; Graphic: TGraphic);
18640: Procedure Draw1(Canvas:TCanvas; X,Y,
       Index:Int;ADrawingStyle:TDrawingStyle;AImageType:TImageType;Enabled:Bool);
18641: Procedure DrawArrow( ACanvas : TCanvas; Direction : TScrollDirection; Location : TPoint; Size : Integer)
18642: Procedure DrawCheck( ACanvas : TCanvas; Location : TPoint; Size : Integer; Shadow : Boolean)
18643: Procedure DrawChevron( ACanvas : TCanvas; Direction : TScrollDirection; Location : TPoint; Size : Integer)
18644: Procedure DrawColumnCell( const Rect : TRect; DataCol : Integer; Column : TColumn; State : TGridDrawState)
18645: procedure DrawFocusRect(const Rect: TRect);
18646: Procedure DrawHDIBToTBitmap( HDIB : THandle; Bitmap : TBitmap)
18647: Procedure DRAWMENUITEM( MENUITEM : TMENUITEM; ACANVAS : TCANVAS; ARECT : TRECT; STATE : TOWNERDRAWSTATE)
18648: Procedure DrawOverlay(Canvas:TCanvas;X,Y:Integer;ImageIndex:Integer;Overlay:TOverlay;Enabled: Boolean);
18649: Procedure DrawOverlay1(Canvas:TCanvas; X,Y:Int; ImageIndex:Int; Overlay : TOverlay; ADrawingStyle :
       TDrawingStyle; AImageType : TImageType; Enabled : Boolean);
18650: procedure drawPlot(vPoints: TPointArray; cFrm: TForm; vcolor: integer);
18651: Procedure DrawPolyLine( const Canvas : TCanvas; var Points : TPointArray; const ClipRect : TRect)
18652: Procedure DropConnections
18653: Procedure DropDown
18654: Procedure DumpDescription( oStrings : TStrings)
18655: Procedure DumpStateTable( oStrings : TStrings)
18656: Procedure EDIT
18657: Procedure EditButtonClick
18658: Procedure EditFont1Click( Sender : TObject)
18659: procedure Ellipse(X1, Y1, X2, Y2: Integer);
18660: Procedure Ellipse1( const Rect : TRect);
18661: Procedure EMMS
18662: Procedure Encode( ADest : TStream)
18663: procedure ENDDRAG(DROP:BOOLEAN)
18664: Procedure EndEdit( Cancel : Boolean)
```

```
18665: Procedure EndTimer
18666: Procedure EndUpdate
18667: Procedure EraseSection( const Section : string)
18668: Procedure Error( const Ident : string)
18669: procedure Error(Ident:Integer)
18670: Procedure ErrorFmt( const Ident : string; const Args : array of const)
18671: Procedure ErrorStr( const Message : string)
18672: procedure ErrorStr(Message:String)
18673: Procedure Exchange( Index1, Index2 : Integer)
18674: procedure Exchange(Index1, Index2: Integer);
18675: Procedure Exec( FileName, Parameters, Directory : string)
18676: Procedure ExecProc
18677: Procedure ExecSQL( UpdateKind : TUpdateKind)
18678: Procedure Execute
18679: Procedure Execute( const CommandText : WideString; var Params, OwnerData : OleVariant)
18680: Procedure ExecuteAndWait( FileName : string; Visibility : Integer)
18681: Procedure ExecuteCommand(executeFile, paramstring: string)
18682: Procedure ExecuteShell(executeFile, paramstring: string)
18683: Procedure ShellExecuteAndWait(executeFile, paramstring: string);
18684: Procedure ExitThread(ExitCode: Integer); stdcall;
18685: Procedure ExitProcess(ExitCode: Integer); stdcall;
18686: Procedure Expand( AUserName : String; AResults : TStrings)
18687: Procedure Expand( Recurse : Boolean)
18688: Procedure ExportClipboard1Click( Sender : TObject)
18689: Procedure ExportDataSetToExcel( DataSet : TDataSet; OnExportProgress : TOnExportProgress)
18690: Procedure ExtractContentFields( Strings : TStrings)
18691: Procedure ExtractCookieFields( Strings : TStrings)
18692: Procedure ExtractFields( Separators, WhiteSpace : TSysCharSet; Content : PChar; Strings : TStrings)
18693: Procedure ExtractHeaderFields(Separ,
       WhiteSpace:TSysChSet;Cont:PChar;Strings:TStrings;Decode:Bool;StripQuots:Bool)
18694: Procedure ExtractHTTPFields(Separators,WhiteSpace:
       TSysCharSet;Content:PChar;Strings:TStrings;StripQuotes:Bool)
18695: Procedure ExtractQueryFields( Strings : TStrings)
18696: Procedure FastDegToGrad
18697: Procedure FastDegToRad
18698: Procedure FastGradToDeg
18699: Procedure FastGradToRad
18700: Procedure FastRadToDeg
18701: Procedure FastRadToGrad
18702: Procedure FileClose( Handle : Integer)
18703: Procedure FileClose(handle: integer)
18704: procedure FilesFromWildcard(Dir,Mask:string;var Files:TStringList;Subdirs,ShowDirs,Multitasking:Bool)
18705: Procedure FileStructure( AStructure : TIdFTPDataStructure)
18706: Procedure FillByte2(var X: Byte ; count: integer; value: byte)
18707: Procedure FillBytes( var VBytes : TIdBytes; const ACount : Integer; const AValue : Byte)
18708: Procedure FillChar( Buffer : TRecordBuffer; Length : Integer; value : Byte)
18709: Procedure FillChar2(var X: PChar ; count: integer; value: char)
18710: Procedure FillCharS(var p: string; count: integer; value: char); //fix3.8
18711: Procedure FillIPList
18712: procedure FillRect(const Rect: TRect);
18713: Procedure FillTStrings( AStrings : TStrings)
18714: Procedure FilterOnBookmarks( Bookmarks : array of const)
18715: procedure FinalizePackage(Module: HMODULE)
18716: procedure FindClose;
18717: procedure FindClose2(var F: TSearchRec)
18718: Procedure FindMatches( const sString : string; xNotify : TniRegularExpressionMatchFoundEvent);
18719: Procedure FindMatches1(const sString:string;iStart:integer;xNotify:TniRegularExpressionMatchFoundEvent);
18720: Procedure FindNearest( const KeyValues : array of const)
18721: Procedure FinishContext
18722: Procedure FIRST
18723: Procedure FloatToDegMinSec( const X : Float; var Degs, Mins, Secs : Float)
18724: Procedure FloatToDecimal(var Result:TFloatRec;const Value:extend;ValueType:TFloatValue;Precis,Decs:Int);
18725: Procedure FloodFill( X, Y : Integer; Color : TColor; FillStyle : TFillStyle)
18726: Procedure FlushSchemaCache( const TableName : string)
18727: procedure FmtStr(var Result: string; const Format: string; const Args: array of const)
18728: procedure FOCUSCONTROL(CONTROL:TWINCONTROL)
18729: Procedure Form1Close( Sender : TObject; var Action : TCloseAction)
18730: Procedure FormActivate( Sender : TObject)
18731: procedure FormatLn(const format: String; const args: array of const);  //alias
18732: Procedure FormClose( Sender : TObject; var Action : TCloseAction)
18733: Procedure FormCreate( Sender : TObject)
18734: Procedure FormDestroy( Sender : TObject)
18735: Procedure FormKeyPress( Sender : TObject; var Key : Char)
18736: procedure FormOutput1Click(Sender: TObject);
18737: Procedure FormToHtml( Form : TForm; Path : string)
18738: procedure FrameRect(const Rect: TRect);
18739: Procedure Frame3D(Canvas:TCanvas; var Rect:TRect; TopColor,BottomColor:TColor; Width : Integer)
18740: Procedure NotebookHandlesNeeded( Notebook : TNotebook)
18741: Procedure Free( Buffer : TRecordBuffer)
18742: Procedure Free( Buffer : TValueBuffer)
18743: Procedure Free;
18744: Procedure FreeAndNil(var Obj:TObject)
18745: Procedure FreeImage
18746: procedure FreeMem(P: PChar; Size: Integer)
18747: Procedure FreeTreeData( Tree : TUpdateTree)
18748: Procedure Frexp( const X : Extended; var Mantissa : Extended; var Exponent : Integer)
18749: Procedure FullCollapse
18750: Procedure FullExpand
18751: Procedure GenerateDPB(sl: TStrings; var DPB: string; var DPBLength: Short);  //InterBase
```

```
18752: Procedure GenerateTPB(sl: TStrings; var TPB: string; var TPBLength: Short);
18753: Procedure OUTPUTXML( SQLOBJECT : TIBSQL; OUTPUTOBJECT : TIBOUTPUTXML)
18754: Procedure Get1( AURL : string; const AResponseContent : TStream);
18755: Procedure Get1( const ASourceFile : string; ADest : TStream; AResume : Boolean);
18756: Procedure Get2(const ASourceFile,ADestFile: string;const ACanOverwrite: boolean; AResume: Boolean);
18757: Procedure GetAliasNames( List : TStrings)
18758: Procedure GetAliasParams( const AliasName : string; List : TStrings)
18759: Procedure GetApplicationsRunning( Strings : TStrings)
18760: Procedure getBox(aURL, extension: string);
18761: Procedure GetCommandTypes( List : TWideStrings)
18762: Procedure GetConfigParams( const Path, Section : string; List : TStrings)
18763: Procedure GetConnectionNames( List : TStrings; Driver : string; DesignMode : Boolean)
18764: Procedure GetConvFamilies( out AFamilies : TConvFamilyArray)
18765: Procedure GetConvTypes( const AFamily : TConvFamily; out ATypes : TConvTypeArray)
18766: Procedure GetDatabaseNames( List : TStrings)
18767: Procedure GetDataPacket( DataSet : TDataSet; var RecsOut : Integer; out Data : OleVariant)
18768: Procedure GetDIBSizes(Bitmap: HBITMAP; var InfoHeaderSize: longWORD; var ImageSize : longWORD)
18769: Procedure GetDir(d: byte; var s: string)
18770: Procedure GetDirList( const Search : string; List : TStrings; Recursive : Boolean)
18771: Procedure GetDriverNames( List : TStrings)
18772: Procedure GetDriverNames( List : TStrings; DesignMode : Boolean)
18773: Procedure GetDriverParams( const DriverName : string; List : TStrings)
18774: Procedure GetEMails1Click( Sender : TObject)
18775: Procedure getEnvironmentInfo;
18776: Function getEnvironmentString: string;
18777: Procedure GetFieldNames( const DatabaseName, TableName : string; List : TStrings)
18778: Procedure GetFieldNames( const TableName : string; List : TStrings)
18779: Procedure GetFieldNames( const TableName : string; List : TStrings);
18780: Procedure GetFieldNames( const TableName : WideString; List : TWideStrings);
18781: Procedure GETFIELDNAMES( LIST : TSTRINGS)
18782: Procedure GetFieldNames1( const TableName : string; List : TStrings);
18783: Procedure GetFieldNames1( const TableName : string; SchemaName : string; List : TStrings);
18784: Procedure GetFieldNames2( const TableName : WideString;SchemaName : WideString; List : TWideStrings);
18785: Procedure GetFieldNames3( const TableName : WideString; List : TWideStrings);
18786: Procedure GetFileAttributeList( const Items : TStrings; const Attr : Integer)
18787: Procedure GetFileAttributeListEx( const Items : TStrings; const Attr : Integer)
18788: Procedure GetFMTBcd( Buffer : TRecordBuffer; var value : TBcd)
18789: Procedure GetFormatSettings
18790: Procedure GetFromDIB( var DIB : TBitmapInfo)
18791: Procedure GetFromHDIB( HDIB : HBitmap)
18792: // GetGEOMAPX('html',ExePath+'cologne2mapX.html','cathedral cologne')
18793: Procedure GetGEOMap(C_form,apath: string; const Data: string); //c_form: [html/json/xml]
18794: Procedure GetIcon( Index : Integer; Image : TIcon);
18795: Procedure GetIcon1(Index : Integer; Image:TIcon; ADrawingStyle:TDrawingStyle; AImageType:TImageType);
18796: Procedure GetIndexInfo( IndexName : string)
18797: Procedure GetIndexNames( const TableName, SchemaName : string; List : TStrings);
18798: Procedure GetIndexNames( List : TStrings)
18799: Procedure GetIndexNames1( const TableName : WideString; List : TWideStrings);
18800: Procedure GetIndexNames2( const TableName, SchemaName : WideString; List : TWideStrings);
18801: Procedure GetIndexNames4( const TableName : string; List : TStrings);
18802: Procedure GetInternalResponse
18803: Procedure GETITEMNAMES( LIST : TSTRINGS)
18804: procedure GetMem(P: PChar; Size: Integer)
18805: Procedure GETOLE2ACCELERATORTABLE(var ACCELTABLE:HACCEL;var ACCELCOUNT:INTEGER;GROUPS:array of INTEGER)
18806: procedure GetPackageDescription(ModuleName: PChar): string)
18807: Procedure GetPackageNames( List : TStrings);
18808: Procedure GetPackageNames1( List : TWideStrings);
18809: Procedure GetParamList( List : TList; const ParamNames : WideString)
18810: Procedure GetProcedureNames( List : TStrings);
18811: Procedure GetProcedureNames( List : TWideStrings);
18812: Procedure GetProcedureNames1( const PackageName : string; List : TStrings);
18813: Procedure GetProcedureNames1( List : TStrings);
18814: Procedure GetProcedureNames2( const PackageName, SchemaName : string; List : TStrings);
18815: Procedure GetProcedureNames3( List : TWideStrings);
18816: Procedure GetProcedureNames4( const PackageName : Widestring; List : TWideStrings);
18817: Procedure GetProcedureNames5( const PackageName, SchemaName : WideString; List : TWideStrings);
18818: Procedure GetProcedureParams( ProcedureName : WideString; List : TList);
18819: Procedure GetProcedureParams1( ProcedureName, PackageName : WideString; List : TList);
18820: Procedure GetProcedureParams2( ProcedureName, PackageName, SchemaName : Widestring; List : TList);
18821: Procedure GetProviderNames( Names : TWideStrings);
18822: Procedure GetProviderNames( Proc : TGetStrProc)
18823: Procedure GetProviderNames1( Names : TStrings);
18824: procedure GetQrCode2(Width,Height:Word; Correct_Level: string; const Data:string; apath: string);
18825: procedure GetQrCode3(Width,Height:Word;Correct_Level:string;const Data:string;apath:string);//no open image
18826: Function GetQrCode4(Width,Height:Word;Correct_Level:string; const
       Data:string;aformat:string):TLinearBitmap;
18827: Procedure GetRGBValue( const Color : TColor; out Red, Green, Blue : Byte)
18828: Procedure GetSchemaNames( List : TStrings);
18829: Procedure GetSchemaNames1( List : TWideStrings);
18830: Procedure getScriptandRunAsk;
18831: Procedure getScriptandRun(ascript: string);
18832: Procedure getScript(ascript: string);   //alias
18833: Procedure getWebScript(ascript: string);   //alias
18834: Procedure GetSessionNames( List : TStrings)
18835: Procedure GetStoredProcNames( const DatabaseName : string; List : TStrings)
18836: Procedure GetStrings( List : TStrings)
18837: Procedure GetSystemTime; stdcall;
18838: Procedure GetTableNames(const DatabaseName,Pattern:string;Extensions,SystemTables:Boolean;List:TStrings)
18839: Procedure GetTableNames( List : TStrings; SystemTables : Boolean)
```

```
18840: Procedure GetTableNames( List : TStrings; SystemTables : Boolean);
18841: Procedure GetTableNames( List : TWideStrings; SystemTables : Boolean);
18842: Procedure GetTableNames1( List : TStrings; SchemaName : WideString; SystemTables : Boolean);
18843: Procedure GetTableNames1( List : TStrings; SystemTables : Boolean);
18844: Procedure GetTableNames2( List : TWideStrings; SchemaName : WideString; SystemTables : Boolean);
18845: Procedure GetTransitionsOn( cChar : char; oStateList : TList)
18846: Procedure GetVisibleWindows( List : Tstrings)
18847: Procedure GoBegin
18848: Procedure GotoCurrent( DataSet : TCustomClientDataSet)
18849: Procedure GotoCurrent( Table : TTable)
18850: procedure GotoEnd1Click(Sender: TObject);
18851: Procedure GotoNearest
18852: Procedure GradientFillCanvas(const ACanvas:TCanvas;const AStartCol,AEndCol:TColor;const ARect:TRect;const
       Direction: TGradientDirection)
18853: Procedure HandleException( E : Exception; var Handled : Boolean)
18854: procedure HANDLEMESSAGE
18855: procedure HandleNeeded;
18856: Procedure Head( AURL : string)
18857: Procedure Help( var AHelpContents : TStringList; ACommand : String)
18858: Procedure HexToBinary( Stream : TStream)
18859: procedure HexToBinary(Stream:TStream)
18860: Procedure HideDragImage
18861: Procedure HideFormCaption( FormHandle : THandle; Hide : Boolean)
18862: Procedure HideTraybar
18863: Procedure HideWindowForSeconds(secs: integer);   {//3 seconds}
18864: Procedure HideWindowForSeconds2(secs: integer; apphandle, aself: TForm);   {//3 seconds}
18865: Procedure HookOSExceptions
18866: Procedure HookSignal( RtlSigNum : Integer)
18867: Procedure HSLToRGB( const H, S, L : Single; out R, G, B : Single);
18868: Procedure HTMLSyntax1Click( Sender : TObject)
18869: Procedure IFPS3ClassesPlugin1CompImport( Sender : TObject; x : TPSPascalCompiler)
18870: Procedure IFPS3ClassesPlugin1ExecImport( Sender : TObject; Exec : TPSExec; x : TPSRuntimeClassImporter)
18871: Procedure ImportfromClipboard1Click( Sender : TObject)
18872: Procedure ImportfromClipboard2Click( Sender : TObject)
18873: Procedure IncAMonth( var Year, Month, Day : Word; NumberOfMonths : Integer)
18874: procedure Incb(var x: byte);
18875: Procedure Include1Click( Sender : TObject)
18876: Procedure IncludeOFF;  //preprocessing
18877: Procedure IncludeON;
18878: procedure Info1Click(Sender: TObject);
18879: Procedure InitAltRecBuffers( CheckModified : Boolean)
18880: Procedure InitContext( Request : TWebRequest; Response : TWebResponse)
18881: Procedure InitContext(WebModuleList:TAbstractWebModuleList;Request:TWebRequest;Response:TWebResponse)
18882: Procedure InitData( ASource : TDataSet)
18883: Procedure InitDelta( ADelta : TPacketDataSet);
18884: Procedure InitDelta1( const ADelta : OleVariant);
18885: Procedure InitErrorPacket( E : EUpdateError; Response : TResolverResponse)
18886: Procedure Initialize
18887: procedure InitializePackage(Module: HMODULE)
18888: Procedure INITIATEACTION
18889: Procedure initHexArray(var hexn: THexArray);  //THexArray', 'array[0..15] of char;'
18890: Procedure InitKeyFields( Tree : TUpdateTree; ADelta : TPacketDataSet)
18891: Procedure InitModule( AModule : TComponent)
18892: Procedure InitStdConvs
18893: Procedure InitTreeData( Tree : TUpdateTree)
18894: Procedure INSERT
18895: Procedure Insert( Index : Integer; AClass : TClass)
18896: Procedure Insert( Index : Integer; AComponent : TComponent)
18897: Procedure Insert( Index : Integer; AObject : TObject)
18898: Procedure Insert( Index : Integer; const S : WideString)
18899: Procedure Insert( Index : Integer; Image, Mask : TBitmap)
18900: Procedure Insert(Index: Integer; const S: string);
18901: procedure Insert(Index: Integer; S: string);
18902: procedure Insert(s: AnyString; var s2: AnyString; iPos: Longint);
18903: procedure InsertComponent(AComponent:TComponent)
18904: procedure InsertControl(AControl: TControl);
18905: Procedure InsertIcon( Index : Integer; Image : TIcon)
18906: Procedure InsertMasked( Index : Integer; Image : TBitmap; MaskColor : TColor)
18907: Procedure InsertObject( Index : Integer; const S : WideString; AObject : TObject)
18908: procedure InsertObject(Index:Integer;S:String;AObject:TObject)
18909: Procedure Int16ToBytes( Value : SmallInt; Bytes : array of byte)
18910: Procedure Int32ToBytes( Value : Integer; Bytes : array of byte)
18911: Procedure Int64ToBytes( Value : Int64; Bytes : array of byte)
18912: procedure I64ToCardinals(I: Int64; var LowPart, HighPart: Cardinal);
18913: Procedure InternalBeforeResolve( Tree : TUpdateTree)
18914: Procedure InvalidateModuleCache
18915: Procedure InvalidateTitles
18916: Procedure InvalidDateDayError( const AYear, ADayOfYear : Word)
18917: Procedure InvalidDateMonthWeekError( const AYear, AMonth, AWeekOfMonth, ADayOfWeek : Word)
18918: Procedure InvalidDateTimeError(const AYear,AMth,ADay,AHour,AMin,ASec,AMilSec:Word;const
       ABaseDate:TDateTime)
18919: Procedure InvalidDateWeekError(const AYear, AWeekOfYear, ADayOfWeek : Word)
18920: Procedure InvalidDayOfWeekInMonthError( const AYear, AMonth, ANthDayOfWeek, ADayOfWeek : Word)
18921: procedure JavaSyntax1Click(Sender: TObject);
18922: Procedure JclLocalesInfoList( const Strings : TStrings; InfoType : Integer)
18923: Procedure KillDataChannel
18924: Procedure Largefont1Click( Sender : TObject)
18925: Procedure LAST
18926: Procedure LaunchCpl( FileName : string)
```

```
18927: Procedure Launch( const AFile : string)
18928: Procedure LaunchFile( const AFile : string)
18929: Procedure LetFileList(FileList: TStringlist; apath: string);
18930: Procedure lineToNumber( xmemo : String; met : boolean)
18931: Procedure ListViewCustomDrawItem(Sender:TCustListView;Item:TListItem;State:TCustDrawState;var
       DefaultDraw:Bool)
18932: Procedure ListViewCustomDrawSubItem( Sender : TCustomListView; Item : TListItem; SubItem : Integer; State
       : TCustomDrawState; var DefaultDraw : Boolean)
18933: Procedure ListViewData( Sender : TObject; Item : TListItem)
18934: Procedure ListViewDataFind(Sender:TObject; Find : TItemFind; const FindString : String; const FindPosition
       : TPoint; FindData:Pointer; StartIndex:Integer;Direction:TSearchDirection;Wrap:Boolean;var Index: Integer)
18935: Procedure ListViewDataHint( Sender : TObject; StartIndex, EndIndex : Integer)
18936: Procedure ListViewDblClick( Sender : TObject)
18937: Procedure ListViewKeyDown( Sender : TObject; var Key : Word; Shift : TShiftState)
18938: Procedure ListDLLExports(const FileName: string; List: TStrings);
18939: Procedure Load( const WSDLFileName : WideString; Stream : TMemoryStream)
18940: procedure LoadBytecode1Click(Sender: TObject);
18941: procedure LoadFilefromResource(const FileName: string; ms: TMemoryStream);
18942: Procedure LoadFromClipboardFormat( AFormat : Word; AData : THandle; APalette : HP)
18943: Procedure LoadFromClipboardFormat( AFormat : Word; AData : THandle; APalette : HPALETTE)
18944: Procedure LoadFromFile( AFileName : string)
18945: Procedure LoadFromFile( const AFileName : string; const AHeadersOnly : Boolean)
18946: Procedure LoadFromFile( const FileName : string)
18947: Procedure LOADFROMFILE( const FILENAME : String; BLOBTYPE : TBLOBTYPE)
18948: Procedure LoadFromFile( const FileName : string; DataType : TDataType)
18949: Procedure LoadFromFile( const FileName : WideString)
18950: Procedure LoadFromFile( const FileName, FileType : string; Bitmap : TLinearBitmap)
18951: Procedure LoadFromFile(const AFileName: string)
18952: procedure LoadFromFile(FileName: string);
18953: procedure LoadFromFile(FileName:String)
18954: Procedure LoadFromResourceID( Instance : THandle; ResID : Integer)
18955: Procedure LoadFromResourceName( Instance : THandle; const ResName : String)
18956: Procedure LoadFromStream( AStream : TStream; const AHeadersOnly : Boolean)
18957: Procedure LoadFromStream( const Stream : TStream)
18958: Procedure LoadFromStream( S : TStream)
18959: Procedure LoadFromStream( Stream : TSeekableStream; const Ext : string; Bitmap : TLinarBitmap)
18960: Procedure LoadFromStream( Stream : TSeekableStream; const Ext : string; Bitmap : TLinearBitmap)
18961: Procedure LoadFromStream( Stream : TStream)
18962: Procedure LOADFROMSTREAM( STREAM : TSTREAM; BLOBTYPE : TBLOBTYPE)
18963: Procedure LoadFromStream( Stream : TStream; DataType : TDataType)
18964: procedure LoadFromStream(Stream: TStream);
18965: Procedure LoadFromStream1( Stream : TSeekableStream; const FormatExt : string);
18966: Procedure LoadFromStream2( Stream : TStream; const FormatExt : string);
18967: Procedure LoadFromStrings( AStrings : TStrings; const MimeSeparator : Char)
18968: Procedure LoadLastFile1Click( Sender : TObject)
18969: { LoadIcoToImage loads two icons from resource named NameRes,
18970:   into two image lists ALarge and ASmall}
18971: Procedure LoadIcoToImage(ALarge, ASmall: ImgList.TCustomImageList; const NameRes: string);
18972: Procedure LoadMemo
18973: Procedure LoadParamsFromIniFile( FFileName : WideString)
18974: Procedure Lock
18975: Procedure Login
18976: Procedure MakeAlphaChannelFromAlphaPalette( Source : TLinearBitmap)
18977: Procedure MakeAlphaChannelFromColorKey( Source : TLinearBitmap; ColorKey : TColor)
18978: Procedure MakeCaseInsensitive
18979: Procedure MakeDeterministic( var bChanged : boolean)
18980: Procedure MakeGrayPal( var Palette, ColorCount : Integer)
18981: // type TVolumeLevel = 0..127;  , savaFilePath as C:\MyFile.wav
18982: Procedure MakeSound(Frequency{Hz}, Duration{mSec}: Int; Volume: TVolumeLevel; savefilePath: string);
18983: Procedure MakeComplexSound(N:integer;freqlist:TStrings;Duration{mSec}:Int;pinknoise:bool;Volume:Byte);
18984: Procedure SetComplexSoundElements(freqedt,Phaseedt,AmpEdt,WaveGrp:integer);
18985: Procedure SetRectComplexFormatStr( const S : string)
18986: Procedure SetPolarComplexFormatStr( const S : string)
18987: Procedure AddComplexSoundObjectToList(newf,newp,newa,news:integer; freqlist: TStrings);
18988: Procedure MakeVisible
18989: Procedure MakeVisible( PartialOK : Boolean)
18990: Procedure Manual1Click( Sender : TObject)
18991: Procedure MarkReachable
18992: Procedure maXbox;  //shows the exe version data in a win box
18993: Procedure MeanAndStdDev( const Data : array of Double; var Mean, StdDev : Extended)
18994: Procedure Memo1Change( Sender : TObject)
18995: Procedure Memo1ReplaceText(Sender:TObject;const ASearch,AReplace:String;Line,Column:Int;var
       Action:TSynReplaceAction)
18996: Procedure Memo1SpecialLineColors(Sender:TObject;Line:Integer; var Special:Boolean;var FG,BG: TColor)
18997: Procedure Memo1StatusChange( Sender : TObject; Changes : TSynStatusChanges)
18998: procedure Memory1Click(Sender: TObject);
18999: Procedure MERGE( MENU : TMAINMENU)
19000: Procedure MergeChangeLog
19001: procedure MINIMIZE
19002: Procedure MinimizeMaxbox;
19003: procedure MyCopyFile(Name1,Name2:string);
19004: Procedure MkDir(const s: string)
19005: Procedure MakeDir(const s: string)');
19006: Procedure ChangeDir(const s: string)');
19007: Function makeFile(const FileName: string): integer)');
19008: Procedure mnuPrintFont1Click( Sender : TObject)
19009: procedure ModalStarted
19010: Procedure Modified
19011: Procedure ModifyAlias( Name : string; List : TStrings)
```

```
19012: Procedure ModifyDriver( Name : string; List : TStrings)
19013: Procedure MomentSkewKurtosis(const Data:array of Double;var M1,M2,M3,M4, Skew,Kurtosis:Extended)
19014: Procedure MouseToCell( X, Y : Integer; var ACol, ARow : Longint)
19015: Procedure Move( CurIndex, NewIndex : Integer)
19016: procedure Move(CurIndex, NewIndex: Integer);
19017: procedure Move2(const Source: TByteArray; var Dest: TByteArray; Count: Integer)
19018: Procedure MoveChars(const ASource: String; ASourceStart:int;var ADest: String; ADestStart,ALen:integer)
19019: Procedure moveCube( o : TMyLabel)
19020: Procedure MoveTo( Destination : LongInt; AttachMode : TAttachMode)
19021: procedure MoveTo(X, Y: Integer);
19022: procedure MoveWindowOrg(DC: HDC; DX, DY: Integer);
19023: Procedure MovePoint(var x,y:Extended; const angle:Extended);
19024: Procedure Multiply( Multiplier1, Multiplier2 : TMyBigInt);
19025: Procedure Multiply1( Multiplier1 : TMyBigInt; Multiplier2 : Integer);
19026: Procedure MsgAbout(Handle:Int;const Msg,Caption:string;const IcoName:string ='MAINICON';Flags:DWORD=MB_OK);
19027: Procedure mxButton(x,y,width,height,top,left,ahandle: integer);
19028: Procedure New( Width, Height : Integer; PixFormat : TPixelFormat)
19029: procedure New(P: PChar)
19030: procedure New1Click(Sender: TObject);
19031: procedure NewInstance1Click(Sender: TObject);
19032: Procedure NEXT
19033: Procedure NextMonth
19034: Procedure Noop
19035: Procedure NormalizePath( var APath : string)
19036: procedure ObjectBinaryToText(Input, Output: TStream)
19037: procedure ObjectBinaryToText1(Input, Output: TStream;var OriginalFormat: TStreamOriginalFormat)
19038: procedure ObjectResourceToText(Input, Output: TStream)
19039: procedure ObjectResourceToText1(Input, Output: TStream;var OriginalFormat: TStreamOriginalFormat)
19040: procedure ObjectTextToBinary(Input, Output: TStream)
19041: procedure ObjectTextToBinary1(Input, Output: TStream;var OriginalFormat: TStreamOriginalFormat)
19042: procedure ObjectTextToResource(Input, Output: TStream)
19043: procedure ObjectTextToResource1(Input, Output: TStream;var OriginalFormat: TStreamOriginalFormat)
19044: Procedure Open( const Name, Address, Service : string; Port : Word; Block : Boolean)
19045: Procedure Open( const UserID : WideString; const Password : WideString);
19046: Procedure Open;
19047: Procedure open1Click( Sender : TObject)
19048: Procedure OpenCdDrive
19049: Procedure OpenCloseCdDrive( OpenMode : Boolean; Drive : Char)
19050: Procedure OpenCurrent
19051: Procedure OpenFile(vfilenamepath: string)
19052: Procedure OpenDirectory1Click( Sender : TObject)
19053: Procedure OpenDir(adir: string);
19054: Procedure OpenIndexFile( const IndexName : string)
19055: Procedure OpenSchema(const Schema:TSchemaInf;const Restricts:OleVar;const
       SchemID:OleVariant;DataSet:TADODataSet)
19056: Procedure OpenWriteBuffer( const AThreshhold : Integer)
19057: Procedure OptimizeMem
19058: Procedure Options1( AURL : string);
19059: Procedure OutputDebugString(lpOutputString : PChar)
19060: Procedure PackBuffer
19061: Procedure Paint
19062: Procedure PaintToCanvas( Canvas : TCanvas; const Dest : TRect; HalftoneStretch : Boolean)
19063: Procedure PaintToTBitmap( Target : TBitmap)
19064: Procedure PaletteChanged
19065: Procedure ParentBiDiModeChanged
19066: Procedure PARENTBIDIMODECHANGED( ACONTROL : TOBJECT)
19067: Procedure PasteFromClipboard;
19068: Procedure PasteImage( Source : TLinearBitmap; X, Y : Integer)
19069: Procedure PathExtractElements( const Source : string; var Drive, Path, FileName, Ext : string)
19070: Procedure PerformEraseBackground(Control: TControl; DC: HDC);
19071: Procedure PError( Text : string)
19072: procedure Pie(X1, Y1, X2, Y2, X3, Y3, X4, Y4: Integer);
19073: procedure Pie(X1:Integer;Y1:Integer;X2:Integer;Y2:Integer;X3:Int;Y3:Integer;X4:Integer;Y4:Integer);
19074: Procedure Play( FromFrame, ToFrame : Word; Count : Integer)
19075: procedure playmp3(mpath: string);
19076: Procedure PlayMP31Click( Sender : TObject)
19077: Procedure PointCopy( var Dest : TPoint; const Source : TPoint)
19078: Procedure PointMove( var P : TPoint; const DeltaX, DeltaY : Integer)
19079: procedure PolyBezier(const Points: array of TPoint);
19080: procedure PolyBezierTo(const Points: array of TPoint);
19081: procedure Polygon(const Points: array of TPoint);
19082: procedure Polyline(const Points: array of TPoint);
19083: Procedure Pop
19084: Procedure POPULATEOLE2MENU(SHAREDMENU: HMENU;GROUPS: array of INT; var WIDTHS : array of LONGINT)
19085: Procedure PopulationVarianceAndMean( const X : TDynFloatArray; var Variance, Mean : Float)
19086: Procedure POPUP( X, Y : INTEGER)
19087: Procedure PopupURL(URL : WideString);
19088: Procedure POST
19089: Procedure Post4( AURL : string; const ASource : TStrings; const AResponseContent : TStream);
19090: Procedure Post5( AURL : string; const ASource, AResponseContent : TStream);
19091: Procedure Post6( AURL : string; const ASource : TIdMultiPartFormDataStream; AResponseContent : TStream);
19092: Procedure PostUser( const Email, FirstName, LastName : WideString)
19093: Procedure PostKeyEx32(key: Word; const shift: TShiftState; specialkey: Boolean);
19094: procedure Pred(X: int64);
19095: Procedure Prepare
19096: Procedure PrepareStatement
19097: Procedure PreProcessXML( AList : TStrings)
19098: Procedure PreventDestruction
19099: Procedure Print( const Caption : string)
```

```
19100: procedure PrintBitmap(aGraphic: TGraphic; Title: string);
19101: procedure printf(const format: String; const args: array of const);
19102: Procedure PrintList(Value: TStringList);
19103: Procedure PrintImage(aValue:TBitmap;Style:TBitmapStyle);//TBitmapStyle=(bsNormal,bsCentered,bsStretched)
19104: Procedure Printout1Click( Sender : TObject)
19105: Procedure ProcessHeaders
19106: Procedure PROCESSMENUCHAR( var MESSAGE : TWMMENUCHAR)
19107: Procedure ProcessMessage( AMsg : TIdMessage; AHeaderOnly : Boolean);
19108: Procedure ProcessMessage1( AMsg : TIdMessage; const AStream : TStream; AHeaderOnly : Boolean);
19109: Procedure ProcessMessage2( AMsg : TIdMessage; const AFilename : string; AHeaderOnly : Boolean);
19110: Procedure ProcessMessagesOFF;  //application.processmessages
19111: Procedure ProcessMessagesON;
19112: Procedure ProcessPath(const EditText:string;var Drive:Char; var DirPart:string; var FilePart : string)
19113: Procedure ProcessPath1(const EditText:string;var Drive:Char; var DirPart:string; var FilePart:string);
19114: Procedure Proclist Size is: 3797 /1415
19115: Procedure procMessClick( Sender : TObject)
19116: Procedure PSScriptCompile( Sender : TPSScript)
19117: Procedure PSScriptExecute( Sender : TPSScript)
19118: Procedure PSScriptLine( Sender : TObject)
19119: Procedure Push( ABoundary : string)
19120: procedure PushItem(AItem: Pointer)
19121: Procedure Put2( AURL : string; const ASource, AResponseContent : TStream);
19122: Procedure Put2( const ASourceFile : string; const ADestFile : string; const AAppend : boolean);
19123: procedure PutLinuxLines(const Value: string)
19124: Procedure Quit
19125: Procedure RaiseConversionError( const AText : string);
19126: Procedure RaiseConversionError1( const AText : string; const AArgs : array of const);
19127: Procedure RaiseConversionRegError( AFamily : TConvFamily; const ADescription : string)
19128: procedure RaiseException(Ex: TIFException; Param: String);
19129: Procedure RaiseExceptionForLastCmdResult;
19130: procedure RaiseLastException;
19131: procedure RaiseException2;
19132: Procedure RaiseException3(const Msg: string);
19133: Procedure RaiseExcept(const Msg: string);
19134: Procedure RaiseLastOSError
19135: Procedure RaiseLastWin32;
19136: procedure RaiseLastWin32Error)
19137: Procedure RaiseListError( const ATemplate : string; const AData : array of const)
19138: Procedure RandomFillStream( Stream : TMemoryStream)
19139: procedure randomize;
19140: Procedure Rasterize( Rasterizer : TRasterizer; Dst : TBitmap32; DstRect : TRect)
19141: Procedure RCS
19142: Procedure Read( Socket : TSocket)
19143: procedure Readln1(var ast: string);  //of inputquery
19144: Procedure ReadBlobData
19145: procedure ReadBuffer(Buffer:String;Count:LongInt)
19146: procedure ReadOnly1Click(Sender: TObject);  -->maxform1.memo2.readonly:= false;
19147: Procedure ReadSection( const Section : string; Strings : TStrings)
19148: Procedure ReadSections( Strings : TStrings)
19149: Procedure ReadSections( Strings : TStrings);
19150: Procedure ReadSections1( const Section : string; Strings : TStrings);
19151: Procedure ReadSectionValues( const Section : string; Strings : TStrings)
19152: Procedure ReadStream( AStream : TStream; AByteCount:LongInt; const AReadUntilDisconnect : boolean)
19153: Procedure ReadStrings( ADest : TStrings; AReadLinesCount : Integer)
19154: Procedure ReadVersion2(aFileName: STRING; aVersion : TStrings);
19155: Function ReadVersion(aFileName: STRING; aVersion : TStrings): boolean;
19156: Procedure Realign;
19157: procedure Rectangle(X1, Y1, X2, Y2: Integer);
19158: Procedure Rectangle1( const Rect : TRect);
19159: Procedure RectCopy( var Dest : TRect; const Source : TRect)
19160: Procedure RectFitToScreen( var R : TRect)
19161: Procedure RectGrow( var R : TRect; const Delta : Integer)
19162: Procedure RectGrowX( var R : TRect; const Delta : Integer)
19163: Procedure RectGrowY( var R : TRect; const Delta : Integer)
19164: Procedure RectMove( var R : TRect; const DeltaX, DeltaY : Integer)
19165: Procedure RectMoveTo( var R : TRect; const X, Y : Integer)
19166: Procedure RectNormalize( var R : TRect)
19167: //  TFileCallbackProcedure = procedure(filename:string);
19168: Procedure RecurseDirectory(Dir: String;IncludeSubs: boolean;callback: TFileCallbackProcedure);
19169: Procedure RecurseDirectory2(Dir: String; IncludeSubs : boolean);
19170: Procedure RedirectTransition(oOldState:TniRegularExpressionState; oNewState : TniRegularExpressionState)
19171: Procedure Refresh;
19172: Procedure RefreshData( Options : TFetchOptions)
19173: Procedure REFRESHLOOKUPLIST
19174: Procedure regExPathfinder(Pathin, fileout, firstp, aregex, ext: string; asort: boolean);
19175: Procedure RegExPathfinder2(Pathin, fileout, firstp, aregex, ext: string; asort, acopy: boolean);
19176: Procedure RegisterAuthenticationMethod( MethodName : String; AuthClass : TIdAuthenticationClass)
19177: Procedure RegisterChanges( Value : TChangeLink)
19178: Procedure RegisterConversionFormat( const AExtension : string; AConversionClass : TConversionClass)
19179: Procedure RegisterFileFormat( const AExtension, ADescription : string; AGraphicClass : TGraphicClass)
19180: Procedure RegisterFileFormat(Extension,AppID:string;Description:string;Executable:string;IconIndex:Int)
19181: Procedure ReInitialize( ADelay : Cardinal)
19182: procedure RELEASE
19183: Procedure Remove( const AByteCount : integer)
19184: Procedure REMOVE( FIELD : TFIELD)
19185: Procedure REMOVE( ITEM : TMENUITEM)
19186: Procedure REMOVE( POPUP : TPOPUPMENU)
19187: Procedure RemoveAllPasswords
19188: procedure RemoveComponent(AComponent:TComponent)
```

```
19189: Procedure RemoveDir( const ADirName : string)
19190: Procedure RemoveLambdaTransitions( var bChanged : boolean)
19191: Procedure REMOVEPARAM( VALUE : TPARAM)
19192: Procedure RemoveTransitionTo( oState : TniRegularExpressionState; xCharacters : TCharset);
19193: Procedure RemoveTransitionTo1( oState : TniRegularExpressionState);
19194: Procedure Rename( const ASourceFile, ADestFile : string)
19195: Procedure Rename( const FileName : string; Reload : Boolean)
19196: Procedure RenameTable( const NewTableName : string)
19197: Procedure Replace( Index : Integer; Image, Mask : TBitmap)
19198: Procedure Replace1Click( Sender : TObject)
19199: Procedure ReplaceDate( var DateTime : TDateTime; NewDate : TDateTime)
19200: procedure ReplaceDate(var DateTime: TDateTime; const NewDate: TDateTime))
19201: Procedure ReplaceIcon( Index : Integer; Image : TIcon)
19202: Procedure ReplaceMasked( Index : Integer; NewImage : TBitmap; MaskColor : TColor)
19203: Procedure ReplaceTime( var DateTime : TDateTime; NewTime : TDateTime)
19204: procedure ReplaceTime(var DateTime: TDateTime; const NewTime: TDateTime);
19205: Procedure Requery( Options : TExecuteOptions)
19206: Procedure Reset
19207: Procedure Reset1Click( Sender : TObject)
19208: Procedure ResizeCanvas( XSiz, YSiz, XPos, YPos : Integer; Color : TColor)
19209: procedure ResourceExplore1Click(Sender: TObject);
19210: Procedure RestoreContents
19211: Procedure RestoreDefaults
19212: Procedure RestoreOtherInstance( MainFormClassName, MainFormCaption : string)
19213: Procedure RetrieveHeaders
19214: Procedure RevertRecord
19215: Procedure RGBAToBGRA( const Source, Target : Pointer; const BitsPerSample : Byte; Count : Cardinal)
19216: Procedure RGBToBGR( const Source, Target : Pointer; const BitsPerSample : Byte; Count : Cardinal);
19217: Procedure RGBToBGR1( const R, G, B, Target : Pointer; const BitsPerSample : Byte; Count : Cardinal);
19218: Procedure RGBToHSL( const R, G, B : Single; out H, S, L : Single);
19219: Procedure RGBToHSL1( const RGB : TColor32; out H, S, L : Single);
19220: Procedure RGBToHSV( r, g, b : Integer; var h, s, v : Integer)
19221: Procedure RleCompress2( Stream : TStream)
19222: Procedure RleDecompress2( Stream : TStream)
19223: Procedure RmDir(const S: string)
19224: Procedure Rollback
19225: Procedure Rollback( TransDesc : TTransactionDesc)
19226: Procedure RollbackFreeAndNil( var Transaction : TDBXTransaction)
19227: Procedure RollbackIncompleteFreeAndNil( var Transaction : TDBXTransaction)
19228: Procedure RollbackTrans
19229: procedure RoundRect(X1, Y1, X2, Y2, X3, Y3: Integer);
19230: Procedure RoundToAllocGranularity64( var Value : Int64; Up : Boolean)
19231: Procedure RoundToAllocGranularityPtr( var Value : Pointer; Up : Boolean)
19232: Procedure RunDll32Internal( Wnd : HWnd; const DLLName, FuncName, CmdLine : string; CmdShow : Integer)
19233: Procedure S_AddMessageToStrings( AMessages : TStrings; AMsg : string)
19234: Procedure S_EBox( const AText : string)
19235: Procedure S_GetEncryptionKeys(DateTime1,DateTime2:TDateTime;var StartKey:int;var MultKey:integer;var
       AddKey:int
19236: Procedure S_IBox( const AText : string)
19237: Procedure S_ReplaceChar( var cStr : string; cOldChr, cNewChr : char)
19238: Procedure S_ReplaceStringInFile( AFileName : string; ASearchString, AReplaceString : string)
19239: Procedure S_TokenInit( cBuffer : PChar; const cDelimiters : string)
19240: Procedure SampleVarianceAndMean
19241: ( const X : TDynFloatArray; var Variance, Mean : Float)
19242: Procedure Save2Click( Sender : TObject)
19243: Procedure Saveas3Click( Sender : TObject)
19244: Procedure Savebefore1Click( Sender : TObject)
19245: Procedure SaveBytesToFile(const Data: TBytes; const FileName: string);
19246: procedure SaveCanvas2(vCanvas: TCanvas; FileName: string);
19247: Procedure SaveConfigFile
19248: Procedure SaveOutput1Click( Sender : TObject)
19249: procedure SaveScreenshotClick(Sender: TObject);
19250: Procedure SaveLn(pathname, content: string);   //Saveln(exepath+'mysavelntest.txt', memo2.text);
19251: Procedure SaveToClipboardFormat( var AFormat : Word; var AData : THandle; var APalette : HPALETTE)
19252: Procedure SaveToClipboardFormat( var Format : Word; var Data : THandle; var APalette : HPALETTE)
19253: Procedure SaveToFile( AFileName : string)
19254: Procedure SAVETOFILE( const FILENAME : String)
19255: Procedure SaveToFile( const FileName : WideString)
19256: Procedure SaveToFile( const FileName : WideString; Format : TPersistFormat)
19257: Procedure SaveToFile( const FileName, FileType : string; Bitmap : TLinearBitmap)
19258: procedure SaveToFile(FileName: string);
19259: procedure SaveToFile(FileName:String)
19260: Procedure SaveToStream( AStream : TStream; const AHeadersOnly : Boolean)
19261: Procedure SaveToStream( OutStream : TSeekableStream; const Ext : string; Bitmap : TLinarBitmap)
19262: Procedure SaveToStream( S : TStream)
19263: Procedure SaveToStream( Stream : TSeekableStream; const Ext : string; Bitmap : TLinearBitmap)
19264: Procedure SaveToStream( Stream : TStream)
19265: Procedure SaveToStream( Stream : TStream; Format : TDataPacketFormat)
19266: procedure SaveToStream(Stream: TStream);
19267: procedure SaveToStream(Stream:TStream)
19268: Procedure SaveToStream1( Stream : TSeekableStream; const FormatExt : string);
19269: Procedure SaveToStream2( Stream : TStream; const FormatExt : string);
19270: Procedure SaveToStrings( AStrings : TStrings; const MimeSeparator : Char)
19271: procedure Say(const sText: string)
19272: Procedure SBytecode1Click( Sender : TObject)
19273: Procedure ScaleImage( const SourceBitmap, ResizedBitmap : TBitmap; const ScaleAmount : Double)
19274: procedure ScriptExplorer1Click(Sender: TObject);
19275: Procedure Scroll( Distance : Integer)
19276: Procedure Scroll( DX, DY : Integer)
```

```
19277: procedure ScrollBy(DeltaX, DeltaY: Integer);
19278: procedure SCROLLINVIEW(ACONTROL:TCONTROL)
19279: Procedure ScrollTabs( Delta : Integer)
19280: Procedure Search1Click( Sender : TObject)
19281: procedure SearchAndOpenDoc(vfilenamepath: string)
19282: procedure SearchAndOpenFile(vfilenamepath: string)
19283: procedure SearchAndReplace(aStrList: TStrings; aSearchStr, aNewStr: string)
19284: procedure SearchAndCopy(aStrList: TStrings; aSearchStr, aNewStr: string; offset: integer);
19285: Procedure SearchNext1Click( Sender : TObject)
19286: Procedure Select( Node : TTreeNode; ShiftState : TShiftState);
19287: Procedure Select1( const Nodes : array of TTreeNode);
19288: Procedure Select2( Nodes : TList);
19289: Procedure SelectNext( Direction : Boolean)
19290: Procedure SelectNextPage( GoForward : Boolean; CheckTabVisible : Boolean)
19291: Procedure SelfTestPEM  //unit uPSI_cPEM
19292: Procedure Send( AMsg : TIdMessage)
19293: //config forst in const MAILINIFILE = 'maildef.ini';
19294: //ex.:  SendEmail('max@kleiner.ch','max@kleiner.com','this test7','maxbox the SSL fox','
19295: Procedure SendEmail(mFrom,  mTo,  mSubject,  mBody,  mAttachment: variant);
19296: Procedure SendMail(mFrom,  mTo,  mSubject,  mBody,  mAttachment: variant);
19297: Procedure SendMsg( AMsg : TIdMessage; const AHeadersOnly : Boolean)
19298: Procedure SendMsg(AMsg: TIdMessage; const AHeadersOnly: Boolean = False)
19299: Procedure SendResponse
19300: Procedure SendStream( AStream : TStream)
19301: procedure SendMCICommand(Cmd: string);   !
19302: Procedure Set8087CW( NewCW : Word)
19303: Procedure SetAll( One, Two, Three, Four : Byte)
19304: Procedure SetAltRecBuffers( Old, New, Cur : PChar)
19305: Procedure SetAppDispatcher( const ADispatcher : TComponent)
19306: procedure SetArrayLength;
19307: procedure SetArrayLength2String(arr: T2StringArray; asize1, asize2: integer);  //2 dimension
19308: procedure SetArrayLength2Integer(arr: T2IntegerArray; asize1, asize2: integer);
19309: procedure SetArrayLength2String2(arr: T2StringArray; asize1, asize2: integer);  //all init
19310: procedure SetArrayLength2Integer2(arr: T2IntegerArray; asize1, asize2: integer);
19311: procedure Set2DimStrArray(var arr: T2StringArray; asize1, asize2: integer);');
19312: procedure Set2DimIntArray(var arr: T2IntegerArray; asize1, asize2: integer);');
19313: procedure Set3DimIntArray(var arr: T3IntegerArray; asize1, asize2, asize3: integer);
19314: procedure Set3DimStrArray(var arr: T3StringArray; asize1, asize2, asize3: integer);
19315: Procedure SetAsHandle( Format : Word; Value : THandle)
19316: procedure SetBounds(ALeft, ATop, AWidth, AHeight: Integer)
19317: procedure SetCaptureControl(Control: TControl);
19318: Procedure SetColumnAttributes
19319: Procedure SetCookieField(Values:TStrings;const ADomain,APath:string;AExpires:TDateTime;ASecure:Boolean)
19320: Procedure SetCustomHeader( const Name, Value : string)
19321: Procedure SetExprParams(const Text:Widestring;Opts:TFilterOpts;ParserOpts:TParserOpts;const
       FieldName:Widestring)
19322: Procedure SetFMTBcd( Buffer : TRecordBuffer; value : TBcd)
19323: Procedure SetFocus
19324: procedure SetFocus; virtual;
19325: Procedure SetInitialState
19326: Procedure SetKey
19327: procedure SetLastError(ErrorCode: Integer)
19328: procedure SetLength;
19329: Procedure SetLineBreakStyle( var T : Text; Style : TTextLineBreakStyle)
19330: Procedure SETOLE2MENUHANDLE( HANDLE : HMENU)
19331: Procedure SetParams( ADataset : TDataset; UpdateKind : TUpdateKind);
19332: procedure SETPARAMS(APOSITION,AMIN,AMAX:INTEGER)
19333: Procedure SetParams1( UpdateKind : TUpdateKind);
19334: Procedure SetPassword( const Password : string)
19335: Procedure SetPointer( Ptr : Pointer; Size : Longint)
19336: Procedure SetPrimalityTest( const Method : TPrimalityTestMethod)
19337: Procedure SetPrinter( ADevice, ADriver, APort : PChar; ADeviceMode : THandle)
19338: Procedure SetProvider( Provider : TComponent)
19339: Procedure SetProxy( const Proxy : string)
19340: Procedure SetPSResult( var PSResult : TPSResult; Value : TObject)
19341: Procedure SetRange( const StartValues, EndValues : array of const)
19342: Procedure SetRangeEnd
19343: Procedure SetRate( const aPercent, aYear : integer)
19344: procedure SetRate(const aPercent, aYear: integer)
19345: Procedure Set_ReportMemoryLeaksOnShutdown(abo: boolean)
19346: Procedure SetSafeCallExceptionMsg( Msg : String)
19347: procedure SETSELTEXTBUF(BUFFER:PCHAR)
19348: Procedure SetSize( AWidth, AHeight : Integer)
19349: procedure SetSize(NewSize:LongInt)
19350: procedure SetString(var s: string; buffer: PChar; len: Integer)
19351: Procedure SetStrings( List : TStrings)
19352: Procedure SetText( Text : PwideChar)
19353: procedure SetText(Text: PChar);
19354: Procedure SetTextBuf( Buffer : PChar)
19355: procedure SETTEXTBUF(BUFFER:PCHAR)
19356: Procedure SetTick( Value : Integer)
19357: Procedure SetTimeout( ATimeOut : Integer)
19358: Procedure SetTraceEvent( Event : TDBXTraceEvent)
19359: Procedure SetUserName( const UserName : string)
19360: Procedure SetWallpaper( Path : string);
19361: procedure ShellStyle1Click(Sender: TObject);
19362: Procedure SHORTCUTTOKEY( SHORTCUT : TSHORTCUT; var KEY : WORD; var SHIFT : TSHIFTSTATE)
19363: Procedure ShowFileProperties( const FileName : string)
19364: Procedure ShowInclude1Click( Sender : TObject)
```

```
19365: Procedure ShowInterfaces1Click( Sender : TObject)
19366: Procedure ShowLastException1Click( Sender : TObject)
19367: Procedure ShowMessage( const Msg : string)
19368: Procedure ShowMessageBig(const aText : string);
19369: Procedure ShowMessageBig2(const aText : string; aautosize: boolean);
19370: Procedure ShowMessageBig3(const aText : string; fsize: byte; aautosize: boolean);
19371: Procedure MsgBig(const aText : string);        //alias
19372: procedure showmessage(mytext: string);
19373: Procedure ShowMessageFmt( const Msg : string; Params : array of const)
19374: procedure ShowMessageFmt(const Msg: string; Params: array of const))
19375: Procedure ShowMessagePos( const Msg : string; X, Y : Integer)
19376: procedure ShowMessagePos(const Msg: string; X: Integer; Y: Integer))
19377: Procedure ShowSearchDialog( const Directory : string)
19378: Procedure ShowSpecChars1Click( Sender : TObject)
19379: Procedure ShowBitmap(bmap: TBitmap);  //draw in a form!
19380: Procedure ShredFile( const FileName : string; Times : Integer)
19381: procedure Shuffle(vQ: TStringList);
19382: Procedure ShuffleList( var List : array of Integer; Count : Integer)
19383: Procedure SimulateKeystroke( Key : byte; Shift : TShiftState)
19384: Procedure SinCos( const Theta : Extended; var Sin, Cos : Extended)
19385: Procedure SinCosE( X : Extended; out Sin, Cos : Extended)
19386: Procedure Site( const ACommand : string)
19387: Procedure SkipEOL
19388: Procedure Sleep( ATime : cardinal)
19389: Procedure Sleep( milliseconds : Cardinal)
19390: Function SleepEx( dwMilliseconds : DWORD; bAlertable : BOOL) : DWORD
19391: Procedure Slinenumbers1Click( Sender : TObject)
19392: Procedure Sort
19393: Procedure SortColorArray(ColorArray:TColorArray;L,R:Int;SortType:TColorArraySortType;Reverse:Bool)
19394: procedure SoundAlarm;  //beep seq
19395: procedure Speak(const sText: string)   //async like voice
19396: procedure Speak2(const sText: string)  //sync
19397: procedure Split(Str: string;  SubStr: string; List: TStrings);
19398: Procedure SplitNameValue( const Line : string; var Name, Value : string)
19399: Procedure SplitColumns( const AData : String; AStrings : TStrings; const ADelim : String)
19400: Procedure SplitColumnsNoTrim( const AData : String; AStrings : TStrings; const ADelim : String)
19401: Procedure SplitLines( AData : PChar; ADataSize : Integer; AStrings : TStrings)
19402: Procedure SplitString( const AStr, AToken : String; var VLeft, VRight : String)
19403: procedure SQLSyntax1Click(Sender: TObject);
19404: Procedure SRand( Seed : RNG_IntType)
19405: Procedure Start
19406: Procedure StartCount( var Counter : TJclCounter; const Compensate : Boolean)
19407: procedure StartFileFinder3(spath,aext,searchstr: string; arecursiv: boolean; reslist: TStringlist);
19408: //Ex.  StartFileFinder3(exepath+'exercices','*.pas','record',false,seclist);
19409: Procedure StartTransaction( TransDesc : TTransactionDesc)
19410: Procedure Status( var AStatusList : TStringList)
19411: Procedure StatusBar1DblClick( Sender : TObject)
19412: Procedure StepInto1Click( Sender : TObject)
19413: Procedure StepIt
19414: Procedure StepOut1Click( Sender : TObject)
19415: Procedure Stop
19416: procedure stopmp3;
19417: procedure StartWeb(aurl: string);
19418: Procedure Str(aint: integer; astr: string); //of system
19419: Procedure StrDispose( Str : PChar)
19420: procedure StrDispose(Str: PChar)
19421: Procedure StrReplace(var Str: String; Old, New: String);
19422: Procedure StretchDIBits( DC : THandle; const Dest : TRect; HalftoneStretch : Boolean)
19423: procedure StretchDraw(const Rect: TRect; Graphic: TGraphic);
19424: Procedure StringToBytes( Value : String; Bytes : array of byte)
19425: procedure StrSet(c : Char; I : Integer; var s : String);
19426: Procedure StrSplitP(const Delimiter: Char; Input: string; const Strings: TStrings);
19427: Procedure StructureMount( APath : String)
19428: procedure STYLECHANGED(SENDER:TOBJECT)
19429: Procedure Subselect( Node : TTreeNode; Validate : Boolean)
19430: procedure Succ(X: int64);
19431: Procedure SumsAndSquares( const Data : array of Double; var Sum, SumOfSquares : Extended)
19432: procedure SwapChar(var X,Y: char);  //swapX follows
19433: Procedure SwapFloats( var X, Y : Float)
19434: procedure SwapGrid(grd: TStringGrid);
19435: Procedure SwapOrd( var I, J : Byte);
19436: Procedure SwapOrd( var X, Y : Integer)
19437: Procedure SwapOrd1( var I, J : Shortint);
19438: Procedure SwapOrd2( var I, J : Smallint);
19439: Procedure SwapOrd3( var I, J : Word);
19440: Procedure SwapOrd4( var I, J : Integer);
19441: Procedure SwapOrd5( var I, J : Cardinal);
19442: Procedure SwapOrd6( var I, J : Int64);
19443: Procedure SymetricCompareFiles(const plaintext, replaintext: string)
19444: Procedure Synchronize1( Method : TMethod);
19445: procedure SyntaxCheck1Click(Sender: TObject);
19446: Procedure SysFreeString(const S: WideString); stdcall;
19447: Procedure TakeOver( Other : TLinearBitmap)
19448: Procedure Talkln(const sText: string)  //async voice
19449: procedure tbtn6resClick(Sender: TObject);
19450: Procedure tbtnUseCaseClick( Sender : TObject)
19451: procedure TerminalStyle1Click(Sender: TObject);
19452: Procedure Terminate
19453: Procedure texSyntax1Click( Sender : TObject)
```

```
19454: procedure TextOut(X, Y: Integer; Text: string);
19455: Procedure TextRect( Rect : TRect; X, Y : Integer; const Text : string);
19456: procedure TextRect(Rect: TRect; X: Integer; Y: Integer; const Text: string);
19457: Procedure TextRect1( var Rect : TRect; var Text : string; TextFormat : TTextFormat);
19458: Procedure TextStart
19459: procedure TILE
19460: Procedure TimeStampToBytes( Value : TBcd; Bytes : array of byte)
19461: Procedure TitleClick( Column : TColumn)
19462: Procedure ToDo
19463: procedure toolbtnTutorialClick(Sender: TObject);
19464: Procedure Trace1( AURL : string; const AResponseContent : TStream);
19465: Procedure TransferMode( ATransferMode : TIdFTPTransferMode)
19466: Procedure Truncate
19467: procedure Tutorial101Click(Sender: TObject);
19468: procedure Tutorial10Statistics1Click(Sender: TObject);
19469: procedure Tutorial11Forms1Click(Sender: TObject);
19470: procedure Tutorial12SQL1Click(Sender: TObject);
19471: Procedure tutorial1Click( Sender : TObject)
19472: Procedure tutorial21Click( Sender : TObject)
19473: Procedure tutorial31Click( Sender : TObject)
19474: Procedure tutorial4Click( Sender : TObject)
19475: Procedure Tutorial5Click( Sender : TObject)
19476: procedure Tutorial6Click(Sender: TObject);
19477: procedure Tutorial91Click(Sender: TObject);
19478: Procedure UnhookSignal( RtlSigNum : Integer; OnlyIfHooked : Boolean)
19479: procedure UniqueString(var str: AnsiString)
19480: procedure UnloadLoadPackage(Module: HMODULE)
19481: Procedure Unlock
19482: Procedure UNMERGE( MENU : TMAINMENU)
19483: Procedure UnRegisterChanges( Value : TChangeLink)
19484: Procedure UnregisterConversionFamily( const AFamily : TConvFamily)
19485: Procedure UnregisterConversionType( const AType : TConvType)
19486: Procedure UnRegisterProvider( Prov : TCustomProvider)
19487: Procedure UPDATE
19488: Procedure UpdateBatch( AffectRecords : TAffectRecords)
19489: Procedure UPDATECURSORPOS
19490: Procedure UpdateFile
19491: Procedure UpdateItems( FirstIndex, LastIndex : Integer)
19492: Procedure UpdateResponse( AResponse : TWebResponse)
19493: Procedure UpdateScrollBar
19494: Procedure UpdateView1Click( Sender : TObject)
19495: procedure Val(const s: string; var n, z: Integer)
19496: procedure VarArraySet(c : Variant; I : Integer; var s : Variant);
19497: Procedure VarFMTBcdCreate( var ADest : Variant; const ABcd : TBcd);
19498: Procedure VariantAdd( const src : Variant; var dst : Variant)
19499: Procedure VariantAnd( const src : Variant; var dst : Variant)
19500: Procedure VariantArrayRedim( var V : Variant; High : Integer)
19501: Procedure VariantCast( const src : Variant; var dst : Variant; vt : Integer)
19502: Procedure VariantClear( var V : Variant)
19503: Procedure VariantCpy( const src : Variant; var dst : Variant)
19504: Procedure VariantDiv( const src : Variant; var dst : Variant)
19505: Procedure VariantMod( const src : Variant; var dst : Variant)
19506: Procedure VariantMul( const src : Variant; var dst : Variant)
19507: Procedure VariantOr( const src : Variant; var dst : Variant)
19508: Procedure VariantPutElement( var V : Variant; const data : Variant; i1 : integer);
19509: Procedure VariantPutElement1( var V : Variant; const data : Variant; i1, i2 : integer);
19510: Procedure VariantPutElement2( var V : Variant; const data : Variant; i1, i2, i3 : integer);
19511: Procedure VariantPutElement3( var V : Variant; const data : Variant; i1, i2, i3, i4 : integer);
19512: Procedure VariantPutElement4( var V : Variant; const data : Variant; i1, i2, i3, i4, i5 : integer);
19513: Procedure VariantShl( const src : Variant; var dst : Variant)
19514: Procedure VariantShr( const src : Variant; var dst : Variant)
19515: Procedure VariantSub( const src : Variant; var dst : Variant)
19516: Procedure VariantXor( const src : Variant; var dst : Variant)
19517: Procedure VarCastError;
19518: Procedure VarCastError1( const ASourceType, ADestType : TVarType);
19519: Procedure VarInvalidOp
19520: Procedure VarInvalidNullOp
19521: Procedure VarOverflowError( const ASourceType, ADestType : TVarType)
19522: Procedure VarRangeCheckError( const ASourceType, ADestType : TVarType)
19523: Procedure VarArrayCreateError
19524: Procedure VarResultCheck( AResult : HRESULT);
19525: Procedure VarResultCheck1( AResult : HRESULT; ASourceType, ADestType : TVarType);
19526: Procedure HandleConversionException( const ASourceType, ADestType : TVarType)
19527: Function VarTypeAsText( const AType : TVarType) : string
19528: procedure Voice(const sText: string) //async
19529: procedure Voice2(const sText: string) //sync
19530: Procedure WaitMiliSeconds( AMSec : word)
19531: Procedure WaitMS( AMSec : word)');
19532: procedure WebCamPic(picname: string);  //eg: c:\mypic.png
19533: Procedure WideAppend( var dst : WideString; const src : WideString)
19534: Procedure WideAssign( var dst : WideString; var src : WideString)
19535: Procedure WideDelete( var dst : WideString; index, count : Integer)
19536: Procedure WideFree( var s : WideString)
19537: Procedure WideFromAnsi( var dst : WideString; const src : AnsiString)
19538: Procedure WideFromPChar( var dst : WideString; src : PChar)
19539: Procedure WideInsert( var dst : WideString; const src : WideString; index : Integer)
19540: Procedure WideSetLength( var dst : WideString; len : Integer)
19541: Procedure WideString2Stream( aWideString : WideString; oStream : TStream)
19542: Procedure WideStringToBytes( Value : WideString; Bytes : array of byte)
```

```
19543: Procedure WinColorToOpenGLColor( const Color : TColor; out Red, Green, Blue : Float)
19544: Procedure WinInet_HttpGet(const Url: string; Stream:TStream);
19545: Procedure HttpGet(const Url: string; Stream:TStream);
19546: Procedure WordToTwoBytes( AWord : Word; ByteArray : TIdBytes; Index : integer)
19547: Procedure WordWrap1Click( Sender : TObject)
19548: Procedure Write( const AOut : string)
19549: Procedure Write( Socket : TSocket)
19550: procedure Write(S: string);
19551: Procedure WriteBinaryStream( const Section, Name : string; Value : TStream)
19552: Procedure WriteBool( const Section, Ident : string; Value : Boolean)
19553: Procedure WriteBuffer( const ABuffer, AByteCount : Longint; const AWriteNow : Boolean)
19554: procedure WriteBuffer(Buffer:String;Count:LongInt)
19555: Procedure WriteCardinal( AValue : Cardinal; const AConvert : Boolean)
19556: Procedure WriteChar( AValue : Char)
19557: Procedure WriteDate( const Section, Name : string; Value : TDateTime)
19558: Procedure WriteDateTime( const Section, Name : string; Value : TDateTime)
19559: Procedure WriteFloat( const Section, Name : string; Value : Double)
19560: Procedure WriteHeader( AHeader : TStrings)
19561: Procedure WriteInteger( AValue : Integer; const AConvert : Boolean)
19562: Procedure WriteInteger( const Section, Ident : string; Value : Longint)
19563: Procedure WriteLn( const AOut : string)
19564: procedure Writeln(s: string);
19565: Procedure WriteLog( const FileName, LogLine : string)
19566: Procedure WriteRFCReply( AReply : TIdRFCReply)
19567: Procedure WriteRFCStrings( AStrings : TStrings)
19568: Procedure WriteSmallInt( AValue : SmallInt; const AConvert : Boolean)
19569: Procedure WriteStream(AStream:TStream;const AAll:Bool;const AWriteByteCount:Bool;const ASize:Int)
19570: Procedure WriteString( const Section, Ident, Value : String)
19571: Procedure WriteStrings( AValue : TStrings; const AWriteLinesCount : Boolean)
19572: Procedure WriteTime( const Section, Name : string; Value : TDateTime)
19573: Procedure WriteObjectResourceHeader( ObjStream, Output : TStream)
19574: Procedure Write16bitResourceHeader( const AName : TBytes; DataSize : Integer; Output : TStream)
19575: Procedure Write32bitResourceHeader( const AName : TBytes; DataSize : Integer; Output : TStream)
19576: Procedure WriteDataSetToCSV(DataSet: TDataSet; FileName: String)');
19577: procedure WStrSet(c : AnyString; I : Integer; var s : AnyString);
19578: procedure XMLSyntax1Click(Sender: TObject);
19579: Procedure XOR_Streams2( Dest, Srce : TMemoryStream)
19580: Procedure XOR_Streams3( Dest, SrceA, SrceB : TMemoryStream)
19581: Procedure ZeroFillStream( Stream : TMemoryStream)
19582: procedure XMLSyntax1Click(Sender: TObject);
19583: Procedure ZeroMemory( Ptr : Pointer; Length : Longint)
19584: procedure(Control: TWinControl; Index: Integer; Rect: TRect; State: Byte)
19585: procedure(Control: TWinControl; Index: Integer; var Height: Integer)
19586: procedure(Sender, Source: TObject; X, Y: Integer; State: TDragState; var Accept: Boolean)
19587: procedure(Sender, Source: TObject;X, Y: Integer)
19588: procedure(Sender, Target: TObject; X, Y: Integer)
19589: procedure(Sender: TObject; ASection, AWidth: Integer)
19590: procedure(Sender: TObject; ScrollCode: TScrollCode;var ScrollPos: Integer)
19591: procedure(Sender: TObject; Shift: TShiftState; X, Y: Integer);
19592: procedure(Sender: TObject; var Action: TCloseAction)
19593: procedure(Sender: TObject; var CanClose: Boolean)
19594: procedure(Sender: TObject; var Key: Char);
19595: ProcedureName ProcedureNames ProcedureParametersCursor @
19596:
19597: *************Now Constructors constructor *************
19598:  Size is: 1248 1115 996 628 550 544 501 459 (381)
19599:  Attach( VersionInfoData : Pointer; Size : Integer)
19600:  constructor Create( ABuckets : TBucketListSizes)
19601:  Create( ACallBackWnd : HWND)
19602:  Create( AClient : TCustomTaskDialog)
19603:  Create( AClient : TIdTelnet)
19604:  Create( ACollection : TCollection)
19605:  Create( ACollection : TFavoriteLinkItems)
19606:  Create( ACollection : TTaskDialogButtons)
19607:  Create( AConnection : TIdCustomHTTP)
19608:  Create( ACreateSuspended : Boolean)
19609:  Create( ADataSet : TCustomSQLDataSet)
19610:  CREATE( ADATASET : TDATASET)
19611:  Create( Aggregates : TAggregates; ADataSet : TCustomClientDataSet);
19612:  Create( AGrid : TCustomDBGrid)
19613:  Create( AGrid : TStringGrid; AIndex : Longint)
19614:  Create( AHTTP : TIdCustomHTTP)
19615:  Create( AListItems : TListItems)
19616:  Create( AOnBytesRemoved : TIdBufferBytesRemoved)
19617:  Create( AOnBytesRemoved : TIdBufferBytesRemoved)
19618:  Create( AOwner : TCommonCalendar)
19619:  Create( AOwner : TComponent)
19620:  CREATE( AOWNER : TCOMPONENT)
19621:  Create( AOwner : TCustomListView)
19622:  Create( AOwner : TCustomOutline)
19623:  Create( AOwner : TCustomRichEdit)
19624:  Create( AOwner : TCustomRichEdit; AttributeType : TAttributeType)
19625:  Create( AOwner : TCustomTreeView)
19626:  Create( AOwner : TIdUserManager)
19627:  Create( AOwner : TListItems)
19628:  Create(AOwner:TObj;Handl:hDBICur;CBTyp:CBType;CBBuf:Ptr;CBBufSiz:Int;CallbkEvt:TBDECallbkEvt;Chain:Bool)
19629:  CREATE( AOWNER : TPERSISTENT)
19630:  Create( AOwner : TPersistent)
19631:  Create( AOwner : TTable)
```

```
19632:  Create( AOwner : TTreeNodes)
19633:  Create( AOwner : TWinControl; const ClassName : string)
19634:  Create( AParent : TIdCustomHTTP)
19635:  Create( AParent : TUpdateTree; AResolver : TCustomResolver)
19636:  Create( AProvider : TBaseProvider)
19637:  Create( AProvider : TCustomProvider);
19638:  Create( AProvider : TDataSetProvider)
19639:  Create( ASocket : TCustomWinSocket; TimeOut : Longint)
19640:  Create( ASocket : TSocket)
19641:  Create( AStrings : TWideStrings)
19642:  Create( AToolBar : TToolBar)
19643:  Create( ATreeNodes : TTreeNodes)
19644:  Create( Autofill : boolean)
19645:  Create( AWebPageInfo : TAbstractWebPageInfo)
19646:  Create( AWebRequest : TWebRequest)
19647:  Create( Collection : TCollection)
19648:  Create( Collection : TIdMessageParts; ABody : TStrings)
19649:  Create( Collection : TIdMessageParts; const AFileName : TFileName)
19650:  Create( Column : TColumn)
19651:  Create( const AConvFamily : TConvFamily; const ADescription : string)
19652:  Create( const AConvFamily : TConvFamily; const ADescription : string; const AFactor : Double)
19653:  Create( const AConvFamily : TConvFamily; const ADescription : string; const AToCommonProc,
       AFromCommonProc : TConversionProc)
19654:  Create( const AInitialState : Boolean; const AManualReset : Boolean)
19655:  Create( const ATabSet : TTabSet)
19656:  Create( const Compensate : Boolean)
19657:  Create( const FileMap : TJclCustomFileMapping; Access, Size : Cardinal; ViewOffset : Int64)
19658:  Create( const FileName : string)
19659:  Create( const FileName : string;FileMode:Cardinal; const Name:string; Protect:Cardinal; const MaximumSize
       : Int64; const SecAttr : PSecurityAttributes);
19660:  Create( const FileName : string; FileMode : WordfmShareDenyWrite)
19661:  Create( const MaskValue : string)
19662:  Create(const Name:string; Protect:Cardinal;const MaximumSize:Int64;const SecAttr:PSecurityAttributes)
19663:  Create( const Prefix : string)
19664:  Create( const sRegularExpression : string; xFlags : TniRegularExpressionMatchFlags)
19665:  Create( const sRule : string; xFlags : TniRegularExpressionMatchFlags)
19666:  Create( const sRule : string; xFlags : TniRegularExpressionMatchFlags)
19667:  Create( CoolBar : TCoolBar)
19668:  Create( CreateSuspended : Boolean; ASocket : TServerClientWinSocket)
19669:  Create( CreateSuspended : Boolean; ASocket : TServerWinSocket)
19670:  Create( DataSet :TDataSet; const
       Text:Widestring;Options:TFilterOptions;ParserOptions:TParserOptions;const FieldName : Widestring;
       DepFields : TBits; FieldMap : TFieldMap)
19671:  Create( DBCtrlGrid : TDBCtrlGrid)
19672:  Create( DSTableProducer : TDSTableProducer)
19673:  Create( DSTableProducer : TDSTableProducer; ColumnClass : THTMLTableColumnClass)
19674:  Create( ErrorCode : DBIResult)
19675:  Create( Field : TBlobField; Mode : TBlobStreamMode)
19676:  Create( Grid : TCustomDBGrid; ColumnClass : TColumnClass)
19677:  Create( HeaderControl : TCustomHeaderControl)
19678:  Create( HTTPRequest : TWebRequest)
19679:  Create( iStart : integer; sText : string)
19680:  Create( iValue : Integer)
19681:  Create( Kind : TMmTimerKind; Notification : TMmNotificationKind)
19682:  Create( MciErrNo : MCIERROR; const Msg : string)
19683:  Create(MemoryStream:TCustomMemStream;FreeStream:Boolean;const AIndexOption:TJclMappedTextReaderIndex);
19684:  Create( Message : string; ErrorCode : DBResult)
19685:  Create( Msg : string)
19686:  Create( NativeError, Context : string; ErrCode, PrevError : Integer; E : Exception)
19687:  Create( NativeError, Context : string; ErrorCode, PreviousError : DBResult)
19688:  Create( oExpression : TniRegularExpression; eType : TniRegularExpressionStateType)
19689:  Create( oOwner : TniRegularExpression; xFlags : TniRegularExpressionMatchFlags)
19690:  Create(oSource:TniRegularExpressState;oDestination:TniRegularExprState;xCharacts:TCharSet;bLambda:bool)
19691:  Create( Owner : EDBEngineError; ErrorCode : DBIResult; NativeError : Longint; Message : PChar)
19692:  Create( Owner : TCustomComboBoxEx)
19693:  CREATE( OWNER : TINDEXDEFS; const NAME, FIELDS: String; OPTIONS: TINDEXOPTIONS)
19694:  Create( Owner : TPersistent)
19695:  Create( Params : TStrings)
19696:  Create( Size : Cardinal)
19697:  Create( Socket : TSocket; ServerWinSocket : TServerWinSocket)
19698:  Create( StatusBar : TCustomStatusBar)
19699:  Create( WebDispatcher : TCustomWebDispatcher; ItemClass : TCollectionItemClass)
19700:  Create( WebResponse : TWebResponse; ItemClass : TCollectionItemClass)
19701:  Create(AHandle:Integer)
19702:  Create(AOwner: TComponent); virtual;
19703:  Create(const AURI : string)
19704:  Create(FileName:String;Mode:Word)
19705:  Create(Instance:THandle;ResName:String;ResType:PChar)
19706:  Create(Stream : TStream)
19707:  Create1( ADataset : TDataset);
19708:  Create1(const FileHandle:THandle;const Name:string;Protect:Cardinal;const MaximumSize:Int64;const
       SecAttr:PSecurityAttributes);
19709:  Create1( const FileName : string; const AIndexOption : TJclMappedTextReaderIndex);
19710:  Create2( Other : TObject);
19711:  CreateAt(FileMap: TJclCustomFileMapping; Access,Size:Cardinal;ViewOffset:Int64;Address: Pointer)
19712:  CreateError(const anErrCode: Integer;const asReplyMessage: string; const asErrorMessage: string)
19713:  CreateFmt( MciErrNo : MCIERROR; const Msg : string; const Args : array of const)
19714:  CreateFromId(Instance:THandle;ResId:Integer;ResType:PChar)
19715:  CreateLinked( DBCtrlGrid : TDBCtrlGrid)
```

```
19716:  CREATENEW(AOWNER:TCOMPONENT; Dummy: Integer)
19717:  CreateRes( Ident : Integer);
19718:  CreateRes( MciErrNo : MCIERROR; Ident : Integer)
19719:  CreateRes( ResStringRec : PResStringRec);
19720:  CreateResHelp( Ident : Integer; AHelpContext : Integer);
19721:  CreateResHelp( ResStringRec : PResStringRec; AHelpContext : Integer);
19722:  CreateShadow( AOwner : TComponent; ControlSide : TControlSide)
19723:  CreateSize( AWidth, AHeight : Integer)
19724:  Open( const Name : string; const InheritHandle : Boolean; const DesiredAccess : Cardinal)
19725:
19726: ------------------------------------------------------------------------------
19727: unit uPSI_MathMax;
19728: ------------------------------------------------------------------------------
19729:  CONSTS
19730:   Bernstein: Float = 0.28016949902386913303643649123 07;  // Bernstein constant
19731:   Cbrt2: Float     = 1.25992104989487316476721060727 82;  // CubeRoot(2)
19732:   Cbrt3: Float     = 1.44224957030740838232163831078 01;  // CubeRoot(3)
19733:   Cbrt10: Float    = 2.15443469003188372175929356651 94;  // CubeRoot(10)
19734:   Cbrt100: Float   = 4.64158883361277889241007635091 94;  // CubeRoot(100)
19735:   CbrtPi: Float    = 1.46459188756152326302014252726 38;  // CubeRoot(PI)
19736:   Catalan: Float   = 0.91596559417721901505460351493 24;  // Catalan constant
19737:   PiJ:   Float       = 3.14159265358979323846264338327 95;  // PI
19738:   PI:  Extended =  3.14159265358979323846264338327 95);
19739:   PiOn2: Float     = 1.57079632679489661923132169163 98;  // PI / 2
19740:   PiOn3: Float     = 1.04719755119659774615421446109 32;  // PI / 3
19741:   PiOn4: Float     = 0.78539816339744830961566084581 988; // PI / 4
19742:   Sqrt2: Float     = 1.41421356237309504880168872420 97;  // Sqrt(2)
19743:   Sqrt3: Float     = 1.73205080756887729352744634150 59;  // Sqrt(3)
19744:   Sqrt5: Float     = 2.23606797749978969640917366873 13;  // Sqrt(5)
19745:   Sqrt10: Float    = 3.16227766016837933199889354443 27;  // Sqrt(10)
19746:   SqrtPi: Float    = 1.77245385090551602729816748334 11;  // Sqrt(PI)
19747:   Sqrt2Pi: Float   = 2.50662827463100050241576528481 1;   // Sqrt(2 * PI)
19748:   TwoPi: Float     = 6.28318530717958647692528676655 9;   // 2 * PI
19749:   ThreePi: Float   = 9.42477796076937971538793014983 85;  // 3 * PI
19750:   Ln2: Float       = 0.69314718055994530941723212145 818; // Ln(2)
19751:   Ln10: Float      = 2.30258509299404568401799145468 44;  // Ln(10)
19752:   LnPi: Float      = 1.14472988584940017414342735135 31;  // Ln(PI)
19753:   Log2J: Float     = 0.30102999566398119521373889472 449; // Log10(2)
19754:   Log3: Float      = 0.47712125471966243729502790325 512; // Log10(3)
19755:   LogPi: Float     = 0.49714987269413385435126828829 09;  // Log10(PI)
19756:   LogE: Float      = 0.43429448190325182765112891891 661; // Log10(E)
19757:   E: Float         = 2.71828182845904523536028747135 27;  // Natural constant
19758:   hLn2Pi: Float    = 0.91893853320467274178032973640 562; // Ln(2*PI)/2
19759:   inv2Pi: Float    = 0.15915494309189533576888376337251436203445964574046; // 0.5/Pi
19760:   TwoToPower63: Float = 9223372036854775808.0;           // 2^63
19761:   GoldenMean: Float   = 1.61803398874989484820458683436563 8;  // GoldenMean
19762:   EulerMascheroni: Float = 0.57721566490153286060651209008 24;  // Euler GAMMA
19763:   RadCor : Double = 57.29577951308232;    {number of degrees in a radian}
19764:   StDelta         : Extended = 0.00001;  {delta for difference equations}
19765:   StEpsilon       : Extended = 0.00001;  {epsilon for difference equations}
19766:   StMaxIterations : Integer  = 100;      {max attempts for convergence}
19767:
19768: procedure SIRegister_StdConvs(CL: TPSPascalCompiler);
19769: begin
19770:   MetersPerInch = 0.0254; // [1]
19771:   MetersPerFoot = MetersPerInch * 12;
19772:   MetersPerYard = MetersPerFoot * 3;
19773:   MetersPerMile = MetersPerFoot * 5280;
19774:   MetersPerNauticalMiles = 1852;
19775:   MetersPerAstronomicalUnit = 1.49598E11; // [4]
19776:   MetersPerLightSecond = 2.99792458E8; // [5]
19777:   MetersPerLightYear = MetersPerLightSecond * 31556925.9747; // [7]
19778:   MetersPerParsec = MetersPerAstronomicalUnit * 206264.806247096; // 60 * 60 * (180 / Pi)
19779:   MetersPerCubit = 0.4572; // [6][7]
19780:   MetersPerFathom = MetersPerFoot * 6;
19781:   MetersPerFurlong = MetersPerYard * 220;
19782:   MetersPerHand = MetersPerInch * 4;
19783:   MetersPerPace = MetersPerInch * 30;
19784:   MetersPerRod = MetersPerFoot * 16.5;
19785:   MetersPerChain = MetersPerRod * 4;
19786:   MetersPerLink = MetersPerChain / 100;
19787:   MetersPerPoint = MetersPerInch * 0.013837; // [7]
19788:   MetersPerPica = MetersPerPoint * 12;
19789:
19790:   SquareMetersPerSquareInch = MetersPerInch * MetersPerInch;
19791:   SquareMetersPerSquareFoot = MetersPerFoot * MetersPerFoot;
19792:   SquareMetersPerSquareYard = MetersPerYard * MetersPerYard;
19793:   SquareMetersPerSquareMile = MetersPerMile * MetersPerMile;
19794:   SquareMetersPerAcre = SquareMetersPerSquareYard * 4840;
19795:   SquareMetersPerSquareRod = MetersPerRod * MetersPerRod;
19796:
19797:   CubicMetersPerCubicInch = MetersPerInch * MetersPerInch * MetersPerInch;
19798:   CubicMetersPerCubicFoot = MetersPerFoot * MetersPerFoot * MetersPerFoot;
19799:   CubicMetersPerCubicYard = MetersPerYard * MetersPerYard * MetersPerYard;
19800:   CubicMetersPerCubicMile = MetersPerMile * MetersPerMile * MetersPerMile;
19801:   CubicMetersPerAcreFoot = SquareMetersPerAcre * MetersPerFoot;
19802:   CubicMetersPerAcreInch = SquareMetersPerAcre * MetersPerInch;
19803:   CubicMetersPerCord = CubicMetersPerCubicFoot * 128;
19804:   CubicMetersPerCordFoot = CubicMetersPerCubicFoot * 16;
```

```
19805:
19806:   CubicMetersPerUSFluidGallon = CubicMetersPerCubicInch * 231; // [2][3][7]
19807:   CubicMetersPerUSFluidQuart = CubicMetersPerUSFluidGallon / 4;
19808:   CubicMetersPerUSFluidPint = CubicMetersPerUSFluidQuart / 2;
19809:   CubicMetersPerUSFluidCup = CubicMetersPerUSFluidPint / 2;
19810:   CubicMetersPerUSFluidGill = CubicMetersPerUSFluidCup / 2;
19811:   CubicMetersPerUSFluidOunce = CubicMetersPerUSFluidCup / 8;
19812:   CubicMetersPerUSFluidTablespoon = CubicMetersPerUSFluidOunce / 2;
19813:   CubicMetersPerUSFluidTeaspoon = CubicMetersPerUSFluidOunce / 6;
19814:
19815:   CubicMetersPerUSDryGallon = CubicMetersPerCubicInch * 268.8025; // [7]
19816:   CubicMetersPerUSDryQuart = CubicMetersPerUSDryGallon / 4;
19817:   CubicMetersPerUSDryPint = CubicMetersPerUSDryQuart / 2;
19818:   CubicMetersPerUSDryPeck = CubicMetersPerUSDryGallon * 2;
19819:   CubicMetersPerUSDryBucket = CubicMetersPerUSDryPeck * 2;
19820:   CubicMetersPerUSDryBushel = CubicMetersPerUSDryBucket * 2;
19821:
19822:   CubicMetersPerUKGallon = 0.00454609; // [2][7]
19823:   CubicMetersPerUKPottle = CubicMetersPerUKGallon / 2;
19824:   CubicMetersPerUKQuart = CubicMetersPerUKPottle / 2;
19825:   CubicMetersPerUKPint = CubicMetersPerUKQuart / 2;
19826:   CubicMetersPerUKGill = CubicMetersPerUKPint / 4;
19827:   CubicMetersPerUKOunce = CubicMetersPerUKPint / 20;
19828:   CubicMetersPerUKPeck = CubicMetersPerUKGallon * 2;
19829:   CubicMetersPerUKBucket = CubicMetersPerUKPeck * 2;
19830:   CubicMetersPerUKBushel = CubicMetersPerUKBucket * 2;
19831:
19832:   GramsPerPound = 453.59237; // [1][7]
19833:   GramsPerDrams = GramsPerPound / 256;
19834:   GramsPerGrains = GramsPerPound / 7000;
19835:   GramsPerTons = GramsPerPound * 2000;
19836:   GramsPerLongTons = GramsPerPound * 2240;
19837:   GramsPerOunces = GramsPerPound / 16;
19838:   GramsPerStones = GramsPerPound * 14;
19839:
19840:   MaxAngle 9223372036854775808.0;
19841:   MaxTanH 5678.26170314707197474596553898 54);
19842:   MaxFactorial( 1754);
19843:   MaxFloatingPoint(1.189731495357231765085759326628E+4932);
19844:   MinFloatingPoint',(3.362103143112093506262677817321 8E-4932);
19845:   MaxTanH( 354.89135644669199842162284618659);
19846:   MaxFactorial'LongInt'( 170);
19847:   MaxFloatingPointD(1.797693134862315907729305190789E+308);
19848:   MinFloatingPointD(2.225073858507201383090232717332 4E-308);
19849:   MaxTanH( 44.361419555836499802702855773323);
19850:   MaxFactorial'LongInt'( 33);
19851:   MaxFloatingPointS( 3.402823669209384634633746074317 7E+38);
19852:   MinFloatingPointS( 1.175494350822287507968736537222 2E-38);
19853:   PiExt( 3.141592653589793238462643383279 5);
19854:   RatioDegToRad( PiExt / 180.0);
19855:   RatioGradToRad( PiExt / 200.0);
19856:   RatioDegToGrad( 200.0 / 180.0);
19857:   RatioGradToDeg( 180.0 / 200.0);
19858:   Crc16PolynomCCITT'LongWord $1021);
19859:  Crc16PolynomIBM'LongWord $8005);
19860:  Crc16Bits'LongInt'( 16);
19861:  Crc16Bytes'LongInt'( 2);
19862:  Crc16HighBit'LongWord $8000);
19863:  NotCrc16HighBit','LongWord $7FFF);
19864:   Crc32PolynomIEEE','LongWord $04C11DB7);
19865:  Crc32PolynomCastagnoli','LongWord $1EDC6F41);
19866:  Crc32Koopman','LongWord $741B8CD7);
19867:  Crc32Bits','LongInt'( 32);
19868:  Crc32Bytes','LongInt'( 4);
19869:  Crc32HighBit','LongWord $80000000);
19870:  NotCrc32HighBit','LongWord $7FFFFFFF);
19871:
19872:   MinByte       = Low(Byte);
19873:   MaxByte       = High(Byte);
19874:   MinWord       = Low(Word);
19875:   MaxWord       = High(Word);
19876:   MinShortInt   = Low(ShortInt);
19877:   MaxShortInt   = High(ShortInt);
19878:   MinSmallInt   = Low(SmallInt);
19879:   MaxSmallInt   = High(SmallInt);
19880:   MinLongWord   = LongWord(Low(LongWord));
19881:   MaxLongWord   = LongWord(High(LongWord));
19882:   MinLongInt    = LongInt(Low(LongInt));
19883:   MaxLongInt    = LongInt(High(LongInt));
19884:   MinInt64      = Int64(Low(Int64));
19885:   MaxInt64      = Int64(High(Int64));
19886:   MinInteger    = Integer(Low(Integer));
19887:   MaxInteger    = Integer(High(Integer));
19888:   MinCardinal   = Cardinal(Low(Cardinal));
19889:   MaxCardinal   = Cardinal(High(Cardinal));
19890:   MinNativeUInt = NativeUInt(Low(NativeUInt));
19891:   MaxNativeUInt = NativeUInt(High(NativeUInt));
19892:   MinNativeInt  = NativeInt(Low(NativeInt));
19893:   MaxNativeInt  = NativeInt(High(NativeInt));
```

```
19894:  Function CosH( const Z : Float) : Float;
19895:  Function SinH( const Z : Float) : Float;
19896:  Function TanH( const Z : Float) : Float;
19897:
19898:   //***********from DMath.Dll Lib of types.inc in source\dmath_dll
19899:   InvLn2     = 1.44269504088896340736;  { 1/Ln(2) }
19900:   InvLn10    = 0.43429448190325182765;  { 1/Ln(10) }
19901:   TwoPi      = 6.28318530717958647693;  { 2*Pi }
19902:   PiDiv2     = 1.57079632679489661923;  { Pi/2 }
19903:   SqrtPi     = 1.77245385090551602730;  { Sqrt(Pi) }
19904:   Sqrt2Pi    = 2.50662827463100050242;  { Sqrt(2*Pi) }
19905:   InvSqrt2Pi = 0.39894228040143267794;  { 1/Sqrt(2*Pi) }
19906:   LnSqrt2Pi  = 0.91893853320467274178;  { Ln(Sqrt(2*Pi)) }
19907:   Ln2PiDiv2  = 0.91893853320467274178;  { Ln(2*Pi)/2 }
19908:   Sqrt2      = 1.41421356237309504880;  { Sqrt(2) }
19909:   Sqrt2Div2  = 0.70710678118654752440;  { Sqrt(2)/2 }
19910:   Gold       = 1.61803398874989484821;  { Golden Mean = (1 + Sqrt(5))/2 }
19911:   CGold      = 0.38196601125010515179;  { 2 - GOLD }
19912:   MachEp = 2.220446049250313E-16;   { 2^(-52) }
19913:   MaxNum = 1.797693134862315E+308;  { 2^1024 }
19914:   MinNum = 2.225073858507202E-308;  { 2^(-1022) }
19915:   MaxLog = 709.7827128933840;
19916:   MinLog = -708.3964185322641;
19917:   MaxFac = 170;
19918:   MaxGam = 171.624376956302;
19919:   MaxLgm = 2.556348E+305;
19920:   SingleCompareDelta   = 1.0E-34;
19921:   DoubleCompareDelta   = 1.0E-280;
19922:   {$IFDEF CLR}
19923:   ExtendedCompareDelta = DoubleCompareDelta;
19924:   {$ELSE}
19925:   ExtendedCompareDelta = 1.0E-4400;
19926:   {$ENDIF}
19927:   Bytes1KB  = 1024;
19928:   Bytes1MB  = 1024 * Bytes1KB;
19929:   Bytes1GB  = 1024 * Bytes1MB;
19930:   Bytes64KB = 64 * Bytes1KB;
19931:   Bytes64MB = 64 * Bytes1MB;
19932:   Bytes2GB  = 2 * LongWord(Bytes1GB);
19933:     clBlack32', $FF000000 ));
19934:     clDimGray32', $FF3F3F3F ));
19935:     clGray32', $FF7F7F7F ));
19936:     clLightGray32', $FFBFBFBF ));
19937:     clWhite32', $FFFFFFFF ));
19938:     clMaroon32', $FF7F0000 ));
19939:     clGreen32', $FF007F00 ));
19940:     clOlive32', $FF7F7F00 ));
19941:     clNavy32', $FF00007F ));
19942:     clPurple32', $FF7F007F ));
19943:     clTeal32', $FF007F7F ));
19944:     clRed32', $FFFF0000 ));
19945:     clLime32', $FF00FF00 ));
19946:     clYellow32', $FFFFFF00 ));
19947:     clBlue32', $FF0000FF ));
19948:     clFuchsia32', $FFFF00FF ));
19949:     clAqua32', $FF00FFFF ));
19950:     clAliceBlue32', $FFF0F8FF ));
19951:     clAntiqueWhite32', $FFFAEBD7 ));
19952:     clAquamarine32', $FF7FFFD4 ));
19953:     clAzure32', $FFF0FFFF ));
19954:     clBeige32', $FFF5F5DC ));
19955:     clBisque32', $FFFFE4C4 ));
19956:     clBlancheDalmond32', $FFFFEBCD ));
19957:     clBlueViolet32', $FF8A2BE2 ));
19958:     clBrown32', $FFA52A2A ));
19959:     clBurlyWood32', $FFDEB887 ));
19960:     clCadetblue32', $FF5F9EA0 ));
19961:     clChartReuse32', $FF7FFF00 ));
19962:     clChocolate32', $FFD2691E ));
19963:     clCoral32', $FFFF7F50 ));
19964:     clCornFlowerBlue32', $FF6495ED ));
19965:     clCornSilk32', $FFFFF8DC ));
19966:     clCrimson32', $FFDC143C ));
19967:     clDarkBlue32', $FF00008B ));
19968:     clDarkCyan32', $FF008B8B ));
19969:     clDarkGoldenRod32', $FFB8860B ));
19970:     clDarkGray32', $FFA9A9A9 ));
19971:     clDarkGreen32', $FF006400 ));
19972:     clDarkGrey32', $FFA9A9A9 ));
19973:     clDarkKhaki32', $FFBDB76B ));
19974:     clDarkMagenta32', $FF8B008B ));
19975:     clDarkOliveGreen32', $FF556B2F ));
19976:     clDarkOrange32', $FFFF8C00 ));
19977:     clDarkOrchid32', $FF9932CC ));
19978:     clDarkRed32', $FF8B0000 ));
19979:     clDarkSalmon32', $FFE9967A ));
19980:     clDarkSeaGreen32', $FF8FBC8F ));
19981:     clDarkSlateBlue32', $FF483D8B ));
19982:     clDarkSlateGray32', $FF2F4F4F ));
```

```
19983:     clDarkSlateGrey32', $FF2F4F4F ));
19984:     clDarkTurquoise32', $FF00CED1 ));
19985:     clDarkViolet32', $FF9400D3 ));
19986:     clDeepPink32', $FFFF1493 ));
19987:     clDeepSkyBlue32', $FF00BFFF ));
19988:     clDodgerBlue32', $FF1E90FF ));
19989:     clFireBrick32', $FFB22222 ));
19990:     clFloralWhite32', $FFFFFAF0 ));
19991:     clGainsBoro32', $FFDCDCDC ));
19992:     clGhostWhite32', $FFF8F8FF ));
19993:     clGold32', $FFFFD700 ));
19994:     clGoldenRod32', $FFDAA520 ));
19995:     clGreenYellow32', $FFADFF2F ));
19996:     clGrey32', $FF808080 ));
19997:     clHoneyDew32', $FFF0FFF0 ));
19998:     clHotPink32', $FFFF69B4 ));
19999:     clIndianRed32', $FFCD5C5C ));
20000:     clIndigo32', $FF4B0082 ));
20001:     clIvory32', $FFFFFFF0 ));
20002:     clKhaki32', $FFF0E68C ));
20003:     clLavender32', $FFE6E6FA ));
20004:     clLavenderBlush32', $FFFFF0F5 ));
20005:     clLawnGreen32', $FF7CFC00 ));
20006:     clLemonChiffon32', $FFFFFACD ));
20007:     clLightBlue32', $FFADD8E6 ));
20008:     clLightCoral32', $FFF08080 ));
20009:     clLightCyan32', $FFE0FFFF ));
20010:     clLightGoldenRodYellow32', $FFFAFAD2 ));
20011:     clLightGreen32', $FF90EE90 ));
20012:     clLightGrey32', $FFD3D3D3 ));
20013:     clLightPink32', $FFFFB6C1 ));
20014:     clLightSalmon32', $FFFFA07A ));
20015:     clLightSeagreen32', $FF20B2AA ));
20016:     clLightSkyblue32', $FF87CEFA ));
20017:     clLightSlategray32', $FF778899 ));
20018:     clLightSlategrey32', $FF778899 ));
20019:     clLightSteelblue32', $FFB0C4DE ));
20020:     clLightYellow32', $FFFFFFE0 ));
20021:     clLtGray32', $FFC0C0C0 ));
20022:     clMedGray32', $FFA0A0A4 ));
20023:     clDkGray32', $FF808080 ));
20024:     clMoneyGreen32', $FFC0DCC0 ));
20025:     clLegacySkyBlue32', $FFA6CAF0 ));
20026:     clCream32', $FFFFFBF0 ));
20027:     clLimeGreen32', $FF32CD32 ));
20028:     clLinen32', $FFFAF0E6 ));
20029:     clMediumAquamarine32', $FF66CDAA ));
20030:     clMediumBlue32', $FF0000CD ));
20031:     clMediumOrchid32', $FFBA55D3 ));
20032:     clMediumPurple32', $FF9370DB ));
20033:     clMediumSeaGreen32', $FF3CB371 ));
20034:     clMediumSlateBlue32', $FF7B68EE ));
20035:     clMediumSpringGreen32', $FF00FA9A ));
20036:     clMediumTurquoise32', $FF48D1CC ));
20037:     clMediumVioletRed32', $FFC71585 ));
20038:     clMidnightBlue32', $FF191970 ));
20039:     clMintCream32', $FFF5FFFA ));
20040:     clMistyRose32', $FFFFE4E1 ));
20041:     clMoccasin32', $FFFFE4B5 ));
20042:     clNavajoWhite32', $FFFFDEAD ));
20043:     clOldLace32', $FFFDF5E6 ));
20044:     clOliveDrab32', $FF6B8E23 ));
20045:     clOrange32', $FFFFA500 ));
20046:     clOrangeRed32', $FFFF4500 ));
20047:     clOrchid32', $FFDA70D6 ));
20048:     clPaleGoldenRod32', $FFEEE8AA ));
20049:     clPaleGreen32', $FF98FB98 ));
20050:     clPaleTurquoise32', $FFAFEEEE ));
20051:     clPaleVioletred32', $FFDB7093 ));
20052:     clPapayaWhip32', $FFFFEFD5 ));
20053:     clPeachPuff32', $FFFFDAB9 ));
20054:     clPeru32', $FFCD853F ));
20055:     clPlum32', $FFDDA0DD ));
20056:     clPowderBlue32', $FFB0E0E6 ));
20057:     clRosyBrown32', $FFBC8F8F ));
20058:     clRoyalBlue32', $FF4169E1 ));
20059:     clSaddleBrown32', $FF8B4513 ));
20060:     clSalmon32', $FFFA8072 ));
20061:     clSandyBrown32', $FFF4A460 ));
20062:     clSeaGreen32', $FF2E8B57 ));
20063:     clSeaShell32', $FFFFF5EE ));
20064:     clSienna32', $FFA0522D ));
20065:     clSilver32', $FFC0C0C0 ));
20066:     clSkyblue32', $FF87CEEB ));
20067:     clSlateBlue32', $FF6A5ACD ));
20068:     clSlateGray32', $FF708090 ));
20069:     clSlateGrey32', $FF708090 ));
20070:     clSnow32', $FFFFFAFA ));
20071:     clSpringgreen32', $FF00FF7F ));
```

```
20072:     clSteelblue32', $FF4682B4 ));
20073:     clTan32', $FFD2B48C ));
20074:     clThistle32', $FFD8BFD8 ));
20075:     clTomato32', $FFFF6347 ));
20076:     clTurquoise32', $FF40E0D0 ));
20077:     clViolet32', $FFEE82EE ));
20078:     clWheat32', $FFF5DEB3 ));
20079:     clWhitesmoke32', $FFF5F5F5 ));
20080:     clYellowgreen32', $FF9ACD32 ));
20081:     clTrWhite32', $7FFFFFFF ));
20082:     clTrBlack32', $7F000000 ));
20083:     clTrRed32', $7FFF0000 ));
20084:     clTrGreen32', $7F00FF00 ));
20085:     clTrBlue32', $7F0000FF ));
20086:   // Fixed point math constants
20087:   FixedOne = $10000;  FixedHalf = $7FFF;
20088:   FixedPI  = Round(PI * FixedOne);
20089:   FixedToFloat = 1/FixedOne;
20090:
20091:  Special Types
20092: ***************************************************
20093:   type Complex = record
20094:     X, Y : Float;
20095:   end;
20096:   type TVector     = array of Float;
20097:   TIntVector  = array of Integer;
20098:   TCompVector = array of Complex;
20099:   TBoolVector = array of Boolean;
20100:   TStrVector  = array of String;
20101:   TMatrix     = array of TVector;
20102:   TIntMatrix  = array of TIntVector;
20103:   TCompMatrix = array of TCompVector;
20104:   TBoolMatrix = array of TBoolVector;
20105:   TStrMatrix  = array of TStrVector;
20106:   TByteArray = array[0..32767] of byte; !
20107:   THexArray = array [0..15] of Char; // = '0123456789ABCDEF';
20108:   TBitmapStyle = (bsNormal, bsCentered, bsStretched);
20109:   T2StringArray = array of array of string;
20110:   T2IntegerArray = array of array of integer;
20111:   AddTypeS('INT_PTR', 'Integer
20112:   AddTypeS('LONG_PTR', 'Integer
20113:   AddTypeS('UINT_PTR', 'Cardinal
20114:   AddTypeS('ULONG_PTR', 'Cardinal
20115:   AddTypeS('DWORD_PTR', 'ULONG_PTR
20116:   TIntegerDynArray', 'array of Integer
20117:   TCardinalDynArray', 'array of Cardinal
20118:   TWordDynArray', 'array of Word
20119:   TSmallIntDynArray', 'array of SmallInt
20120:   TByteDynArray', 'array of Byte
20121:   TShortIntDynArray', 'array of ShortInt
20122:   TInt64DynArray', 'array of Int64
20123:   TLongWordDynArray', 'array of LongWord
20124:   TSingleDynArray', 'array of Single
20125:   TDoubleDynArray', 'array of Double
20126:   TBooleanDynArray', 'array of Boolean
20127:   TStringDynArray', 'array of string
20128:   TWideStringDynArray', 'array of WideString
20129:   TDynByteArray     = array of Byte;
20130:   TDynShortintArray = array of Shortint;
20131:   TDynSmallintArray = array of Smallint;
20132:   TDynWordArray     = array of Word;
20133:   TDynIntegerArray  = array of Integer;
20134:   TDynLongintArray  = array of Longint;
20135:   TDynCardinalArray = array of Cardinal;
20136:   TDynInt64Array    = array of Int64;
20137:   TDynExtendedArray = array of Extended;
20138:   TDynDoubleArray   = array of Double;
20139:   TDynSingleArray   = array of Single;
20140:   TDynFloatArray    = array of Float;
20141:   TDynPointerArray  = array of Pointer;
20142:   TDynStringArray   = array of string;
20143:   TSynSearchOption = (ssoMatchCase, ssoWholeWord, ssoBackwards,
20144:     ssoEntireScope, ssoSelectedOnly, ssoReplace, ssoReplaceAll, ssoPrompt);
20145:   TSynSearchOptions = set of TSynSearchOption;
20146:
20147:
20148: //* Project  : Base Include RunTime Lib for maXbox *Name: pas_includebox.inc
20149: ---------------------------------------------------------------------------
20150: procedure drawPolygon(vPoints: TXYVector; cFrm: TForm);
20151: procedure drawPlot(vPoints: TXYVector; cFrm: TForm; vcolor: integer);
20152: procedure SaveCanvas(vCanvas: TCanvas; FileName: string);
20153: procedure SaveCanvas2(vCanvas: TCanvas; FileName: string);
20154: function CheckStringSum(vstring: string): integer;
20155: function HexToInt(HexNum: string): LongInt;
20156: function IntToBin(Int: Integer): String;
20157: function BinToInt(Binary: String): Integer;
20158: function HexToBin(HexNum: string): string; external2
20159: function BinToHex(Binary: String): string;
20160: function IntToFloat(i: Integer): double;
```

```
20161: function AddThousandSeparator(S: string; myChr: Char): string;
20162: function Max3(const X,Y,Z: Integer): Integer;
20163: procedure Swap(var X,Y: char); // faster without inline
20164: procedure ReverseString(var S: String);
20165: function CharToHexStr(Value: Char): string;
20166: function CharToUniCode(Value: Char): string;
20167: function Hex2Dec(Value: Str002): Byte;
20168: function HexStrCodeToStr(Value: string): string;
20169: function HexToStr(i: integer; value: string): string;
20170: function UniCodeToStr(Value: string): string;
20171: function CRC16(statement: string): string;
20172: function SearchForSubstrings(aStrList: TStrings; aSearchStr1, aSearchStr2: string): string;
20173: procedure SearchAndReplace(aStrList: TStrings; aSearchStr, aNewStr: string);
20174: procedure SearchAndCopy(aStrList: TStrings; aSearchStr, aNewStr: string; offset: integer);
20175: Procedure ExecuteCommand(executeFile, paramstring: string);
20176: Procedure ShellExecuteAndWait(executeFile, paramstring: string);
20177: function ExecConsoleApp(const AppName, Parameters: String; AppOutput: TStrings): DWORD;
20178: procedure SearchAndOpenDoc(vfilenamepath: string);
20179: procedure ShowInterfaces(myFile: string);
20180: function Fact2(av: integer): extended;
20181: Function BoolToStr(B: Boolean): string;
20182: Function GCD(x, y : LongInt) : LongInt;
20183: function LCM(m,n: longint): longint;
20184: function GetASCII: string;
20185: function GetItemHeight(Font: TFont): Integer;
20186: function myPlaySound(s: pchar; flag,syncflag: integer): boolean;
20187: function myGetWindowsDirectory(lpBuffer: PChar; uSize: longword): longword;
20188: function getHINSTANCE: longword;
20189: function getHMODULE: longword;
20190: function GetASCII: string;
20191: function ByteIsOk(const AByte: string; var VB: Byte): boolean;
20192: function WordIsOk(const AWord: string; var VW: Word): boolean;
20193: function TwentyFourBitValueIsOk(const AValue: string; var VI: Integer): boolean;
20194: function LongIsOk(const ALong: string; var VC: Cardinal): boolean;
20195: function SafeStr(const s: string): string;
20196: function ExtractUrlPath(const FileName: string): string;
20197: function ExtractUrlName(const FileName: string): string;
20198: function IsInternet: boolean;
20199: function RotateLeft1Bit_u32( Value: uint32): uint32;
20200: procedure LinearRegression(const KnownY:array of Double;const KnownX: array of Double;NData:Int;var
       LF:TStLinEst; ErrorStats: Bool);
20201: procedure getEnvironmentInfo;
20202: procedure AntiFreeze;
20203: function GetCPUSpeed: Double;
20204: function IsVirtualPcGuest : Boolean;
20205: function IsVmWareGuest : Boolean;
20206: procedure StartSerialDialog;
20207: function IsWoW64: boolean;
20208: function IsWow64String(var s: string): Boolean;
20209: procedure StartThreadDemo;
20210: Function RGB(R,G,B: Byte): TColor;
20211: Function Sendln(amess: string): boolean;
20212: Procedure maXbox;
20213: Function AspectRatio(aWidth, aHeight: Integer): String;
20214: function wget(aURL, afile: string): boolean;
20215: procedure PrintList(Value: TStringList);
20216: procedure PrintImage(aValue: TBitmap; Style: TBitmapStyle);
20217: procedure getEnvironmentInfo;
20218: procedure AntiFreeze;
20219: function getBitmap(apath: string): TBitmap;
20220: procedure ShowMessageBig(const aText : string);
20221: function YesNoDialog(const ACaption, AMsg: string): boolean;
20222: procedure SetArrayLength2String(arr: T2StringArray; asize1, asize2: integer);
20223: procedure SetArrayLength2Integer(arr: T2IntegerArray; asize1, asize2: integer);
20224: //function myStrToBytes(const Value: String): TBytes;
20225: //function myBytesToStr(const Value: TBytes): String;
20226: function SaveAsExcelFile(AGrid: TStringGrid; ASheetName, AFileName: string; open: boolean): Boolean;
20227: function getBitmap(apath: string): TBitmap;
20228: procedure ShowMessageBig(const aText : string);
20229: Function StrToBytes(const Value: String): TBytes;
20230: Function BytesToStr(const Value: TBytes): String;
20231: function SaveAsExcelFile(AGrid: TStringGrid; ASheetName, AFileName: string; open: boolean): Boolean;
20232: function ReverseDNSLookup(const IPAdrs:String;const DNSServer:String;Timeout,Retris:Int;var
       HostName:String):Bool;
20233: function FindInPaths(const fileName, paths : String) : String;
20234: procedure initHexArray(var hexn: THexArray);
20235: function josephusG(n,k: integer; var graphout: string): integer;
20236: function isPowerof2(num: int64): boolean;
20237: function powerOf2(exponent: integer): int64;
20238: function getBigPI: string;
20239: procedure MakeSound(Frequency{Hz}, Duration{mSec}: Integer; Volume: TVolumeLevel; savefilePath: string);
20240:  function GetASCIILine: string;
20241: procedure MakeComplexSound(N:integer{stream # to use}; freqlist:TStrings; Duration{mSec}: Integer;
20242:                            pinknoise: boolean; shape: integer; Volume: TVolumeLevel);
20243: procedure SetComplexSoundElements(freqedt,Phaseedt,AmpEdt,WaveGrp:integer);
20244: procedure AddComplexSoundObjectToList(newf,newp,newa,news:integer; freqlist: TStrings);
20245: function mapfunc(ax, in_min, in_max, out_min, out_max: integer): integer;
20246: function mapmax(ax, in_min, in_max, out_min, out_max: integer): integer;
20247: function isKeypressed: boolean;
```

```
20248: function Keypress: boolean;
20249: procedure StrSplitP(const Delimiter: Char; Input: string; const Strings: TStrings);
20250: function ReadReg(Base: HKEY; KeyName, ValueName: string): string;
20251: function ReadRegistry(Base: HKEY; KeyName, ValueName: string): string;
20252: function GetOSName: string;
20253: function GetOSVersion: string;
20254: function GetOSNumber: string;
20255: function getEnvironmentString: string;
20256: procedure StrReplace(var Str: String; Old, New: String);
20257: procedure SendEmail(mFrom,  mTo,  mSubject,  mBody,  mAttachment: variant);
20258: function getTeamViewerID: string;
20259: Procedure RecurseDirectory(Dir:String; IncludeSubs:boolean; callback:TFileCallbackProcedure);
20260: Procedure RecurseDirectory2(Dir : String; IncludeSubs : boolean);
20261: procedure WinInet_HttpGet(const Url: string; Stream:TStream);
20262: procedure GetQrCode2(Width,Height: Word;Correct_Level:string;const Data:string;apath:string);
20263: function StartSocketService: Boolean;
20264: procedure StartSocketServiceForm;
20265: function GetFileList(FileList: TStringlist; apath: string): TStringlist;
20266: function GetFileList1(apath: string): TStringlist;
20267: procedure LetFileList(FileList: TStringlist; apath: string);
20268: procedure StartWeb(aurl: string);
20269: function GetTodayFiles(startdir, amask: string): TStringlist;
20270: function PortTCPIsOpen(dwPort : Word; ipAddressStr: String): boolean;
20271: function JavahashCode(val: string): Integer;
20272: procedure PostKeyEx32(key: Word; const shift: TShiftState; specialkey: Boolean);
20273: procedure SaveBytesToFile2(const Data: Sysutils.TBytes; const FileName: string);
20274: Procedure HideWindowForSeconds(secs: integer);   {//3 seconds}
20275: Procedure HideWindowForSeconds2(secs: integer; apphandle, aself: TForm);   {//3 seconds}
20276: Procedure ConvertToGray(Cnv: TCanvas);
20277: function GetFileDate(aFile:string; aWithTime:Boolean):string;
20278: procedure ShowMemory;
20279: function ShowMemory2: string;
20280: function getHostIP: string;
20281: procedure ShowBitmap(bmap: TBitmap);
20282: function GetOsVersionInfo: TOSVersionInfo;      //thx to wischnewski
20283: function CreateDBGridForm(dblist: TStringList): TListbox;
20284: function isService: boolean;
20285: function isApplication: boolean;
20286: function isTerminalSession: boolean;
20287:  function SetPrivilege(privilegeName: string; enable: boolean): boolean;
20288:   procedure getScriptandRunAsk;
20289:   procedure getScriptandRun(ascript: string);
20290:   function VersionCheckAct: string;
20291:   procedure getBox(aurl, extension: string);
20292:   function CheckBox: string;
20293:   function isNTFS: boolean;
20294:   //procedure doWebCamPic;
20295:   procedure doWebCamPic(picname: string);
20296:   function readm: string;
20297:   procedure getGEOMapandRunAsk;
20298:  function GetMapX(C_form,apath: string; const Data: string): boolean;
20299:   procedure GetGEOMap(C_form,apath: string; const Data: string);
20300:   function GetMapXGeoReverse(C_form: string; const lat,long: string): string;
20301:   //function RoundTo(const AValue: Extended;
20302:     //            const ADigit: TRoundToEXRangeExtended): Extended;
20303:  function DownloadFile(SourceFile, DestFile: string): Boolean;
20304:  function DownloadFileOpen(SourceFile, DestFile: string): Boolean;
20305:  function OpenMap(const Data: string): boolean;
20306:  function GetGeoCode(C_form,apath: string; const data: string; sfile: boolean): string;
20307:  Function getFileCount(amask: string): integer;
20308:  function CoordinateStr(Idx: Integer; PosInSec: Double; PosLn: TNavPos): string;
20309:  procedure Debugln(DebugLOGFILE: string; E: string);
20310:  function IntToFloat(i: Integer): double;
20311:  function AddThousandSeparator(S: string; myChr: Char): string;
20312:  function mymciSendString(cmd: PChar; ret: PChar; len: integer; callback: integer): cardinal;
20313:
20314:
20315:
20316: // News of 3.9.8 up
20317: Halt-Stop Program in Menu, WebServer2, Stop Event Recompile,
20318: Conversion Routines, Prebuild Forms, more RCData, DebugOutString
20319: CodeSearchEngine to search code patterns in /examples <Ctrl F3>
20320: JvChart - TJvChart Component - 2009 Public
20321: MemoryLeakReport in ini-file (MEMORYREPORT=Y)
20322: PerlRegEx PCRE obj lib included, Perl & Python Syntax Editor, bitbox3 logic example
20323: TAdoQuery.SQL.Add() fixed, ShLwAPI extensions, Indy HTTPHeader Extensions
20324: DMath DLL included incl. Demos
20325: Interface Navigator menu/View/Intf Navigator
20326: Unit Explorer menu/Debug/Units Explorer
20327: EKON 16 Slides ..\maxbox3\docs\utils Excel Export maXcel
20328: Tutorial 19 WinCOM with Arduino Tutorial 20 RegEx Coding
20329: Script History to 9 Files WebServer light /Options/Addons/WebServer
20330: Full Text Finder, JVSimLogic Simulator Package
20331: Halt-Stop Program in Menu, WebServer2, Stop Event ,
20332: Conversion Routines, Prebuild Forms, CodeSearch
20333: Halt-Stop Program in Menu, WebServer2, Stop Event Recompile,
20334: Conversion Routines, Prebuild Forms, more RCData, DebugOutString
20335: CodeSearchEngine to search code patterns in /examples <Ctrl F3>
20336: JvChart - TJvChart Component - 2009 Public, mXGames, JvgXMLSerializer, TJvPaintFX
```

```
20337: Compress-Decompress Zip, Services Tutorial22, Synopse framework, PFDLib
20338: SynEdit API, Macro, Macro Recorder, DLL Spy, Configuration Tutorial
20339: IDE Reflection API, Session Service Shell S3
20340: additional SynEdit API, isKeyPressed Routine, Bookmarks, OpenToolsAPI Catalog (OTAC)
20341: Class TMonitor, Configuration Tutorial maxbox_starter25.pdf, Chess.dll Game
20342: arduino map() function, PMRandom Generator
20343: StBarCode Lib, StreamReaderClass, BarCode Package, Astro Package
20344: more ShellAPI, add 32 more units, Simulated Annealing, GenAlgo
20345: REST Test Lib, Multilang Component, Forth Interpreter
20346: New Macros, Sendmail (instant email), DevCUnits, Tetris Addon
20347: DCOM, MDAC, MIDI, TLS support, Posmarks, Utils Addon
20348: Routines for LaTeX/PS, Utils Addon, Indy Package3, TAR Archive, @Callbacks
20349: Routines for LaTeX/PS, Utils Addon, Indy Package3, TAR Archive, @Callbacks
20350: First LCL of Lazarus, CmdLine API, ToDo List, 36 more Units preCompiled
20351: QRCode Service, add more CFunctions like CDateTime of Synapse
20352: Gamma Functions, IndyPackage4, HotLog Threadable, FormTemplateLibrary FTL
20353: Nonlinear regression, ADO Workbench Addon, Assign fixing, IntfNavigator fixing, Applet
20354: 30 more Units preCompiled, QRCode Indy Service, more CFunctions like CFill or SRand
20355: RestartDialog, RTF, SQL Scanner, RichEdit, 15 more Units
20356: Tool Section, SOAP Tester, Hot Log Logger2, TCPPortScan, 28 more Units
20357: BOLD Package, Indy Package5, maTRIx. MATHEMAX
20358: SPS Utils WDOS, Plc BitBus (PetriNet), 40 more units
20359: emax layers: system-package-component-unit-class-function-block
20360: HighPrecision Timers,  Indy Package6, AutoDetect, UltraForms
20361: Reversi, GOL, bugfixing, 8 more units, Tutorial 24 Clean Code
20362: Tutorial 18_3 RGB LED, OpenGL Geometry, maxpix, statictext
20363: OpenGL Game Demo: ..Options/Add Ons/Reversi
20364: IBUtils Refactor, InterBase Package, DotNet Routines (JvExControls)
20365: add 31 units, mX4 Introduction Paper, more Socket&Streams, ShortString Routines
20366: 7% performance gain (hot spot profiling)
20367: PEP -Pascal Education Program , GSM Module, CGI, PHP Runner
20368: add 42 + 22  (64 units), memcached database, autobookmark, Alcinoe PAC, IPC Lib
20369: Orpheus PAC, AsyncFree Library advapi32 samples, FirebirdExp+MySQL units
20370: FBX Lib, psAPI, SMS Cell Module, OpenGL, Borland Tools, Zeus
20371:
20372: add routines in 3.9.7.5
20373: 097: procedure RIRegister_BarCodeScaner_Routines(S: TPSExec);
20374: 996: procedure RIRegister_DBCtrls_Routines(S: TPSExec);
20375: 069: procedure RIRegister_IdStrings_Routines(S: TPSExec);
20376: 516: procedure RIRegister_JclMultimedia_Routines(S: TPSExec);
20377: 215: procedure RIRegister_PNGLoader_Routines(S: TPSExec);
20378: 374: procedure RIRegister_SerDlgs_Routines(S: TPSExec);
20379: 777: procedure RIRegister_LinarBitmap_Routines(S: TPSExec);
20380:
20381: ////////////////////////// TestUnits //////////////////////////
20382:   SelftestPEM;
20383:   SelfTestCFundamentUtils;
20384:   SelfTestCFileUtils;
20385:   SelfTestCDateTime;
20386:   SelfTestCTimer;
20387:   SelfTestCRandom;
20388:   Test with e.g.: Assert(PathHasDriveLetter('A:'), 'PathHasDriveLetter
20389:              Assert(WinPathToUnixPath('\c\d.f') = '/c/d.f', 'WinPathToUnixPath
20390:
20391:   // Note: There's no need for installing a client certificate in the
20392:   //       webbrowser. The server asks the webbrowser to send a certificate but
20393:   //       if nothing is installed the software will work because the server
20394:   //       doesn't check to see if a client certificate was supplied. If you want you can install:
20395:   //       file: c_cacert.p12  password: c_cakey
20396:
20397:   TGraphicControl = class(TControl)
20398:   private
20399:     FCanvas: TCanvas;
20400:     procedure WMPaint(var Message: TWMPaint); message WM_PAINT;
20401:   protected
20402:     procedure Paint; virtual;
20403:     property Canvas: TCanvas read FCanvas;
20404:   public
20405:     constructor Create(AOwner: TComponent); override;
20406:     destructor Destroy; override;
20407:   end;
20408:
20409:   TCustomControl = class(TWinControl)
20410:   private
20411:     FCanvas: TCanvas;
20412:     procedure WMPaint(var Message: TWMPaint); message WM_PAINT;
20413:   protected
20414:     procedure Paint; virtual;
20415:     procedure PaintWindow(DC: HDC); override;
20416:     property Canvas: TCanvas read FCanvas;
20417:   public
20418:     constructor Create(AOwner: TComponent); override;
20419:     destructor Destroy; override;
20420:   end;
20421:     RegisterPublishedProperties;
20422:     ('ONCHANGE', 'TNotifyEvent', iptrw);
20423:     ('ONCLICK', 'TNotifyEvent', iptrw);
20424:     ('ONDBLCLICK', 'TNotifyEvent', iptrw);
20425:     ('ONENTER', 'TNotifyEvent', iptrw);
```

```
20426:     ('ONEXIT', 'TNotifyEvent', iptrw);
20427:     ('ONKEYDOWN', 'TKeyEvent', iptrw);
20428:     ('ONKEYPRESS', 'TKeyPressEvent', iptrw);
20429:     ('ONMOUSEDOWN', 'TMouseEvent', iptrw);
20430:     ('ONMOUSEMOVE', 'TMouseMoveEvent', iptrw);
20431:     ('ONMOUSEUP', 'TMouseEvent', iptrw);
20432: //*************************************************************************
20433:   // To stop the while loop, click on Options/Show Include (boolean switch)!
20434:   Control a loop in a script with a form event:
20435:   IncludeON;   //control the while loop
20436:   while maxform1.ShowInclude1.checked do begin  //menu event Options/Show Include
20437:   repeat {for it:= 1 to n do} until is keypressed  //keypress in output window below (memo2)
20438:
20439: //-------------------------------------------------------------------------
20440: //*************mX4 ini-file Configuration*************************************
20441: //-------------------------------------------------------------------------
20442:   using config file maxboxdef.ini       menu/Help/Config File
20443:
20444: //*** Definitions for maXbox mX3 ***
20445: [FORM]
20446: LAST_FILE=E:\maXbox\maxbox3\examples\140_drive_typedemo.txt //history up to 10 files
20447: FONTSIZE=14
20448: EXTENSION=txt
20449: SCREENX=1386
20450: SCREENY=1077
20451: MEMHEIGHT=350
20452: PRINTFONT=Courier New //GUI Settings
20453: LINENUMBERS=Y   //line numbers at gutter in editor at left side
20454: EXCEPTIONLOG=Y  //store excepts + success in 2 log files see below! –menu Debug/Show Last Exceptions
20455: EXECUTESHELL=Y  //prevents execution of ExecuteShell() or ExecuteCommand()
20456: BOOTSCRIPT=Y    //enabling load a boot script
20457: MEMORYREPORT=Y  //shows memory report on closing maXbox
20458: MACRO=Y         //expand macros (see below) in code e.g. #path:E:\maxbox3\mXGit39988\maxbox3\docs\
20459: NAVIGATOR=N     //shows function list at the right side of editor
20460: NAVWIDTH=350    //width of the right side interface list <CTRL L>  >=200
20461: AUTOBOOKMARK=Y  //sets on all functions a bookmark to jump
20462: [WEB]
20463: IPPORT=8080     //for internal webserver – menu /Options/Add Ons/WebServer
20464: IPHOST=192.168.1.53
20465: ROOTCERT=filepathY
20466: SCERT=filepathY
20467: RSAKEY=filepathY
20468: VERSIONCHECK=Y
20469: APP=C:\WINDOWS\System32\calc.exe  //set path to an external app
20470:
20471:
20472: using Logfile: maxboxlog.log  , Exceptionlogfile: maxboxerrorlog.txt
20473: Also possible to set report memory in script to override ini setting
20474: procedure Set_ReportMemoryLeaksOnShutdown(abo: boolean)
20475:
20476: After Change the ini file you can reload the file with ../Help/Config Update
20477:
20478: //-------------------------------------------------------------------------
20479: //*************mX4 maildef.ini ini-file Configuration*********************
20480: //-------------------------------------------------------------------------
20481: //*** Definitions for maXMail ***
20482: //sendemail, HOST=mail.hover.com, PORT=465 (SSL)
20483: [MAXMAIL]
20484: HOST=getmail.softwareschule.ch
20485: USER=mailusername
20486: PASS=password
20487: PORT=110
20488: SSL=Y
20489: BODY=Y
20490: LAST=5
20491:
20492: ADO Connection String:
20493: Provider=MSDASQL;DSN=mx3base;Uid=sa;Pwd=admin
20494: \452_dbtreeview2access.txt
20495: program TestDbTreeViewMainForm2_ACCESS;
20496:   ConnectionString:='Provider=Microsoft.Jet.OLEDB.4.0;Data Source='
20497:                     +Exepath+'\examples\detail.mdb;Persist Security Info=False';
20498:
20499: OpenSSL Lib:  unit ssl_openssl_lib;
20500: {$IFDEF CIL}
20501: const
20502:   {$IFDEF LINUX}
20503:   DLLSSLName = 'libssl.so';
20504:   DLLUtilName = 'libcrypto.so';
20505:   {$ELSE}
20506:   DLLSSLName = 'ssleay32.dll';
20507:   DLLUtilName = 'libeay32.dll';
20508:   {$ENDIF}
20509: {$ELSE}
20510: var
20511:   {$IFNDEF MSWINDOWS}
20512:     {$IFDEF DARWIN}
20513:     DLLSSLName: string = 'libssl.dylib';
20514:     DLLUtilName: string = 'libcrypto.dylib';
```

```
20515:     {$ELSE}
20516:     DLLSSLName: string = 'libssl.so';
20517:     DLLUtilName: string = 'libcrypto.so';
20518:     {$ENDIF}
20519:   {$ELSE}
20520:   DLLSSLName: string = 'ssleay32.dll';
20521:   DLLSSLName2: string = 'libssl32.dll';
20522:   DLLUtilName: string = 'libeay32.dll';
20523:   {$ENDIF}
20524: {$ENDIF}
20525:
20526:
20527: //-------------------------------------------------------------------------
20528: //**************mX4 Macro Tags  ********************************************
20529: //-------------------------------------------------------- ----------------
20530:
20531:   asm #name #hostmAPSN2APSN211le, #head,max: APSN21: 04.01.2014 19:05:50
      E:\maxbox\maxbox3\docs\maxbox_extract_funclist399.txt end
20532:
20533: //Tag Macros
20534:
20535:   asm #name, #date, #host, #path, #file, #head, #sign #tech #net end
20536:
20537: //Tag Macros
20538: 10188: SearchAndCopy(memo1.lines, '#name', getUserNameWin, 11);
20539: 10189: SearchAndCopy(memo1.lines, '#date', datetimetoStr(now), 11);
20540: 10190: SearchAndCopy(memo1.lines, '#host', getComputernameWin, 11);
20541: 10191: SearchAndCopy(memo1.lines, '#path', fpath, 11);
20542: 10192: SearchAndCopy(memo1.lines, '#file', fname, 11);
20543: 10199  SearchAndCopy(memo1.lines, '#fils', fname +' '+SHA1(Act_Filename), 11);
20544: 10193: SearchAndCopy(memo1.lines, '#locs', intToStr(getCodeEnd), 11);
20545: 10194: SearchAndCopy(memo1.lines, '#perf', perftime, 11);
20546: 10195: SearchAndCopy(memo1.lines, '#sign', Format('%s: %s: %s',
20547:        [getUserNameWin, getComputernameWin, datetimetoStr(now),
20548: 10196: SearchAndCopy(memo1.lines, '#head',Format('%s: %s: %s %s ',
20549: 10197: [getUserNameWin, getComputernameWin, datetimetoStr(now), Act_Filename]),11);
20550:        [getUserNameWin, getComputernameWin, datetimetoStr(now), Act_Filename]),11);
20551: 10198: SearchAndCopy(memo1.lines, '#tech',Format('perf: %s threads: %d %s %s',
20552:        [perftime, numprocessthreads, getIPAddress(getComputerNameWin), timetoStr(time), mbversion]), 11);
20553: 10298:  SearchAndCopy(memo1.lines, '#net',Format('DNS: %s; local IPs: %s; local IP: %s',
20554:        [getDNS, GetLocalIPs, getIPAddress(getComputerNameWin)]), 10);
20555:
20556: //#tech!perf: 0:0:29.297 threads: 3 192.168.174.1 19:26:30
20557:
20558: //Replace Macros
20559:   SearchAndCopy(memo1.lines, '<TIME>', timetoStr(time), 6);
20560:   SearchAndCopy(memo1.lines, '<DATE>', datetoStr(date), 6);
20561:   SearchAndCopy(memo1.lines, '<PATH>', fpath, 6);
20562:   SearchAndCopy(memo1.lines, '<EXEPATH>', EXEPath, 9);
20563:   SearchAndCopy(memo1.lines, '<FILE>', fname, 6);
20564:   SearchAndCopy(memo1.lines, '<SOURCE>', ExePath+'Source', 8);
20565:
20566:   SearchAndCopy(memo1.lines, '#tech'perf:  threads: 2 192.168.1.53 19:05:50 3.9.9.84
20567:        [perftime,numprocessthreads,getIPAddress(getComputerNameWin),timetoStr(time),mbversion]), 11);
20568: //#tech!84perf:  threads: 2 192.168.1.53 19:05:50 3.9.9.84
20569:   SearchAndCopy(memo1.lines, 'maxbox_extract_funclist399.txt
20570:
20571: //-------------------------------------------------------------------------
20572: //**************mX4 ToDo List Tags  ../Help/ToDo List************************
20573: //-------------------------------------------------------- ----------------
20574:
20575:     while I < sl.Count do begin
20576: //      if MatchesMask(sl[I], '*/? TODO ([a-z0-9_]*#[1-9]#)*:*') then
20577:       if MatchesMask(sl[I], '*/? TODO (?*#?#)*:*') then
20578:         BreakupToDo(Filename, sl, I, 'TODO', True, True) // full info TODO
20579:       else if MatchesMask(sl[I], '*/? DONE (?*#?#)*:*') then
20580:         BreakupToDo(Filename, sl, I, 'DONE', True, True) // full info DONE
20581:       else if MatchesMask(sl[I], '*/? TODO (#?#)*:*') then
20582:         BreakupToDo(Filename, sl, I, 'TODO', False, True) // only priority info TODO
20583:       else if MatchesMask(sl[I], '*/? DONE (#?#)*:*') then
20584:         BreakupToDo(Filename, sl, I, 'DONE', False, True) // only priority info DONE
20585:       else if MatchesMask(sl[I], '*/?*TODO*:*') then
20586:         BreakupToDo(Filename, sl, I, 'TODO', False, False) // custom TODO
20587:       else if MatchesMask(sl[I], '*/?*DONE*:*') then
20588:         BreakupToDo(Filename, sl, I, 'DONE', False, False); // custom DONE
20589:       Inc(I);
20590:     end;
20591:
20592: //-------------------------------------------------------------------------
20593: //**************mX4 Public  Tools API ****************************************
20594: //-------------------------------------------------------------------------
20595:   file : unit uPSI_fMain.pas;              {$OTAP} Open Tools API Catalog
20596:  // Those functions concern the editor and preprocessor, all of the IDE
20597:  Example: Call it with maxform1.Info1Click(self)
20598:  Note: Call all Methods with maxForm1., e.g.:
20599:                        maxForm1.ShellStyle1Click(self);
20600:
20601: procedure SIRegister_fMain(CL: TPSPascalCompiler);
20602: begin
```

```
20603:  Const('BYTECODE','String 'bytecode.txt'
20604:  Const('PSTEXT','String PS Scriptfiles (*.txt)|*.TXT)'
20605:  Const('PSMODEL','String PS Modelfiles (*.uc)|*.UC
20606:  Const('PSPASCAL','String PS Pascalfiles (*.pas)|*.PAS
20607:  Const('PSINC','String PS Includes (*.inc)|*.INC
20608:  Const('DEFFILENAME','String 'firstdemo.txt
20609:  Const('DEFINIFILE','String 'maxboxdef.ini
20610:  Const('EXCEPTLOGFILE','String 'maxboxerrorlog.txt
20611:  Const('ALLFUNCTIONSLIST','String 'upsi_allfunctionslist.txt
20612:  Const('ALLFUNCTIONSLISTPDF','String 'maxbox_functions_all.pdf
20613:  Const('ALLOBJECTSLIST','String 'docs\VCL.pdf
20614:  Const('ALLRESOURCELIST','String 'docs\upsi_allresourcelist.txt
20615:  Const('ALLUNITLIST','String 'docs\maxbox3_9.xml');
20616:  Const('INCLUDEBOX','String 'pas_includebox.inc
20617:  Const('BOOTSCRIPT','String 'maxbootscript.txt
20618:  Const('MBVERSION','String '3.9.9.110
20619:  Const('VERSION','String'3.9.9.110
20620:  Const('MBVER','String '399
20621:  Const('MBVERI','Integer'(399);
20622:  Const('MBVERIALL','Integer'(399110);
20623:  Const('EXENAME','String 'maXbox3.exe
20624:  Const('MXSITE','String 'http://www.softwareschule.ch/maxbox.htm
20625:  Const('MXVERSIONFILE','String 'http://www.softwareschule.ch/maxvfile.txt
20626:  Const('MXVERSIONFILE2','String 'http://www.softwareschule.ch/maxvfile2.txt
20627:  Const('MXINTERNETCHECK','String 'www.ask.com
20628:  Const('MXMAIL','String 'max@kleiner.com
20629:  Const('TAB','Char #$09);
20630:  Const('CODECOMPLETION','String 'bds_delphi.dci
20631:  SIRegister_TMaxForm1(CL);
20632: end;
20633:
20634:   with FindClass('TForm'),'TMaxForm1') do begin
20635:     memo2', 'TMemo', iptrw);
20636:     memo1', 'TSynMemo', iptrw);
20637:     CB1SCList', 'TComboBox', iptrw);
20638:     mxNavigator', 'TComboBox', iptrw);
20639:     IPHost', 'string', iptrw);
20640:     IPPort', 'integer', iptrw);
20641:     COMPort', 'integer', iptrw);      //3.9.6.4
20642:     Splitter1', 'TSplitter', iptrw);
20643:     PSScript', 'TPSScript', iptrw);
20644:     PS3DllPlugin', 'TPSDllPlugin', iptrw);
20645:     MainMenu1', 'TMainMenu', iptrw);
20646:     Program1', 'TMenuItem', iptrw);
20647:     Compile1', 'TMenuItem', iptrw);
20648:     Files1', 'TMenuItem', iptrw);
20649:     open1', 'TMenuItem', iptrw);
20650:     Save2', 'TMenuItem', iptrw);
20651:     Options1', 'TMenuItem', iptrw);
20652:     Savebefore1', 'TMenuItem', iptrw);
20653:     Largefont1', 'TMenuItem', iptrw);
20654:     sBytecode1', 'TMenuItem', iptrw);
20655:     Saveas3', 'TMenuItem', iptrw);
20656:     Clear1', 'TMenuItem', iptrw);
20657:     Slinenumbers1', 'TMenuItem', iptrw);
20658:     About1', 'TMenuItem', iptrw);
20659:     Search1', 'TMenuItem', iptrw);
20660:     SynPasSyn1', 'TSynPasSyn', iptrw);
20661:     memo1', 'TSynMemo', iptrw);
20662:     SynEditSearch1', 'TSynEditSearch', iptrw);
20663:     WordWrap1', 'TMenuItem', iptrw);
20664:     XPManifest1', 'TXPManifest', iptrw);
20665:     SearchNext1', 'TMenuItem', iptrw);
20666:     Replace1', 'TMenuItem', iptrw);
20667:     PSImport_Controls1', 'TPSImport_Controls', iptrw);
20668:     PSImport_Classes1', 'TPSImport_Classes', iptrw);
20669:     ShowInclude1', 'TMenuItem', iptrw);
20670:     SynEditPrint1', 'TSynEditPrint', iptrw);
20671:     Printout1', 'TMenuItem', iptrw);
20672:     mnPrintColors1', 'TMenuItem', iptrw);
20673:     dlgFilePrint', 'TPrintDialog', iptrw);
20674:     dlgPrintFont1', 'TFontDialog', iptrw);
20675:     mnuPrintFont1', 'TMenuItem', iptrw);
20676:     Include1', 'TMenuItem', iptrw);
20677:     CodeCompletionList1', 'TMenuItem', iptrw);
20678:     IncludeList1', 'TMenuItem', iptrw);
20679:     ImageList1', 'TImageList', iptrw);
20680:     ImageList2', 'TImageList', iptrw);
20681:     CoolBar1', 'TCoolBar', iptrw);
20682:     ToolBar1', 'TToolBar', iptrw);
20683:     tbtnLoad', 'TToolButton', iptrw);
20684:     ToolButton2', 'TToolButton', iptrw);
20685:     tbtnFind', 'TToolButton', iptrw);
20686:     tbtnCompile', 'TToolButton', iptrw);
20687:     tbtnTrans', 'TToolButton', iptrw);
20688:     tbtnUseCase', 'TToolButton', iptrw);   //3.8
20689:     toolbtnTutorial', 'TToolButton', iptrw);
20690:     tbtn6res', 'TToolButton', iptrw);
20691:     ToolButton5', 'TToolButton', iptrw);
```

```
20692:     ToolButton1', 'TToolButton', iptrw);
20693:     ToolButton3', 'TToolButton', iptrw);
20694:     statusBar1', 'TStatusBar', iptrw);
20695:     SaveOutput1', 'TMenuItem', iptrw);
20696:     ExportClipboard1', 'TMenuItem', iptrw);
20697:     Close1', 'TMenuItem', iptrw);
20698:     Manual1', 'TMenuItem', iptrw);
20699:     About2', 'TMenuItem', iptrw);
20700:     loadLastfile1', 'TMenuItem', iptrw);
20701:     imglogo', 'TImage', iptrw);
20702:     cedebug', 'TPSScriptDebugger', iptrw);
20703:     debugPopupMenu1', 'TPopupMenu', iptrw);
20704:     BreakPointMenu', 'TMenuItem', iptrw);
20705:     Decompile1', 'TMenuItem', iptrw);
20706:     StepInto1', 'TMenuItem', iptrw);
20707:     StepOut1', 'TMenuItem', iptrw);
20708:     Reset1', 'TMenuItem', iptrw);
20709:     DebugRun1', 'TMenuItem', iptrw);
20710:     PSImport_ComObj1', 'TPSImport_ComObj', iptrw);
20711:     PSImport_StdCtrls1', 'TPSImport_StdCtrls', iptrw);
20712:     PSImport_Forms1', 'TPSImport_Forms', iptrw);
20713:     PSImport_DateUtils1', 'TPSImport_DateUtils', iptrw);
20714:     tutorial4', 'TMenuItem', iptrw);
20715:     ExporttoClipboard1', 'TMenuItem', iptrw);
20716:     ImportfromClipboard1', 'TMenuItem', iptrw);
20717:     N4', 'TMenuItem', iptrw);
20718:     N5', 'TMenuItem', iptrw);
20719:     N6', 'TMenuItem', iptrw);
20720:     ImportfromClipboard2', 'TMenuItem', iptrw);
20721:     tutorial1', 'TMenuItem', iptrw);
20722:     N7', 'TMenuItem', iptrw);
20723:     ShowSpecChars1', 'TMenuItem', iptrw);
20724:     OpenDirectory1', 'TMenuItem', iptrw);
20725:     procMess', 'TMenuItem', iptrw);
20726:     tbtnUseCase', 'TToolButton', iptrw);
20727:     ToolButton7', 'TToolButton', iptrw);
20728:     EditFont1', 'TMenuItem', iptrw);
20729:     UseCase1', 'TMenuItem', iptrw);
20730:     tutorial21', 'TMenuItem', iptrw);
20731:     OpenUseCase1', 'TMenuItem', iptrw);
20732:     PSImport_DB1', 'TPSImport_DB', iptrw);
20733:     tutorial31', 'TMenuItem', iptrw);
20734:     SynHTMLSyn1', 'TSynHTMLSyn', iptrw);
20735:     HTMLSyntax1', 'TMenuItem', iptrw);
20736:     ShowInterfaces1', 'TMenuItem', iptrw);
20737:     Tutorial5', 'TMenuItem', iptrw);
20738:     AllFunctionsList1', 'TMenuItem', iptrw);
20739:     ShowLastException1', 'TMenuItem', iptrw);
20740:     PlayMP31', 'TMenuItem', iptrw);
20741:     SynTeXSyn1', 'TSynTeXSyn', iptrw);
20742:     texSyntax1', 'TMenuItem', iptrw);
20743:     N8', 'TMenuItem', iptrw);
20744:     GetEMails1', 'TMenuItem', iptrw);
20745:     SynCppSyn1', 'TSynCppSyn', iptrw);
20746:     CSyntax1', 'TMenuItem', iptrw);
20747:     Tutorial6', 'TMenuItem', iptrw);
20748:     New1', 'TMenuItem', iptrw);
20749:     AllObjectsList1', 'TMenuItem', iptrw);
20750:     LoadBytecode1', 'TMenuItem', iptrw);
20751:     CipherFile1', 'TMenuItem', iptrw);
20752:     N9', 'TMenuItem', iptrw);
20753:     N10', 'TMenuItem', iptrw);
20754:     Tutorial11', 'TMenuItem', iptrw);
20755:     Tutorial71', 'TMenuItem', iptrw);
20756:     UpdateService1', 'TMenuItem', iptrw);
20757:     PascalSchool1', 'TMenuItem', iptrw);
20758:     Tutorial81', 'TMenuItem', iptrw);
20759:     DelphiSite1', 'TMenuItem', iptrw);
20760:     Output1', 'TMenuItem', iptrw);
20761:     TerminalStyle1', 'TMenuItem', iptrw);
20762:     ReadOnly1', 'TMenuItem', iptrw);
20763:     ShellStyle1', 'TMenuItem', iptrw);
20764:     BigScreen1', 'TMenuItem', iptrw);
20765:     Tutorial91', 'TMenuItem', iptrw);
20766:     SaveOutput2', 'TMenuItem', iptrw);
20767:     N11', 'TMenuItem', iptrw);
20768:     SaveScreenshot', 'TMenuItem', iptrw);
20769:     Tutorial101', 'TMenuItem', iptrw);
20770:     SQLSyntax1', 'TMenuItem', iptrw);
20771:     SynSQLSyn1', 'TSynSQLSyn', iptrw);
20772:     Console1', 'TMenuItem', iptrw);
20773:     SynXMLSyn1', 'TSynXMLSyn', iptrw);
20774:     XMLSyntax1', 'TMenuItem', iptrw);
20775:     ComponentCount1', 'TMenuItem', iptrw);
20776:     NewInstance1', 'TMenuItem', iptrw);
20777:     toolbtnTutorial', 'TToolButton', iptrw);
20778:     Memory1', 'TMenuItem', iptrw);
20779:     SynJavaSyn1', 'TSynJavaSyn', iptrw);
20780:     JavaSyntax1', 'TMenuItem', iptrw);
```

```
20781:     SyntaxCheck1', 'TMenuItem', iptrw);
20782:     Tutorial10Statistics1', 'TMenuItem', iptrw);
20783:     ScriptExplorer1', 'TMenuItem', iptrw);
20784:     FormOutput1', 'TMenuItem', iptrw);
20785:     ArduinoDump1', 'TMenuItem', iptrw);
20786:     AndroidDump1', 'TMenuItem', iptrw);
20787:     GotoEnd1', 'TMenuItem', iptrw);
20788:     AllResourceList1', 'TMenuItem', iptrw);
20789:     ToolButton4', 'TToolButton', iptrw);
20790:     tbtn6res', 'TToolButton', iptrw);
20791:     Tutorial11Forms1', 'TMenuItem', iptrw);
20792:     Tutorial12SQL1', 'TMenuItem', iptrw);
20793:     ResourceExplore1', 'TMenuItem', iptrw);
20794:     Info1', 'TMenuItem', iptrw);
20795:     N12', 'TMenuItem', iptrw);
20796:     CryptoBox1', 'TMenuItem', iptrw);
20797:     Tutorial13Ciphering1', 'TMenuItem', iptrw);
20798:     CipherFile2', 'TMenuItem', iptrw);
20799:     N13', 'TMenuItem', iptrw);
20800:     ModulesCount1', 'TMenuItem', iptrw);
20801:     AddOns2', 'TMenuItem', iptrw);
20802:     N4GewinntGame1', 'TMenuItem', iptrw);
20803:     DocuforAddOns1', 'TMenuItem', iptrw);
20804:     Tutorial14Async1', 'TMenuItem', iptrw);
20805:     Lessons15Review1', 'TMenuItem', iptrw);
20806:     SynPHPSyn1', 'TSynPHPSyn', iptrw);
20807:     PHPSyntax1', 'TMenuItem', iptrw);
20808:     Breakpoint1', 'TMenuItem', iptrw);
20809:     SerialRS2321', 'TMenuItem', iptrw);
20810:     N14', 'TMenuItem', iptrw);
20811:     SynCSSyn1', 'TSynCSSyn', iptrw);
20812:     CSyntax2', 'TMenuItem', iptrw);
20813:     Calculator1', 'TMenuItem', iptrw);
20814:     tbtnSerial', 'TToolButton', iptrw);
20815:     ToolButton8', 'TToolButton', iptrw);
20816:     Tutorial151', 'TMenuItem', iptrw);
20817:     N15', 'TMenuItem', iptrw);
20818:     N16', 'TMenuItem', iptrw);
20819:     ControlBar1', 'TControlBar', iptrw);
20820:     ToolBar2', 'TToolBar', iptrw);
20821:     BtnOpen', 'TToolButton', iptrw);
20822:     BtnSave', 'TToolButton', iptrw);
20823:     BtnPrint', 'TToolButton', iptrw);
20824:     BtnColors', 'TToolButton', iptrw);
20825:     btnClassReport', 'TToolButton', iptrw);
20826:     BtnRotateRight', 'TToolButton', iptrw);
20827:     BtnFullSize', 'TToolButton', iptrw);
20828:     BtnFitToWindowSize', 'TToolButton', iptrw);
20829:     BtnZoomMinus', 'TToolButton', iptrw);
20830:     BtnZoomPlus', 'TToolButton', iptrw);
20831:     Panel1', 'TPanel', iptrw);
20832:     LabelBrettgroesse', 'TLabel', iptrw);
20833:     CB1SCList', 'TComboBox', iptrw);
20834:     ImageListNormal', 'TImageList', iptrw);
20835:     spbtnexplore', 'TSpeedButton', iptrw);
20836:     spbtnexample', 'TSpeedButton', iptrw);
20837:     spbsaveas', 'TSpeedButton', iptrw);
20838:     imglogobox', 'TImage', iptrw);
20839:     EnlargeFont1', 'TMenuItem', iptrw);
20840:     EnlargeFont2', 'TMenuItem', iptrw);
20841:     ShrinkFont1', 'TMenuItem', iptrw);
20842:     ThreadDemo1', 'TMenuItem', iptrw);
20843:     HEXEditor1', 'TMenuItem', iptrw);
20844:     HEXView1', 'TMenuItem', iptrw);
20845:     HEXInspect1', 'TMenuItem', iptrw);
20846:     SynExporterHTML1', 'TSynExporterHTML', iptrw);
20847:     ExporttoHTML1', 'TMenuItem', iptrw);
20848:     ClassCount1', 'TMenuItem', iptrw);
20849:     HTMLOutput1', 'TMenuItem', iptrw);
20850:     HEXEditor2', 'TMenuItem', iptrw);
20851:     Minesweeper1', 'TMenuItem', iptrw);
20852:     N17', 'TMenuItem', iptrw);
20853:     PicturePuzzle1', 'TMenuItem', iptrw);
20854:     sbvclhelp', 'TSpeedButton', iptrw);
20855:     DependencyWalker1', 'TMenuItem', iptrw);
20856:     WebScanner1', 'TMenuItem', iptrw);
20857:     View1', 'TMenuItem', iptrw);
20858:     mnToolbar1', 'TMenuItem', iptrw);
20859:     mnStatusbar2', 'TMenuItem', iptrw);
20860:     mnConsole2', 'TMenuItem', iptrw);
20861:     mnCoolbar2', 'TMenuItem', iptrw);
20862:     mnSplitter2', 'TMenuItem', iptrw);
20863:     WebServer1', 'TMenuItem', iptrw);
20864:     Tutorial17Server1', 'TMenuItem', iptrw);
20865:     Tutorial18Arduino1', 'TMenuItem', iptrw);
20866:     SynPerlSyn1', 'TSynPerlSyn', iptrw);
20867:     PerlSyntax1', 'TMenuItem', iptrw);
20868:     SynPythonSyn1', 'TSynPythonSyn', iptrw);
20869:     PythonSyntax1', 'TMenuItem', iptrw);
```

```
20870:     DMathLibrary1', 'TMenuItem', iptrw);
20871:     IntfNavigator1', 'TMenuItem', iptrw);
20872:     EnlargeFontConsole1', 'TMenuItem', iptrw);
20873:     ShrinkFontConsole1', 'TMenuItem', iptrw);
20874:     SetInterfaceList1', 'TMenuItem', iptrw);
20875:     popintfList', 'TPopupMenu', iptrw);
20876:     intfAdd1', 'TMenuItem', iptrw);
20877:     intfDelete1', 'TMenuItem', iptrw);
20878:     intfRefactor1', 'TMenuItem', iptrw);
20879:     Defactor1', 'TMenuItem', iptrw);
20880:     Tutorial19COMArduino1', 'TMenuItem', iptrw);
20881:     Tutorial20Regex', 'TMenuItem', iptrw);
20882:     N18', 'TMenuItem', iptrw);
20883:     ManualE1', 'TMenuItem', iptrw);
20884:     FullTextFinder1', 'TMenuItem', iptrw);
20885:     Move1', 'TMenuItem', iptrw);
20886:     FractalDemo1', 'TMenuItem', iptrw);
20887:     Tutorial21Android1', 'TMenuItem', iptrw);
20888:     Tutorial0Function1', 'TMenuItem', iptrw);
20889:     SimuLogBox1', 'TMenuItem', iptrw);
20890:     OpenExamples1', 'TMenuItem', iptrw);
20891:     SynJScriptSyn1', 'TSynJScriptSyn', iptrw);
20892:     JavaScriptSyntax1', 'TMenuItem', iptrw);
20893:     Halt1', 'TMenuItem', iptrw);
20894:     CodeSearch1', 'TMenuItem', iptrw);
20895:     SynRubySyn1', 'TSynRubySyn', iptrw);
20896:     RubySyntax1', 'TMenuItem', iptrw);
20897:     Undo1', 'TMenuItem', iptrw);
20898:     SynUNIXShellScriptSyn1', 'TSynUNIXShellScriptSyn', iptrw);
20899:     LinuxShellScript1', 'TMenuItem', iptrw);
20900:     Rename1', 'TMenuItem', iptrw);
20901:     spdcodesearch', 'TSpeedButton', iptrw);
20902:     Preview1', 'TMenuItem', iptrw);
20903:     Tutorial22Services1', 'TMenuItem', iptrw);
20904:     Tutorial23RealTime1', 'TMenuItem', iptrw);
20905:     Configuration1', 'TMenuItem', iptrw);
20906:     MP3Player1', 'TMenuItem', iptrw);
20907:     DLLSpy1', 'TMenuItem', iptrw);
20908:     SynURIOpener1', 'TSynURIOpener', iptrw);
20909:     SynURISyn1', 'TSynURISyn', iptrw);
20910:     URILinksClicks1', 'TMenuItem', iptrw);
20911:     EditReplace1', 'TMenuItem', iptrw);
20912:     GotoLine1', 'TMenuItem', iptrw);
20913:     ActiveLineColor1', 'TMenuItem', iptrw);
20914:     ConfigFile1', 'TMenuItem', iptrw);
20915:     Sort1Intflist', 'TMenuItem', iptrw);
20916:     Redo1', 'TMenuItem', iptrw);
20917:     Tutorial24CleanCode1', 'TMenuItem', iptrw);
20918:     Tutorial25Configuration1', 'TMenuItem', iptrw);
20919:     IndentSelection1', 'TMenuItem', iptrw);
20920:     UnindentSection1', 'TMenuItem', iptrw);
20921:     SkyStyle1', 'TMenuItem', iptrw);
20922:     N19', 'TMenuItem', iptrw);
20923:     CountWords1', 'TMenuItem', iptrw);
20924:     imbookmarkimages', 'TImageList', iptrw);
20925:     Bookmark11', 'TMenuItem', iptrw);
20926:     N20', 'TMenuItem', iptrw);
20927:     Bookmark21', 'TMenuItem', iptrw);
20928:     Bookmark31', 'TMenuItem', iptrw);
20929:     Bookmark41', 'TMenuItem', iptrw);
20930:     SynMultiSyn1', 'TSynMultiSyn', iptrw);
20931:
20932:     Procedure IFPS3ClassesPlugin1CompImport( Sender : TObject; x : TPSPascalCompiler)
20933:     Procedure IFPS3ClassesPlugin1ExecImport(Sender: TObject; Exec: TPSExec; x:TPSRuntimeClassImporter);
20934:     Procedure PSScriptCompile( Sender : TPSScript)
20935:     Procedure Compile1Click( Sender : TObject)
20936:     Procedure PSScriptExecute( Sender : TPSScript)
20937:     Procedure open1Click( Sender : TObject)
20938:     Procedure Save2Click( Sender : TObject)
20939:     Procedure Savebefore1Click( Sender : TObject)
20940:     Procedure Largefont1Click( Sender : TObject)
20941:     Procedure FormActivate( Sender : TObject)
20942:     Procedure SBytecode1Click( Sender : TObject)
20943:     Procedure FormKeyPress( Sender : TObject; var Key : Char)
20944:     Procedure Saveas3Click( Sender : TObject)
20945:     Procedure Clear1Click( Sender : TObject)
20946:     Procedure Slinenumbers1Click( Sender : TObject)
20947:     Procedure About1Click( Sender : TObject)
20948:     Procedure Search1Click( Sender : TObject)
20949:     Procedure FormCreate( Sender : TObject)
20950:     Procedure Memo1ReplaceText(Sender:TObject;const ASearch,AReplace:String;Line,Column:Integer;
20951:                                                 var Action : TSynReplaceAction)
20952:     Procedure Memo1StatusChange( Sender : TObject; Changes : TSynStatusChanges)
20953:     Procedure WordWrap1Click( Sender : TObject)
20954:     Procedure SearchNext1Click( Sender : TObject)
20955:     Procedure Replace1Click( Sender : TObject)
20956:     Function PSScriptNeedFile(Sender:TObject;const OrginFileName:String;var FName,Output:String):Bool;
20957:     Procedure ShowInclude1Click( Sender : TObject)
20958:     Procedure Printout1Click( Sender : TObject)
```

```
20959:     Procedure mnuPrintFont1Click( Sender : TObject)
20960:     Procedure Include1Click( Sender : TObject)
20961:     Procedure FormDestroy( Sender : TObject)
20962:     Procedure FormClose( Sender : TObject; var Action : TCloseAction)
20963:     Procedure UpdateView1Click( Sender : TObject)
20964:     Procedure CodeCompletionList1Click( Sender : TObject)
20965:     Procedure SaveOutput1Click( Sender : TObject)
20966:     Procedure ExportClipboard1Click( Sender : TObject)
20967:     Procedure Close1Click( Sender : TObject)
20968:     Procedure Manual1Click( Sender : TObject)
20969:     Procedure LoadLastFile1Click( Sender : TObject)
20970:     Procedure Memo1Change( Sender : TObject)
20971:     Procedure Decompile1Click( Sender : TObject)
20972:     Procedure StepInto1Click( Sender : TObject)
20973:     Procedure StepOut1Click( Sender : TObject)
20974:     Procedure Reset1Click( Sender : TObject)
20975:     Procedure cedebugAfterExecute( Sender : TPSScript)
20976:     Procedure cedebugBreakpoint(Sender:TObject; const FileName:String; Position,Row, Col: Cardinal)
20977:     Procedure cedebugCompile( Sender : TPSScript)
20978:     Procedure cedebugExecute( Sender : TPSScript)
20979:     Procedure cedebugIdle( Sender : TObject)
20980:     Procedure cedebugLineInfo( Sender:TObject;const FileName:String; Position, Row, Col : Cardinal)
20981:     Procedure Memo1SpecialLineColors(Sender: TObject; Line:Int; var Special:Boolean;var FG,BG:TColor);
20982:     Procedure BreakPointMenuClick( Sender : TObject)
20983:     Procedure DebugRun1Click( Sender : TObject)
20984:     Procedure tutorial4Click( Sender : TObject)
20985:     Procedure ImportfromClipboard1Click( Sender : TObject)
20986:     Procedure ImportfromClipboard2Click( Sender : TObject)
20987:     Procedure tutorial1Click( Sender : TObject)
20988:     Procedure ShowSpecChars1Click( Sender : TObject)
20989:     Procedure StatusBar1DblClick( Sender : TObject)
20990:     Procedure PSScriptLine( Sender : TObject)
20991:     Procedure OpenDirectory1Click( Sender : TObject)
20992:     Procedure procMessClick( Sender : TObject)
20993:     Procedure tbtnUseCaseClick( Sender : TObject)
20994:     Procedure EditFont1Click( Sender : TObject)
20995:     Procedure tutorial21Click( Sender : TObject)
20996:     Procedure tutorial31Click( Sender : TObject)
20997:     Procedure HTMLSyntax1Click( Sender : TObject)
20998:     Procedure ShowInterfaces1Click( Sender : TObject)
20999:     Procedure Tutorial5Click( Sender : TObject)
21000:     Procedure ShowLastException1Click( Sender : TObject)
21001:     Procedure PlayMP31Click( Sender : TObject)
21002:     Procedure AllFunctionsList1Click( Sender : TObject)
21003:     Procedure texSyntax1Click( Sender : TObject)
21004:     Procedure GetEMails1Click( Sender : TObject)
21005:     procedure DelphiSite1Click(Sender: TObject);
21006:     procedure TerminalStyle1Click(Sender: TObject);
21007:     procedure ReadOnly1Click(Sender: TObject); -->maxform1.memo2.readonly:= false;
21008:     procedure ShellStyle1Click(Sender: TObject);
21009:     procedure Console1Click(Sender: TObject);     //3.2
21010:     procedure BigScreen1Click(Sender: TObject);
21011:     procedure Tutorial91Click(Sender: TObject);
21012:     procedure SaveScreenshotClick(Sender: TObject);
21013:     procedure Tutorial101Click(Sender: TObject);
21014:     procedure SQLSyntax1Click(Sender: TObject);
21015:     procedure XMLSyntax1Click(Sender: TObject);
21016:     procedure ComponentCount1Click(Sender: TObject);
21017:     procedure NewInstance1Click(Sender: TObject);
21018:     procedure CSyntax1Click(Sender: TObject);
21019:     procedure Tutorial6Click(Sender: TObject);
21020:     procedure New1Click(Sender: TObject);
21021:     procedure AllObjectsList1Click(Sender: TObject);
21022:     procedure LoadBytecode1Click(Sender: TObject);
21023:     procedure CipherFile1Click(Sender: TObject);  //V3.5
21024:     procedure NewInstance1Click(Sender: TObject);
21025:     procedure toolbtnTutorialClick(Sender: TObject);
21026:     procedure Memory1Click(Sender: TObject);
21027:     procedure JavaSyntax1Click(Sender: TObject);
21028:     procedure SyntaxCheck1Click(Sender: TObject);
21029:     procedure ScriptExplorer1Click(Sender: TObject);
21030:     procedure FormOutput1Click(Sender: TObject);  //V3.6
21031:     procedure GotoEnd1Click(Sender: TObject);
21032:     procedure AllResourceList1Click(Sender: TObject);
21033:     procedure tbtn6resClick(Sender: TObject);   //V3.7
21034:     procedure Info1Click(Sender: TObject);
21035:     procedure Tutorial10Statistics1Click(Sender: TObject);
21036:     procedure Tutorial11Forms1Click(Sender: TObject);
21037:     procedure Tutorial12SQL1Click(Sender: TObject);  //V3.8
21038:     procedure ResourceExplore1Click(Sender: TObject);
21039:     procedure Info1Click(Sender: TObject);
21040:     procedure CryptoBox1Click(Sender: TObject);
21041:     procedure ModulesCount1Click(Sender: TObject);
21042:     procedure N4GewinntGame1Click(Sender: TObject);
21043:     procedure PHPSyntax1Click(Sender: TObject);
21044:     procedure SerialRS2321Click(Sender: TObject);
21045:     procedure CSyntax2Click(Sender: TObject);
21046:     procedure Calculator1Click(Sender: TObject);
21047:     procedure Tutorial13Ciphering1Click(Sender: TObject);
```

```
21048:     procedure Tutorial14Async1Click(Sender: TObject);
21049:     procedure PHPSyntax1Click(Sender: TObject);
21050:     procedure BtnZoomPlusClick(Sender: TObject);
21051:     procedure BtnZoomMinusClick(Sender: TObject);
21052:     procedure btnClassReportClick(Sender: TObject);
21053:     procedure ThreadDemo1Click(Sender: TObject);
21054:     procedure HEXView1Click(Sender: TObject);
21055:     procedure ExporttoHTML1Click(Sender: TObject);
21056:     procedure Minesweeper1Click(Sender: TObject);
21057:     procedure PicturePuzzle1Click(Sender: TObject); //V3.9
21058:     procedure sbvclhelpClick(Sender: TObject);
21059:     procedure DependencyWalker1Click(Sender: TObject);
21060:     procedure CB1SCListDrawItem(Control:TWinControl;Index:Int;aRect:TRect;State:TOwnerDrawState);
21061:     procedure WebScanner1Click(Sender: TObject);
21062:     procedure mnToolbar1Click(Sender: TObject);
21063:     procedure mnStatusbar2Click(Sender: TObject);
21064:     procedure mnConsole2Click(Sender: TObject);
21065:     procedure mnCoolbar2Click(Sender: TObject);
21066:     procedure mnSplitter2Click(Sender: TObject);
21067:     procedure WebServer1Click(Sender: TObject);
21068:     procedure PerlSyntax1Click(Sender: TObject);
21069:     procedure PythonSyntax1Click(Sender: TObject);
21070:     procedure DMathLibrary1Click(Sender: TObject);
21071:     procedure IntfNavigator1Click(Sender: TObject);
21072:     procedure FullTextFinder1Click(Sender: TObject);
21073:     function AppName: string;
21074:     function ScriptName: string;
21075:     function LastName: string;
21076:     procedure FractalDemo1Click(Sender: TObject);
21077:     procedure SimuLogBox1Click(Sender: TObject);
21078:     procedure OpenExamples1Click(Sender: TObject);
21079:     procedure Halt1Click(Sender: TObject);
21080:     procedure Stop;
21081:     procedure CodeSearch1Click(Sender: TObject);
21082:     procedure RubySyntax1Click(Sender: TObject);
21083:     procedure Undo1Click(Sender: TObject);
21084:     procedure LinuxShellScript1Click(Sender: TObject);
21085:     procedure WebScannerDirect(urls: string);
21086:     procedure WebScanner(urls: string);
21087:     procedure LoadInterfaceList2;
21088:     procedure DLLSpy1Click(Sender: TObject);
21089:     procedure Memo1DblClick(Sender: TObject);
21090:     procedure URILinksClicks1Click(Sender: TObject);
21091:     procedure GotoLine1Click(Sender: TObject);
21092:     procedure ConfigFile1Click(Sender: TObject);
21093:     Procedure Sort1IntflistClick( Sender : TObject)
21094:     Procedure Redo1Click( Sender : TObject)
21095:     Procedure Tutorial24CleanCode1Click( Sender : TObject)
21096:     Procedure IndentSelection1Click( Sender : TObject)
21097:     Procedure UnindentSection1Click( Sender : TObject)
21098:     Procedure SkyStyle1Click( Sender : TObject)
21099:     Procedure CountWords1Click( Sender : TObject)
21100:     Procedure Memo1PlaceBookmark( Sender : TObject; var Mark : TSynEditMark)
21101:     Procedure Memo1GutterClick(Sender:TObject;Button:TMouseButton;X,Y,Line:Integer;Mark:TSynEditMark);
21102:     Procedure Bookmark11Click( Sender : TObject)
21103:     Procedure Bookmark21Click( Sender : TObject)
21104:     Procedure Bookmark31Click( Sender : TObject)
21105:     Procedure Bookmark41Click( Sender : TObject)
21106:     Procedure SynMultiSyn1CustomRange(Sender:TSynMultiSyn;Operat:TRangeOperation;var Range:Pointer);
21107:     'STATMemoryReport', 'boolean', iptrw);
21108:     'IPPort', 'integer', iptrw);
21109:     'COMPort', 'integer', iptrw);
21110:     'lbintflist', 'TListBox', iptrw);
21111:     Function GetStatChange : boolean
21112:     Procedure SetStatChange( vstat : boolean)
21113:     Function GetActFileName : string
21114:     Procedure SetActFileName( vname : string)
21115:     Function GetLastFileName : string
21116:     Procedure SetLastFileName( vname : string)
21117:     Procedure WebScannerDirect( urls : string)
21118:     Procedure LoadInterfaceList2
21119:     Function GetStatExecuteShell : boolean
21120:     Procedure DoEditorExecuteCommand( EditorCommand : word)
21121:     function GetActiveLineColor: TColor
21122:     procedure SetActiveLineColor(acolor: TColor)
21123:     procedure ScriptListbox1Click(Sender: TObject);
21124:     procedure Memo2KeyPress(Sender: TObject; var Key: Char);
21125:     procedure EnlargeGutter1Click(Sender: TObject);
21126:     procedure Tetris1Click(Sender: TObject);
21127:     procedure ToDoList1Click(Sender: TObject);
21128:     procedure ProcessList1Click(Sender: TObject);
21129:     procedure MetricReport1Click(Sender: TObject);
21130:     procedure ProcessList1Click(Sender: TObject);
21131:     procedure TCPSockets1Click(Sender: TObject);
21132:     procedure ConfigUpdate1Click(Sender: TObject);
21133:     procedure ADOWorkbench1Click(Sender: TObject);
21134:     procedure SocketServer1Click(Sender: TObject);
21135:     procedure FormDemo1Click(Sender: TObject);
21136:     procedure Richedit1Click(Sender: TObject);
```

```
21137:     procedure SimpleBrowser1Click(Sender: TObject);
21138:     procedure DOSShell1Click(Sender: TObject);
21139:     procedure SynExport1Click(Sender: TObject);
21140:     procedure ExporttoRTF1Click(Sender: TObject);
21141:     procedure FormCloseQuery(Sender: TObject; var CanClose: Boolean);
21142:     procedure SOAPTester1Click(Sender: TObject);
21143:     procedure Sniffer1Click(Sender: TObject);
21144:     procedure AutoDetectSyntax1Click(Sender: TObject);
21145:     procedure FPlot1Click(Sender: TObject);
21146:     procedure PasStyle1Click(Sender: TObject);
21147:     procedure Tutorial183RGBLED1Click(Sender: TObject);
21148:     procedure Reversi1Click(Sender: TObject);
21149:     procedure ManualmaXbox1Click(Sender: TObject);
21150:     procedure BlaisePascalMagazine1Click(Sender: TObject);
21151:     procedure AddToDo1Click(Sender: TObject);
21152:     procedure CreateGUID1Click(Sender: TObject);
21153:     procedure Tutorial27XML1Click(Sender: TObject);
21154:     procedure CreateDLLStub1Click(Sender: TObject);
21155:     procedure Tutorial28DLL1Click(Sender: TObject);');
21156:     procedure ResetKeyPressed;');
21157:     procedure KeyPressedFalse;
21158:     procedure FileChanges1Click(Sender: TObject);');
21159:     procedure OpenGLTry1Click(Sender: TObject);');
21160:     procedure AllUnitList1Click(Sender: TObject);');
21161:     procedure Tutorial29UMLClick(Sender: TObject);
21162:     procedure CreateHeader1Click(Sender: TObject);
21163:     procedure Oscilloscope1Click(Sender: TObject);');
21164:     procedure Tutorial30WOT1Click(Sender: TObject);');
21165:     procedure GetWebScript1Click(Sender: TObject);');
21166:     procedure Checkers1Click(Sender: TObject);');
21167:     procedure TaskMgr1Click(Sender: TObject);');
21168:     procedure WebCam1Click(Sender: TObject);');
21169:     procedure Tutorial31Closure1Click(Sender: TObject);');
21170:     procedure GEOMapView1Click(Sender: TObject);');
21171:     procedure Run1Click(Sender: TObject);
21172:     MaxForm1.GPSSatView1Click, 'GPSSatView1Click');
21173:     MaxForm1.N3DLab1Click, 'N3DLab1Click');
21174:     procedure ExternalApp1Click(Sender: TObject);');
21175:
21176:
21177: //-----------------------------------------------------------------------
21178: //**************mX4 Editor SynEdit Tools API *********************************
21179: //-----------------------------------------------------------------------------
21180: procedure SIRegister_TCustomSynEdit(CL: TPSPascalCompiler);
21181: begin
21182:   //with RegClassS(CL,'TCustomControl', 'TCustomSynEdit') do
21183:   with FindClass('TCustomControl'),'TCustomSynEdit') do begin
21184:     Constructor Create( AOwner : TComponent)
21185:     SelStart', 'Integer', iptrw);
21186:     SelEnd', 'Integer', iptrw); AlwaysShowCaret', 'Boolean', iptrw);
21187:     Procedure UpdateCaret
21188:     Procedure AddKey(Command: TSynEditorCommand;Key1:word;SS1:TShiftState; Key2:word;SS2:TShiftState);
21189:     Procedure AddKey(Command: TSynEditorCommand;Key1:word;SS1:TShiftState; Key2: word;SS2:TShiftState);
21190:     Procedure BeginUndoBlock
21191:     Procedure BeginUpdate
21192:     Function CaretInView : Boolean
21193:     Function CharIndexToRowCol( Index : integer) : TBufferCoord
21194:     Procedure Clear
21195:     Procedure ClearAll
21196:     Procedure ClearBookMark( BookMark : Integer)
21197:     Procedure ClearSelection
21198:     Procedure CommandProcessor( Command : TSynEditorCommand; AChar : char; Data : pointer)
21199:     Procedure ClearUndo
21200:     Procedure CopyToClipboard
21201:     Procedure CutToClipboard
21202:     Procedure DoCopyToClipboard( const SText : string)
21203:     Procedure EndUndoBlock
21204:     Procedure EndUpdate
21205:     Procedure EnsureCursorPosVisible
21206:     Procedure EnsureCursorPosVisibleEx( ForceToMiddle : Boolean)
21207:     Procedure FindMatchingBracket
21208:     Function GetMatchingBracket : TBufferCoord
21209:     Function GetMatchingBracketEx( const APoint : TBufferCoord) : TBufferCoord
21210:     Procedure ExecuteCommand( Command : TSynEditorCommand; AChar : char; Data : pointer)
21211:     Function GetBookMark( BookMark : integer; var X, Y : integer) : boolean
21212:     Function GetHighlighterAttriAtRowCol( const XY: TBufferCoord; var Token : string; var Attri
21213:               : TSynHighlighterAttributes) : boolean
21214:     Function GetHighlighterAttriAtRowColEx( const XY : TBufferCoord; var Token : string;
21215:               var TokenType, Start : Integer; var Attri:TSynHighlighterAttributes):boolean
21216:     Function GetPositionOfMouse( out aPos : TBufferCoord) : Boolean
21217:     Function GetWordAtRowCol( const XY : TBufferCoord) : string
21218:     Procedure GotoBookMark( BookMark : Integer)
21219:     Procedure GotoLineAndCenter( ALine : Integer)
21220:     Function IdentChars : TSynIdentChars
21221:     Procedure InvalidateGutter
21222:     Procedure InvalidateGutterLine( aLine : integer)
21223:     Procedure InvalidateGutterLines( FirstLine, LastLine : integer)
21224:     Procedure InvalidateLine( Line : integer)
21225:     Procedure InvalidateLines( FirstLine, LastLine : integer)
```

```
21226:     Procedure InvalidateSelection
21227:     Function IsBookmark( BookMark : integer) : boolean
21228:     Function IsPointInSelection( const Value : TBufferCoord) : boolean
21229:     Procedure LockUndo
21230:     Function BufferToDisplayPos( const p : TBufferCoord) : TDisplayCoord
21231:     Function DisplayToBufferPos( const p : TDisplayCoord) : TBufferCoord
21232:     Function LineToRow( aLine : integer) : integer
21233:     Function RowToLine( aRow : integer) : integer
21234:     Function NextWordPos : TBufferCoord
21235:     Function NextWordPosEx( const XY : TBufferCoord) : TBufferCoord
21236:     Procedure PasteFromClipboard
21237:     Function WordStart : TBufferCoord
21238:     Function WordStartEx( const XY : TBufferCoord) : TBufferCoord
21239:     Function WordEnd : TBufferCoord
21240:     Function WordEndEx( const XY : TBufferCoord) : TBufferCoord
21241:     Function PrevWordPos : TBufferCoord
21242:     Function PrevWordPosEx( const XY : TBufferCoord) : TBufferCoord
21243:     Function PixelsToRowColumn( aX, aY : integer) : TDisplayCoord
21244:     Function PixelsToNearestRowColumn( aX, aY : integer) : TDisplayCoord
21245:     Procedure Redo
21246:     Procedure RegisterCommandHandler(const AHandlerProc:THookedCommandEvent;AHandlerData:pointer);
21247:     Function RowColumnToPixels( const RowCol : TDisplayCoord) : TPoint
21248:     Function RowColToCharIndex( RowCol : TBufferCoord) : integer
21249:     Function SearchReplace( const ASearch, AReplace:string; AOptions:TSynSearchOptions): integer
21250:     Procedure SelectAll
21251:     Procedure SetBookMark( BookMark : Integer; X : Integer; Y : Integer)
21252:     Procedure SetCaretAndSelection( const ptCaret, ptBefore, ptAfter : TBufferCoord)
21253:     Procedure SetDefaultKeystrokes
21254:     Procedure SetSelWord
21255:     Procedure SetWordBlock( Value : TBufferCoord)
21256:     Procedure Undo
21257:     Procedure UnlockUndo
21258:     Procedure UnregisterCommandHandler( AHandlerProc : THookedCommandEvent)
21259:     Procedure AddKeyUpHandler( aHandler : TKeyEvent)
21260:     Procedure RemoveKeyUpHandler( aHandler : TKeyEvent)
21261:     Procedure AddKeyDownHandler( aHandler : TKeyEvent)
21262:     Procedure RemoveKeyDownHandler( aHandler : TKeyEvent)
21263:     Procedure AddKeyPressHandler( aHandler : TKeyPressEvent)
21264:     Procedure RemoveKeyPressHandler( aHandler : TKeyPressEvent)
21265:     Procedure AddFocusControl( aControl : TWinControl)
21266:     Procedure RemoveFocusControl( aControl : TWinControl)
21267:     Procedure AddMouseDownHandler( aHandler : TMouseEvent)
21268:     Procedure RemoveMouseDownHandler( aHandler : TMouseEvent)
21269:     Procedure AddMouseUpHandler( aHandler : TMouseEvent)
21270:     Procedure RemoveMouseUpHandler( aHandler : TMouseEvent)
21271:     Procedure AddMouseCursorHandler( aHandler : TMouseCursorEvent)
21272:     Procedure RemoveMouseCursorHandler( aHandler : TMouseCursorEvent)
21273:     Procedure SetLinesPointer( ASynEdit : TCustomSynEdit)
21274:     Procedure RemoveLinesPointer
21275:     Procedure HookTextBuffer( aBuffer : TSynEditStringList; aUndo, aRedo : TSynEditUndoList)
21276:     Procedure UnHookTextBuffer
21277:     BlockBegin', 'TBufferCoord', iptrw);
21278:     BlockEnd', 'TBufferCoord', iptrw);
21279:     CanPaste', 'Boolean', iptr);
21280:     CanRedo', 'boolean', iptr);
21281:     CanUndo', 'boolean', iptr);
21282:     CaretX', 'Integer', iptrw);
21283:     CaretY', 'Integer', iptrw);
21284:     CaretXY', 'TBufferCoord', iptrw);
21285:     ActiveLineColor', 'TColor', iptrw);
21286:     DisplayX', 'Integer', iptr);
21287:     DisplayY', 'Integer', iptr);
21288:     DisplayXY', 'TDisplayCoord', iptr);
21289:     DisplayLineCount', 'integer', iptr);
21290:     CharsInWindow', 'Integer', iptr);
21291:     CharWidth', 'integer', iptr);
21292:     Font', 'TFont', iptrw);
21293:     GutterWidth', 'Integer', iptr);
21294:     Highlighter', 'TSynCustomHighlighter', iptrw);
21295:     LeftChar', 'Integer', iptrw);
21296:     LineHeight', 'integer', iptr);
21297:     LinesInWindow', 'Integer', iptr);
21298:     LineText', 'string', iptrw);
21299:     Lines', 'TStrings', iptrw);
21300:     Marks', 'TSynEditMarkList', iptr);
21301:     MaxScrollWidth', 'integer', iptrw);
21302:     Modified', 'Boolean', iptrw);
21303:     PaintLock', 'Integer', iptr);
21304:     ReadOnly', 'Boolean', iptrw);
21305:     SearchEngine', 'TSynEditSearchCustom', iptrw);
21306:     SelAvail', 'Boolean', iptr); SelLength', 'integer', iptrw);
21307:     SelTabBlock', 'Boolean', iptr);
21308:     SelTabLine', 'Boolean', iptr);
21309:     SelText', 'string', iptrw);
21310:     StateFlags', 'TSynStateFlags', iptr);
21311:     Text', 'string', iptrw);
21312:     TopLine', 'Integer', iptrw);
21313:     WordAtCursor', 'string', iptr);
21314:     WordAtMouse', 'string', iptr);
```

```
21315:     UndoList', 'TSynEditUndoList', iptr);
21316:     RedoList', 'TSynEditUndoList', iptr);
21317:     OnProcessCommand', 'TProcessCommandEvent', iptrw);
21318:     BookMarkOptions', 'TSynBookMarkOpt', iptrw);
21319:     BorderStyle', 'TSynBorderStyle', iptrw);
21320:     ExtraLineSpacing', 'integer', iptrw);
21321:     Gutter', 'TSynGutter', iptrw);
21322:     HideSelection', 'boolean', iptrw);
21323:     InsertCaret', 'TSynEditCaretType', iptrw);
21324:     InsertMode', 'boolean', iptrw);
21325:     IsScrolling', 'Boolean', iptr);
21326:     Keystrokes', 'TSynEditKeyStrokes', iptrw);
21327:     MaxUndo', 'Integer', iptrw);
21328:     Options', 'TSynEditorOptions', iptrw);
21329:     OverwriteCaret', 'TSynEditCaretType', iptrw);
21330:     RightEdge', 'Integer', iptrw); RightEdgeColor', 'TColor', iptrw);
21331:     ScrollHintColor', 'TColor', iptrw);
21332:     ScrollHintFormat', 'TScrollHintFormat', iptrw);
21333:     ScrollBars', 'TScrollStyle', iptrw);
21334:     SelectedColor', 'TSynSelectedColor', iptrw);
21335:     SelectionMode', 'TSynSelectionMode', iptrw);
21336:     ActiveSelectionMode', 'TSynSelectionMode', iptrw);
21337:     TabWidth', 'integer', iptrw);  WantReturns', 'boolean', iptrw);
21338:     WantTabs', 'boolean', iptrw);  WordWrap', 'boolean', iptrw);
21339:     WordWrapGlyph', 'TSynGlyph', iptrw);
21340:     OnChange', 'TNotifyEvent', iptrw);
21341:     OnClearBookmark', 'TPlaceMarkEvent', iptrw);
21342:     OnCommandProcessed', 'TProcessCommandEvent', iptrw);
21343:     OnContextHelp', 'TContextHelpEvent', iptrw);
21344:     OnDropFiles', 'TDropFilesEvent', iptrw);
21345:     OnGutterClick', 'TGutterClickEvent', iptrw);
21346:     OnGutterGetText', 'TGutterGetTextEvent', iptrw);
21347:     OnGutterPaint', 'TGutterPaintEvent', iptrw);
21348:     OnMouseCursor', 'TMouseCursorEvent', iptrw);
21349:     OnPaint', 'TPaintEvent', iptrw);
21350:     OnPlaceBookmark', 'TPlaceMarkEvent', iptrw);
21351:     OnProcessUserCommand', 'TProcessCommandEvent', iptrw);
21352:     OnReplaceText', 'TReplaceTextEvent', iptrw);
21353:     OnSpecialLineColors', 'TSpecialLineColorsEvent', iptrw);
21354:     OnStatusChange', 'TStatusChangeEvent', iptrw);
21355:     OnPaintTransient', 'TPaintTransient', iptrw);
21356:     OnScroll', 'TScrollEvent', iptrw);
21357:   end;
21358:  Procedure RegisterPlaceableHighlighter(highlighter : TSynCustomHighlighterClass)
21359:  Function GetPlaceableHighlighters : TSynHighlighterList
21360:  Function EditorCommandToDescrString( Cmd : TSynEditorCommand) : string
21361:  Function EditorCommandToCodeString( Cmd : TSynEditorCommand) : string
21362:  Procedure GetEditorCommandValues( Proc : TGetStrProc)
21363:  Procedure GetEditorCommandExtended( Proc : TGetStrProc)
21364:  Function IdentToEditorCommand( const Ident : string; var Cmd : longint) : boolean
21365:  Function EditorCommandToIdent( Cmd : longint; var Ident : string) : boolean
21366:  Function ConvertCodeStringToExtended( AString : String) : String
21367:  Function ConvertExtendedToCodeString( AString : String) : String
21368:  Function ConvertExtendedToCommand( AString : String) : TSynEditorCommand
21369:  Function ConvertCodeStringToCommand( AString : String) : TSynEditorCommand
21370:  Function IndexToEditorCommand( const AIndex : Integer) : Integer
21371:
21372:   TSynEditorOption = (
21373:     eoAltSetsColumnMode,       //Holding down the Alt Key will put the selection mode into columnar format
21374:     eoAutoIndent,              //Will indent caret on newlines with same amount of leading whitespace as
21375:                                // preceding line
21376:     eoAutoSizeMaxScrollWidth,  //Automatically resizes the MaxScrollWidth property when inserting text
21377:     eoDisableScrollArrows,     //Disables the scroll bar arrow buttons when you can't scroll in that
21378:                                //direction any more
21379:     eoDragDropEditing,         //Allows to select a textblock and drag it in document to another location
21380:     eoDropFiles,               //Allows the editor accept OLE file drops
21381:     eoEnhanceHomeKey,          //enhances home key positioning, similar to visual studio
21382:     eoEnhanceEndKey,           //enhances End key positioning, similar to JDeveloper
21383:     eoGroupUndo,               //When undoing/redoing actions,handle all cont.changes same kind in onecall
21384:                                //instead undoing/redoing each command separately
21385:     eoHalfPageScroll,          //By scrolling with page-up/page-down commands,only scroll half page attime
21386:     eoHideShowScrollbars,      //if enabled, then scrollbars will only show if necessary.
21387:     If you have ScrollPastEOL, then it the horizontal bar will always be there (it uses MaxLength instead)
21388:     eoKeepCaretX,              //When moving through lines w/o cursor Past EOL, keeps X position of cursor
21389:     eoNoCaret,                 //Makes it so the caret is never visible
21390:     eoNoSelection,             //Disables selecting text
21391:     eoRightMouseMovesCursor,   //When clicking with right mouse for popup menu, moves cursor to location
21392:     eoScrollByOneLess,         //Forces scrolling to be one less
21393:     eoScrollHintFollows,       //The scroll hint follows the mouse when scrolling vertically
21394:     eoScrollPastEof,           //Allows the cursor to go past the end of file marker
21395:     eoScrollPastEol,           //Allows cursor to go past last character into white space at end of a line
21396:     eoShowScrollHint,          //Shows a hint of the visible line numbers when scrolling vertically
21397:     eoShowSpecialChars,        //Shows the special Characters
21398:     eoSmartTabDelete,          //similar to Smart Tabs, but when you delete characters
21399:     eoSmartTabs,               //When tabbing, cursor will go to non-white space character of previous line
21400:     eoSpecialLineDefaultFg,    //disables the foreground text color override using OnSpecialLineColor event
21401:     eoTabIndent,               //If active <Tab>and<Shift><Tab> act block indent,unindent when text select
21402:     eoTabsToSpaces,            //Converts a tab character to a specified number of space characters
21403:     eoTrimTrailingSpaces       //Spaces at the end of lines will be trimmed and not saved
```

```
21404:
21405:     ********************************Important Editor Short Cuts*****************************);
21406:     Double click to select a word and count words with highlightning.
21407:     Triple click to select a line.
21408:     CTRL+SHIFT+click to extend a selection.
21409:     Drag with the ALT key down to select columns of text !!!
21410:     Drag and drop is supported.
21411:     Type CTRL+Z to undo and SHIFT+CTRL+Z to redo.
21412:     Type CTRL+A to select all.
21413:     Type CTRL+N to set a new line.
21414:     Type CTRL+T to delete a line or token. //Tokenizer
21415:     Type CTRL+C to copy to clipboard. Type CTRL+V to paste from clipboard.
21416:     Type CTRL+Shift+T to add ToDo in line and list.
21417:     Type CTRL+Shift+[0..9] to set bookmarks.   //Bookmark
21418:     Type CTRL[0..9] to jump or get to bookmarks.
21419:     Type Home to position cursor at beginning of current line and End to position it at end of line.
21420:     Type CTRL+Home to position cursor at start of doc and CTRL+End to position it at end of document.
21421:     Page Up and Page Down work as expected.
21422:     CTRL+Page Up sends cursor to top of viewed portion and CTRL+Page Down sends it to bottom.
21423:     using http://pp4s.co.uk/main/tu-form2-help-demo-laz.html
21424:
21425: {$ Short Key Positions Ctrl<A-Z>: }
21426: def
21427:    <A> Select All
21428:    <B> Count Words
21429:    <C> Copy
21430:    <D> Internet Start
21431:    <E> Script List
21432:    <F> Find
21433:    <G> Goto
21434:    <H> Mark Line
21435:    <I> Interface List
21436:    <J> Code Completion
21437:    <K> Console
21438:    <L> Interface List Box
21439:    <M> Font Larger -
21440:    <N> New Line
21441:    <O> Open File
21442:    <P> Font Smaller +
21443:    <Q> Quit
21444:    <R> Replace
21445:    <S> Save!
21446:    <T> Delete Line
21447:    <U> Use Case Editor
21448:    <V> Paste
21449:    <W> URI Links
21450:    <X> Reserved for coding use internal
21451:    <Y> Delete Line
21452:    <Z> Undo
21453:
21454: ref
21455:    F1 Help
21456:    F2 Syntax Check
21457:    F3 Search Next
21458:    F4 New Instance
21459:    F5 Line Mark /Breakpoint
21460:    F6 Goto End
21461:    F7 Debug Step Into
21462:    F8 Debug Step Out
21463:    F9 Compile
21464:    F10 Menu
21465:    F11 Word Count Highlight
21466:    F12 Reserved for coding use internal
21467:
21468:    AddRegisteredVariable('Application', 'TApplication');
21469:    AddRegisteredVariable('Screen', 'TScreen');
21470:    AddRegisteredVariable('Self', 'TForm');
21471:    AddRegisteredVariable('Memo1', 'TSynMemo');
21472:    AddRegisteredVariable('memo2', 'TMemo');
21473:    AddRegisteredVariable('maxForm1', 'TMaxform1');  //!!
21474:    AddRegisteredVariable('debugout', 'Tdebugoutput');  //!!
21475:    AddRegisteredVariable('hlog','THotlog');  //!!
21476:    AddRegisteredVariable( it ,integer');  //for closure!!
21477:    AddRegisteredVariable( sr ,string');  //for closure
21478:    AddRegisteredVariable( bt ,boolean');  //for closure
21479:    AddRegisteredVariable( ft ,double');  //for closure
21480:    AddRegisteredVariable( srlist ,TStringlist');  //for closures
21481:
21482:  def ReservedWords: array[0..82] of string =
21483:     ('and', 'array', 'as', 'asm', 'at', 'begin', 'case', 'class', 'const',
21484:      'constructor', 'default', 'destructor', 'dispinterface', 'div', 'do',
21485:      'downto', 'else', 'end', 'except', 'exports', 'file', 'finalization',
21486:      'finally', 'for', 'function', 'goto', 'if', 'implementation', 'in',
21487:      'inherited', 'initialization', 'inline', 'interface', 'is', 'label',
21488:      'library', 'message', 'mod', 'nil', 'not', 'object', 'of', 'on', 'or',
21489:      'out', 'packed', 'procedure', 'program', 'property', 'raise', 'read',
21490:      'record', 'repeat', 'resourcestring', 'set', 'shl', 'shr', 'string',
21491:      'stored', 'then', 'threadvar', 'to', 'try', 'type', 'unit', 'until',
21492:      'uses', 'var', 'while', 'with', 'write', 'xor', 'private', 'protected',
```

```
21493:      'public', 'published',def,ref,using,typedef ,memo1','memo2','doc','maxform1','it';
21494:   AllowedChars: array[0..5] of string = ('(',')', '[', ']',' ',' t,t1,t2,t3: boolean;
21495: //-------------------------------------------------------------------------------
21496: //*************End of mX4 Public  Tools API *********************************
21497: //-------------------------------------------------------------------------------
21498:
21499: Amount of Functions: 13829
21500: Amount of Procedures: 8444
21501: Amount of Constructors: 1371
21502: Totals of Calls: 23644
21503: SHA1: Win 3.9.9.110 C47713EE2CFFD66F569249E63A16D10874B484B1
21504:
21505:
21506: ************************************************************
21507:  Doc Short Manual with 50 Tips!
21508: ************************************************************
21509: - Install: just save your maxboxdef.ini before and then extract the zip file!
21510: - Toolbar: Click on the red maXbox Sign (right on top) opens your work directory or jump to <Help>
21511: - Menu: With <F2> you check syntax with <F8> you debug and <F9> you compile!
21512: - Menu: With <Crtl><F3> you can search for code on examples
21513: - Menu: Open in menu Output a new instance <F4> of the box to compare or prepare your scripts
21514: - Menu: Set Interface Naviagator in menu /View/Intf Navigator
21515: - Menu: Switch or toogle between the last 2 scripts in menu File/LoadLast (History is set to 9 files)
21516:
21517: - Inifile: Set memory report in ini: MEMORYREPORT=Y :report on memory leaks on shutdown by dialog
21518: - Inifile: Refresh (reload) the inifile after edit with ../Help/Config Update
21519: - Context Menu: You can printout your scripts as a pdf-file or html-export
21520: - Context: You do have a context menu with the right mouse click
21521:
21522: - Menu: With the UseCase Editor you can convert graphic formats too.
21523: - Menu: On menu Options you find Addons as compiled scripts
21524: - IDE: Menu Program: Run Only is faster, after F2 - You don't need a mouse use shortcuts
21525: - Menu: Check Options/ProcessMessages! if something is wrong or you can't see graphics in a time
21526: - IDE: Dragndrop your scripts in box or the model in use case editor (Cut,Copy,Paste always available)
21527: - Editor: You can get templates as code completion with <ctrl j> in editor like classp or iinterface
21528:         or ttimer (you type classp and then CTRL J),or you type tstringlist and <Ctrl><J>
21529:
21530: - Menu: In menu output (console) you can set output menu in edit mode by unchecking <read only output>
21531: - Editor: After the end. you can write or copy notes or descriptions concerning the app or code
21532: - Code: If you code a loop till key-pressed use function: isKeyPressed;
21533: - Code: Macro set the macros #name,, #paAdministratorth, #file,startmaxbox_extract_funclist399.txter25.pdf
21534: - Code: change Syntax in autoboot macro 'maxbootscript.txt'
21535: - Editor: - <F11> Click on Word in Editor search amount of words with highlighting, Dbl Click on Bookmarks
21536:          to delete and Click and mark to drag a bookmark
21537: - Menu: To start handling from CD-ROM (read only mode) uncheck in Menu /Options/Save before Compile
21538: - IDE: A file info with system and script information you find in menu Program/Information
21539: - IDE: After change the config file in help you can update changes in menu Help/Config Update
21540: - IDE: Make a screenshot of the content and environment in menu Output/Save Screenshot
21541: - IDE: Use a boot loader script 'maxbootscript.txt' (as auto start) to change box each time you start it.
21542: - IDE: With escape or <Ctrl> Q you can also leave the box or stop a script in menu program - stop program
21543: - Editor: Set Bookmarks to check your work in app or code
21544: - Editor: With <Ctrl H> you set {$Active Line Color} and F11 you get Word Count Statistic on Output too
21545: - Editor: With {//TODO: some description} or DONE you set code entries for ToDo List in ../Help/ToDo List
21546: - Editor: With <Ctrl W> you set active URL links in your code to test availability in Context Menu
21547:
21548: - IDE with  menu /Options/ADO SQL Workbench you can manage your Database
21549: - Context Menu: You can write your docus with RichEdit RTF printout /Editor Form Options/Richedit
21550: - Menu: Set Interface Naviagator also with  toogle <Ctrl L> or /View/Intf Navigator
21551: - Toolbar: In menu /View switch Off Toolbar and Coolbar to get more coding space
21552: - Code: Put some resources in your code /Help/Resource Explorer like bitbtn, forms, dialogs;
21553: - Code Editor: Compile with <F9> but also Alt C in case <F9> isnt available;
21554: - IDE set bookmarks with  <Ctrl Shift> (0..9) and jump with <Ctrl> (0..9)
21555: - IDE menu /Help/Tools/ write with RTF Editor or open a DOS Shell or browse
21556: - IDE menu /Help/Tools/ open the Task Manager
21557:
21558: - Add on write your Requirements in RTF Docu with <CTRL ALT R> in context menu
21559: - Add on when no browser is available start /Options/Add ons/Easy Browser
21560: - Add on SOAP Tester with SOP POST File
21561: - Add on IP Protocol Sniffer with List View
21562: - Add on OpenGL mX Robot Demo for android
21563: - Add on Checkers Game, Add on Oscilloscope /View GEO Map View3
21564:
21565: - Menu: Help/Tools as a Tool Section with DOS Opener
21566: - Menu Editor: export the code as RTF File
21567: - Menu: Help/Tools/Syn Export your code as available in HTML or RTF
21568: - Menu: Help/Tools/ with <Alt H-S-D> you start the DOS Shell
21569: - Context: Auto Detect of Syntax depending on file extension
21570: - Code: some Windows API function start with w in the name like wGetAtomName();
21571: - IDE Close - if you cant close the box then reset it <Ctrl F2> in menu /Debug
21572: - IDE File Check with menu ..View/File Changes/...
21573: - Context: Create a Header with Create Header in Navigator List at right window
21574: - Code: use  SysErrorMessage to get a real Error Description, Ex.
21575:       RemoveDir('c:\NoSuchFolder') ;
21576:       writeln('System Error Message: '+ SysErrorMessage(GetLastError));
21577: - IDE getWebScript from a URL with menu ..Help/Get Web Script/...
21578:
21579: - using DLL example in maXbox: //function: {*****************************************}
21580:    Function GetProcessMemoryInfo(Process: THandle; var MemoryCounters: TProcessMemoryCounters;
21581:                                  cb: DWORD): BOOL; //stdcall;;
```

```
21582:      External 'GetProcessMemoryInfo@psapi.dll stdcall';
21583:    Function OpenProcess(dwDesiredAccess:DWORD; bInheritHandle:BOOL; dwProcessId: DWORD):THandle;
21584:      External  'OpenProcess@kernel32.dll stdcall';
21585:
21586: GCC Compile Ex Script
21587: procedure TFormMain_btnCompileClick(Sender: TObject);
21588: begin
21589:   AProcess:= TProcess.Create(Nil);
21590:   try  AProcess.CommandLine := 'gcc.exe "' + OpenDialog1.FileName + '"'
21591:       + ' -o "' + OpenDialog2.FileName + '"';
21592:     AProcess.Options:= AProcess.Options + [poWaitOnExit, poUsePipes];
21593:     AProcess.Execute;
21594:     Memo2.Lines.BeginUpdate;
21595:     Memo2.Lines.Clear;
21596:     Memo2.Lines.LoadFromStream(AProcess.Output);
21597:     Memo2.Lines.EndUpdate;
21598:   finally
21599:     AProcess.Free;
21600:   end;
21601: end;
21602:
21603: Stopwatch pattern
21604: Time1:= Time;
21605:   writeln(formatdatetime('"start:" hh:mm:ss:zzz',Time))
21606:   if initAndStartBoard then
21607:      writeln('Filesize: '+inttoStr(filesize(FILESAVE)));
21608:   writeln(formatDateTime('"stop:" hh:mm:ss:zzz',Time))
21609:   PrintF('%d %s',[Trunc((Time-Time1)*24),
21610:                   FormatDateTime('"h runtime:" nn:ss:zzz',Time-Time1)])
21611:
21612:    POST git-receive-pack (chunked)
21613: Pushing to https://github.com/maxkleiner/maXbox3.git
21614: To https://github.com/maxkleiner/maXbox3.git f127d21..c6a98da  masterbox2 -> masterbox2
21615: updating local tracking ref 'refs/remotes/maXbox3Remote/masterbox2'
21616:
21617: History Shell Hell
21618: PCT Precompile Technology , mX4 ScriptStudio
21619: Indy, JCL, Jedi, VCL, Systools, TurboPower, Fundamentals, ExtendedRTL, Synedit
21620: DMath, devC, Graphics32, ExtPascal, mX4, LCL, CLX, FCL, CPort and more
21621: emax layers: system-package-component-unit-class-function-block
21622: new keywords def ref using maXCalcF
21623: UML: use case act class state seq pac comp dep - lib lab
21624: FBX Lib, psAPI, SMS Cell Module, OpenGL, Borland Tools
21625: Tutorials, 30 Units add, VCL constructors, controls plus, unit list
21626: 2 Tutorials, 36 Units add, Synapse V40, LDAP, OpenSSL, AVScan
21627: 1 Report, 15 Units add, DBCtrls, Stream+, IRadio, Wininet
21628: 1 DLL Report, 24 Units add, DRTable, Remote+, Cindy functions!
21629: DLL Report, UML Tutor, 32 Units add, DRTable, Remote+, Cindy functions!
21630: Oscilloscope V4, Mixer, 17 Units add, URLMon, Form properties+, mathmax
21631: SendBuffer, Color+Caption hack, ComboSet,SetPrivilege, WakeOnLAN, ParaDice 3D Cube Polygraph, OCR
21632: GetScript or GetWebScript, GPS Example, Profiler, Checkers, Toolbox commons
21633: Add 15 Units, Wav resources, RoundTo, OpenOffice, Pipes
21634: TFixedCriticalSection, XPlatform beta, GCC Command Pipe
21635: Inno Install and Setup Routines
21636: Add 32 Units, Wav res, RoundTo, OpenOffice, Pipes, GSM2
21637: TFixedCriticalSection, XPlatform beta, GCC Command Pipe
21638: VfW (Video), FindFirst3, ResFiler, AssemblyCache, UnitTest
21639: 9 Color LED, LED Resources, Runtime LED, it + sr var , morse generator
21640: Add 5 Units, 1 Tutors, maXmap, OpenStreetView, MAPX
21641: Function Menu/View/GEO Map View, DownloadFile, wgetX, sensors
21642: StreamUtils, IDL Syntax, OpenStreetMap, runByteCode, sensor panel, CGI of Powtils
21643: ByteCode2, IPUtils2, GEOCode, CGI-Powtils, GPS_2, External App
21644:
21645: Ref:
21646: https://unibe-ch.academia.edu/MaxKleiner
21647: http://www.slideshare.net/maxkleiner1
21648: http://www.scribd.com/max_kleiner
21649: http://www.delphiforfun.org/Programs/Utilities/index.htm
21650: http://www.slideshare.net/maxkleiner1
21651: http://s3.amazonaws.com/PreviewLinks/22959.html
21652: http://www.softwareschule.ch/arduino_training.pdf
21653: http://www.jrsoftware.org/isinfo.php
21654: http://www.be-precision.com/products/precision-builder/express/
21655: http://www.blaisepascal.eu/
21656: http://www.delphibasics.co.uk/
21657: http://www.youtube.com/watch?v=av89HAbqAsI
21658: http://www.angelfire.com/hi5/delphizeus/modal.html
21659: https://github.com/dilshan/signalman/blob/master/SignalManTemplate.pas
21660: http://delphi.org/2014/01/every-android-api-for-delphi/
21661: https://en.wikipedia.org/wiki/User:Maxkleiner
21662: http://en.wikipedia.org/wiki/Megido_%28Free_Pascal%29
21663: https://bitbucket.org/max_kleiner/maxbox3
21664: https://bitbucket.org/max_kleiner/maxbox3/downloads
21665:
21666:
21667: UrlGoogleQrCode='http://chart.apis.google.com/chart?chs=%dx%d&cht=qr&chld=%s&chl=%s';
21668: UrlMapQuestAPICode2='http://open.mapquestapi.com/nominatim/v1/search.php?format=%s&json_callback
21669: =renderBasicSearchNarrative&q=%s';
21670: UrlMapQuestAPIReverse:= 'http://open.mapquestapi.com/nominatim/v1/reverse.php?format=
```

```
21671: %s&json_callback=renderExampleThreeResults&lat=%s&lon=%s';
21672:
21673:
21674: function OpenMap(const Data: string): boolean;
21675: var encURL: string;
21676: begin
21677:   encURL:= Format(UrlMapQuestAPICode2,['html',HTTPEncode(Data)]);
21678:   try
21679:    //HttpGet(EncodedURL, mapStream);   //WinInet
21680:    Result:= UrlDownloadToFile(Nil,PChar(encURL),PChar(Exepath+'openmapx.html'),0,Nil)= 0;
21681:    //OpenDoc(Exepath+'openmapx.html');
21682:    S_ShellExecute(Exepath+'openmapx.html','',seCmdOpen);
21683:   finally
21684:     encURL:= '';
21685:   end;
21686: end;
21687:
21688: procedure GetGEOMap(C_form,apath: string; const Data: string);
21689: var encodedURL: string;
21690:     mapStream: TMemoryStream;
21691: begin
21692:   //encodedURL:= Format(UrlGoogleQrCode,[Width,Height, C_Level, HTTPEncode(Data)]);
21693:   encodedURL:= Format(UrlMapQuestAPICode2,[c_form,HTTPEncode(Data)]);
21694:   mapStream:= TMemoryStream.create;
21695:   try
21696:     Wininet_HttpGet(EncodedURL, mapStream);   //WinInet
21697:     mapStream.Position:= 0;
21698:     mapStream.Savetofile(apath); // OpenDoc(apath);
21699:     S_ShellExecute(apath,'',seCmdOpen);
21700:   finally
21701:     mapStream.Free;
21702:   end;
21703: end;
21704:
21705:
21706:
21707:
21708: ************************************************************
21709:  unit List asm internal end
21710: ************************************************************
21711: 01 unit RIRegister_StrUtils_Routines(exec);    //Delphi
21712: 02 unit SIRegister_IdStrings                   //Indy Sockets
21713: 03 unit RIRegister_niSTRING_Routines(Exec);    //from RegEx
21714: 04 unit uPSI_fMain Functions;                  //maXbox Open Tools API
21715: 05 unit IFSI_WinForm1puzzle;                   //maXbox
21716: 06 unit RIRegister_LinarBitmap_Routines(Exec); //ImageFileLibBCB
21717: 07 unit RegisterDateTimeLibrary_R(exec);      //Delphi
21718: 08 unit RIRegister_MathMax_Routines(exec);    //Jedi & Delphi
21719: 09 unit RIRegister_IdGlobal_Routines(exec);   //Indy Sockets
21720: 10 unit RIRegister_SysUtils_Routines(Exec);   //Delphi
21721: 11 unit uPSI_IdTCPConnection;                 //Indy some functions
21722: 12 unit uPSCompiler.pas;                      //PS kernel functions
21723: 13 unit uPSI_DBCommon;                        //DB Common_Routines and Types
21724: 14 unit uPSI_Printers.pas                     //Delphi VCL
21725: 15 unit uPSI_MPlayer.pas                     //Delphi VCL
21726: 16 unit uPSC_comobj;                         //COM Functions
21727: 17 unit uPSI_Clipbrd;                        //Delphi VCL
21728: 18 unit Filectrl in IFSI_SysUtils_max;      //VCL Runtime
21729: 19 unit uPSI_SqlExpr;                       //DBX3
21730: 20 unit uPSI_ADODB;                         //ADODB
21731: 21 unit uPSI_StrHlpr;                       //String Helper Routines
21732: 22 unit uPSI_DateUtils;                     //Expansion to DateTimeLib
21733: 23 unit uPSI_FileUtils;                     //Expansion to Sys/File Utils
21734: 24 unit JUtils / gsUtils;                   //Jedi / Metabase
21735: 25 unit JvFunctions_max;                    //Jedi Functions
21736: 26 unit HTTPParser;                         //Delphi VCL
21737: 27 unit HTTPUtil;                           //Delphi VCL
21738: 28 unit uPSI_XMLUtil;                       //Delphi VCL
21739: 29 unit uPSI_SOAPHTTPClient;                //Delphi VCL SOAP WebService V3.5
21740: 30 unit uPSI_Contnrs;                       //Delphi RTL Container of Classes
21741: 31 unit uPSI_MaskUtils;                     //RTL Edit and Mask functions
21742: 32 unit uPSI_MyBigInt;                      //big integer class with Math
21743: 33 unit uPSI_ConvUtils;                     //Delphi VCL Conversions engine
21744: 34 unit Types_Variants;                     //Delphi\Win32\rtl\sys
21745: 35 unit uPSI_IdHashSHA1;                   //Indy Crypto Lib
21746: 36 unit uPSI_IdHashMessageDigest           //Indy Crypto;
21747: 37 unit uPSI_IdASN1Util;                    //Indy ASN1Utility Routines;
21748: 38 unit uPSI_IdLogFile;                     //Indy Logger from LogBase
21749: 39 unit uPSI_IdIcmpClient;                  //Indy Ping ICMP
21750: 40 unit uPSI_IdHashMessageDigest_max       //Indy Crypto &OpenSSL;
21751: 41 unit uPSI_FileCtrl;                      //Delphi RTL
21752: 42 unit uPSI_Outline;                       //Delphi VCL
21753: 43 unit uPSI_ScktComp;                      //Delphi RTL
21754: 44 unit uPSI_Calendar;                      //Delphi VCL
21755: 45 unit uPSI_VListView                      //VListView;
21756: 46 unit uPSI_DBGrids;                       //Delphi VCL
21757: 47 unit uPSI_DBCtrls;                       //Delphi VCL
21758: 48 unit ide_debugoutput;                    //maXbox
21759: 49 unit uPSI_ComCtrls;                      //Delphi VCL
```

```
21760: 50 unit uPSC_stdctrls+;                    //Delphi VCL
21761: 51 unit uPSI_Dialogs;                      //Delphi VCL
21762: 52 unit uPSI_StdConvs;                     //Delphi RTL
21763: 53 unit uPSI_DBClient;                     //Delphi RTL
21764: 54 unit uPSI_DBPlatform;                   //Delphi RTL
21765: 55 unit uPSI_Provider;                     //Delphi RTL
21766: 56 unit uPSI_FMTBcd;                       //Delphi RTL
21767: 57 unit uPSI_DBCGrids;                     //Delphi VCL
21768: 58 unit uPSI_CDSUtil;                      //MIDAS
21769: 59 unit uPSI_VarHlpr;                      //Delphi RTL
21770: 60 unit uPSI_ExtDlgs;                      //Delphi VCL
21771: 61 unit sdpStopwatch;                      //maXbox
21772: 62 unit uPSI_JclStatistics;                //JCL
21773: 63 unit uPSI_JclLogic;                     //JCL
21774: 64 unit uPSI_JclMiscel;                    //JCL
21775: 65 unit uPSI_JclMath_max;                  //JCL RTL
21776: 66 unit uPSI_uTPLb_StreamUtils;            //LockBox 3
21777: 67 unit uPSI_MathUtils;                    //BCB
21778: 68 unit uPSI_JclMultimedia;                //JCL
21779: 69 unit uPSI_WideStrUtils;                 //Delphi API/RTL
21780: 70 unit uPSI_GraphUtil;                    //Delphi RTL
21781: 71 unit uPSI_TypeTrans;                    //Delphi RTL
21782: 72 unit uPSI_HTTPApp;                      //Delphi VCL
21783: 73 unit uPSI_DBWeb;                        //Delphi VCL
21784: 74 unit uPSI_DBBdeWeb;                     //Delphi VCL
21785: 75 unit uPSI_DBXpressWeb;                  //Delphi VCL
21786: 76 unit uPSI_ShadowWnd;                    //Delphi VCL
21787: 77 unit uPSI_ToolWin;                      //Delphi VCL
21788: 78 unit uPSI_Tabs;                         //Delphi VCL
21789: 79 unit uPSI_JclGraphUtils;                //JCL
21790: 80 unit uPSI_JclCounter;                   //JCL
21791: 81 unit uPSI_JclSysInfo;                   //JCL
21792: 82 unit uPSI_JclSecurity;                  //JCL
21793: 83 unit uPSI_JclFileUtils;                 //JCL
21794: 84 unit uPSI_IdUserAccounts;               //Indy
21795: 85 unit uPSI_IdAuthentication;             //Indy
21796: 86 unit uPSI_uTPLb_AES;                    //LockBox 3
21797: 87 unit uPSI_IdHashSHA1;                   //LockBox 3
21798: 88 unit uTPLb_BlockCipher;                 //LockBox 3
21799: 89 unit uPSI_ValEdit.pas;                  //Delphi VCL
21800: 90 unit uPSI_JvVCLUtils;                   //JCL
21801: 91 unit uPSI_JvDBUtil;                     //JCL
21802: 92 unit uPSI_JvDBUtils;                    //JCL
21803: 93 unit uPSI_JvAppUtils;                   //JCL
21804: 94 unit uPSI_JvCtrlUtils;                  //JCL
21805: 95 unit uPSI_JvFormToHtml;                 //JCL
21806: 96 unit uPSI_JvParsing;                    //JCL
21807: 97 unit uPSI_SerDlgs;                      //Toolbox
21808: 98 unit uPSI_Serial;                       //Toolbox
21809: 99 unit uPSI_JvComponent;                  //JCL
21810: 100 unit uPSI_JvCalc;                      //JCL
21811: 101 unit uPSI_JvBdeUtils;                  //JCL
21812: 102 unit uPSI_JvDateUtil;                  //JCL
21813: 103 unit uPSI_JvGenetic;                   //JCL
21814: 104 unit uPSI_JclBase;                     //JCL
21815: 105 unit uPSI_JvUtils;                     //JCL
21816: 106 unit uPSI_JvStrUtil;                   //JCL
21817: 107 unit uPSI_JvStrUtils;                  //JCL
21818: 108 unit uPSI_JvFileUtil;                  //JCL
21819: 109 unit uPSI_JvMemoryInfos;               //JCL
21820: 110 unit uPSI_JvComputerInfo;              //JCL
21821: 111 unit uPSI_JvgCommClasses;              //JCL
21822: 112 unit uPSI_JvgLogics;                   //JCL
21823: 113 unit uPSI_JvLED;                       //JCL
21824: 114 unit uPSI_JvTurtle;                    //JCL
21825: 115 unit uPSI_SortThds; unit uPSI_ThSort;  //maXbox
21826: 116 unit uPSI_JvgUtils;                    //JCL
21827: 117 unit uPSI_JvExprParser;                //JCL
21828: 118 unit uPSI_HexDump;                     //Borland
21829: 119 unit uPSI_DBLogDlg;                    //VCL
21830: 120 unit uPSI_SqlTimSt;                    //RTL
21831: 121 unit uPSI_JvHtmlParser;                //JCL
21832: 122 unit uPSI_JvgXMLSerializer;            //JCL
21833: 123 unit uPSI_JvJCLUtils;                  //JCL
21834: 124 unit uPSI_JvStrings;                   //JCL
21835: 125 unit uPSI_uTPLb_IntegerUtils;          //TurboPower
21836: 126 unit uPSI_uTPLb_HugeCardinal;          //TurboPower
21837: 127 unit uPSI_uTPLb_HugeCardinalUtils;     //TurboPower
21838: 128 unit uPSI_SynRegExpr;                  //SynEdit
21839: 129 unit uPSI_StUtils;                     //SysTools4
21840: 130 unit uPSI_StToHTML;                    //SysTools4
21841: 131 unit uPSI_StStrms;                     //SysTools4
21842: 132 unit uPSI_StFIN;                       //SysTools4
21843: 133 unit uPSI_StAstroP;                    //SysTools4
21844: 134 unit uPSI_StStat;                      //SysTools4
21845: 135 unit uPSI_StNetCon;                    //SysTools4
21846: 136 unit uPSI_StDecMth;                    //SysTools4
21847: 137 unit uPSI_StOStr;                      //SysTools4
21848: 138 unit uPSI_StPtrns;                     //SysTools4
```

```
21849: 139 unit uPSI_StNetMsg;                    //SysTools4
21850: 140 unit uPSI_StMath;                      //SysTools4
21851: 141 unit uPSI_StExpEng;                    //SysTools4
21852: 142 unit uPSI_StCRC;                       //SysTools4
21853: 143 unit uPSI_StExport,                    //SysTools4
21854: 144 unit uPSI_StExpLog,                    //SysTools4
21855: 145 unit uPSI_ActnList;                    //Delphi VCL
21856: 146 unit uPSI_jpeg;                       //Borland
21857: 147 unit uPSI_StRandom;                    //SysTools4
21858: 148 unit uPSI_StDict;                      //SysTools4
21859: 149 unit uPSI_StBCD;                       //SysTools4
21860: 150 unit uPSI_StTxtDat;                    //SysTools4
21861: 151 unit uPSI_StRegEx;                     //SysTools4
21862: 152 unit uPSI_IMouse;                      //VCL
21863: 153 unit uPSI_SyncObjs;                    //VCL
21864: 154 unit uPSI_AsyncCalls;                  //Hausladen
21865: 155 unit uPSI_ParallelJobs;                //Saraiva
21866: 156 unit uPSI_Variants;                    //VCL
21867: 157 unit uPSI_VarCmplx;                    //VCL Wolfram
21868: 158 unit uPSI_DTDSchema;                   //VCL
21869: 159 unit uPSI_ShLwApi;                     //Brakel
21870: 160 unit uPSI_IBUtils;                     //VCL
21871: 161 unit uPSI_CheckLst;                    //VCL
21872: 162 unit uPSI_JvSimpleXml;                 //JCL
21873: 163 unit uPSI_JclSimpleXml;                //JCL
21874: 164 unit uPSI_JvXmlDatabase;               //JCL
21875: 165 unit uPSI_JvMaxPixel;                  //JCL
21876: 166 unit uPSI_JvItemsSearchs;              //JCL
21877: 167 unit uPSI_StExpEng2;                   //SysTools4
21878: 168 unit uPSI_StGenLog;                    //SysTools4
21879: 169 unit uPSI_JvLogFile;                   //Jcl
21880: 170 unit uPSI_CPort;                       //ComPort Lib v4.11
21881: 171 unit uPSI_CPortCtl;                    //ComPort
21882: 172 unit uPSI_CPortEsc;                    //ComPort
21883: 173 unit BarCodeScaner;                    //ComPort
21884: 174 unit uPSI_JvGraph;                     //JCL
21885: 175 unit uPSI_JvComCtrls;                  //JCL
21886: 176 unit uPSI_GUITesting;                  //D Unit
21887: 177 unit uPSI_JvFindFiles;                 //JCL
21888: 178 unit uPSI_StSystem;                    //SysTools4
21889: 179 unit uPSI_JvKeyboardStates;            //JCL
21890: 180 unit uPSI_JvMail;                      //JCL
21891: 181 unit uPSI_JclConsole;                  //JCL
21892: 182 unit uPSI_JclLANMan;                   //JCL
21893: 183 unit uPSI_IdCustomHTTPServer;          //Indy
21894: 184 unit IdHTTPServer                      //Indy
21895: 185 unit uPSI_IdTCPServer;                 //Indy
21896: 186 unit uPSI_IdSocketHandle;              //Indy
21897: 187 unit uPSI_IdIOHandlerSocket;           //Indy
21898: 188 unit IdIOHandler;                      //Indy
21899: 189 unit uPSI_cutils;                      //Bloodshed
21900: 190 unit uPSI_BoldUtils;                   //boldsoft
21901: 191 unit uPSI_IdSimpleServer;              //Indy
21902: 192 unit uPSI_IdSSLOpenSSL;                //Indy
21903: 193 unit uPSI_IdMultipartFormData;         //Indy
21904: 194 unit uPSI_SynURIOpener;                //SynEdit
21905: 195 unit uPSI_PerlRegEx;                   //PCRE
21906: 196 unit uPSI_IdHeaderList;                //Indy
21907: 197 unit uPSI_StFirst;                     //SysTools4
21908: 198 unit uPSI_JvCtrls;                     //JCL
21909: 199 unit uPSI_IdTrivialFTPBase;            //Indy
21910: 200 unit uPSI_IdTrivialFTP;                //Indy
21911: 201 unit uPSI_IdUDPBase;                   //Indy
21912: 202 unit uPSI_IdUDPClient;                 //Indy
21913: 203 unit uPSI_utypes;                      //for DMath.DLL
21914: 204 unit uPSI_ShellAPI;                    //Borland
21915: 205 unit uPSI_IdRemoteCMDClient;           //Indy
21916: 206 unit uPSI_IdRemoteCMDServer;           //Indy
21917: 207 unit IdRexecServer;                    //Indy
21918: 208 unit IdRexec; (unit uPSI_IdRexec;)     //Indy
21919: 209 unit IdUDPServer;                      //Indy
21920: 210 unit IdTimeUDPServer;                  //Indy
21921: 211 unit IdTimeServer;                     //Indy
21922: 212 unit IdTimeUDP; (unit uPSI_IdUDPServer;) //Indy
21923: 213 unit uPSI_IdIPWatch;                   //Indy
21924: 214 unit uPSI_IdIrcServer;                 //Indy
21925: 215 unit uPSI_IdMessageCollection;         //Indy
21926: 216 unit uPSI_cPEM;                        //Fundamentals 4
21927: 217 unit uPSI_cFundamentUtils;             //Fundamentals 4
21928: 218 unit uPSI_uwinplot;                    //DMath
21929: 219 unit uPSI_xrtl_util_CPUUtils;          //ExtentedRTL
21930: 220 unit uPSI_GR32_System;                 //Graphics32
21931: 221 unit uPSI_cFileUtils;                  //Fundamentals 4
21932: 222 unit uPSI_cDateTime; (timemachine)     //Fundamentals 4
21933: 223 unit uPSI_cTimers; (high precision timer) //Fundamentals 4
21934: 224 unit uPSI_cRandom;                     //Fundamentals 4
21935: 225 unit uPSI_ueval;                       //DMath
21936: 226 unit uPSI_xrtl_net_URIUtils;           //ExtendedRTL
21937: 227 unit xrtl_net_URIUtils;                //ExtendedRTL
```

```
21938: 228 unit uPSI_ufft;  (FFT)                  //DMath
21939: 229 unit uPSI_DBXChannel;                   //Delphi
21940: 230 unit uPSI_DBXIndyChannel;               //Delphi Indy
21941: 231 unit uPSI_xrtl_util_COMCat;             //ExtendedRTL
21942: 232 unit uPSI_xrtl_util_StrUtils;           //ExtendedRTL
21943: 233 unit uPSI_xrtl_util_VariantUtils;       //ExtendedRTL
21944: 234 unit uPSI_xrtl_util_FileUtils;          //ExtendedRTL
21945: 235 unit xrtl_util_Compat;                  //ExtendedRTL
21946: 236 unit uPSI_OleAuto;                      //Borland
21947: 237 unit uPSI_xrtl_util_COMUtils;           //ExtendedRTL
21948: 238 unit uPSI_CmAdmCtl;                     //Borland
21949: 239 unit uPSI_ValEdit2;                     //VCL
21950: 240 unit uPSI_GR32;  //Graphics32          //Graphics32
21951: 241 unit uPSI_GR32_Image;                   //Graphics32
21952: 242 unit uPSI_xrtl_util_TimeUtils;          //ExtendedRTL
21953: 243 unit uPSI_xrtl_util_TimeZone;           //ExtendedRTL
21954: 244 unit uPSI_xrtl_util_TimeStamp;          //ExtendedRTL
21955: 245 unit uPSI_xrtl_util_Map;                //ExtendedRTL
21956: 246 unit uPSI_xrtl_util_Set;                //ExtendedRTL
21957: 247 unit uPSI_CPortMonitor;                 //ComPort
21958: 248 unit uPSI_StIniStm;                     //SysTools4
21959: 249 unit uPSI_GR32_ExtImage;                //Graphics32
21960: 250 unit uPSI_GR32_OrdinalMaps;             //Graphics32
21961: 251 unit uPSI_GR32_Rasterizers;             //Graphics32
21962: 252 unit uPSI_xrtl_util_Exception;          //ExtendedRTL
21963: 253 unit uPSI_xrtl_util_Value;              //ExtendedRTL
21964: 254 unit uPSI_xrtl_util_Compare;            //ExtendedRTL
21965: 255 unit uPSI_FlatSB;                       //VCL
21966: 256 unit uPSI_JvAnalogClock;                //JCL
21967: 257 unit uPSI_JvAlarms;                     //JCL
21968: 258 unit uPSI_JvSQLS;                       //JCL
21969: 259 unit uPSI_JvDBSecur;                    //JCL
21970: 260 unit uPSI_JvDBQBE;                      //JCL
21971: 261 unit uPSI_JvStarfield;                  //JCL
21972: 262 unit uPSI_JVCLMiscal;                   //JCL
21973: 263 unit uPSI_JvProfiler32;                 //JCL
21974: 264 unit uPSI_JvDirectories,                //JCL
21975: 265 unit uPSI_JclSchedule,                  //JCL
21976: 266 unit uPSI_JclSvcCtrl,                   //JCL
21977: 267 unit uPSI_JvSoundControl,               //JCL
21978: 268 unit uPSI_JvBDESQLScript,               //JCL
21979: 269 unit uPSI_JvgDigits,                    //JCL>
21980: 270 unit uPSI_ImgList;                      //TCustomImageList
21981: 271 unit uPSI_JclMIDI;                      //JCL>
21982: 272 unit uPSI_JclWinMidi;                   //JCL>
21983: 273 unit uPSI_JclNTFS;                      //JCL>
21984: 274 unit uPSI_JclAppInst;                   //JCL>
21985: 275 unit uPSI_JvRle;                        //JCL>
21986: 276 unit uPSI_JvRas32;                      //JCL>
21987: 277 unit uPSI_JvImageDrawThread,            //JCL>
21988: 278 unit uPSI_JvImageWindow,                //JCL>
21989: 279 unit uPSI_JvTransparentForm;            //JCL>
21990: 280 unit uPSI_JvWinDialogs;                 //JCL>
21991: 281 unit uPSI_JvSimLogic,                   //JCL>
21992: 282 unit uPSI_JvSimIndicator,               //JCL>
21993: 283 unit uPSI_JvSimPID,                     //JCL>
21994: 284 unit uPSI_JvSimPIDLinker,               //JCL>
21995: 285 unit uPSI_IdRFCReply;                   //Indy
21996: 286 unit uPSI_IdIdent;                      //Indy
21997: 287 unit uPSI_IdIdentServer;                //Indy
21998: 288 unit uPSI_JvPatchFile;                  //JCL
21999: 289 unit uPSI_StNetPfm;                     //SysTools4
22000: 290 unit uPSI_StNet;                        //SysTools4
22001: 291 unit uPSI_JclPeImage;                   //JCL
22002: 292 unit uPSI_JclPrint;                     //JCL
22003: 293 unit uPSI_JclMime;                      //JCL
22004: 294 unit uPSI_JvRichEdit;                   //JCL
22005: 295 unit uPSI_JvDBRichEd;                   //JCL
22006: 296 unit uPSI_JvDice;                       //JCL
22007: 297 unit uPSI_JvFloatEdit;                  //JCL 3.9.8
22008: 298 unit uPSI_JvDirFrm;                     //JCL
22009: 299 unit uPSI_JvDualList;                   //JCL
22010: 300 unit uPSI_JvSwitch;                     ////JCL
22011: 301 unit uPSI_JvTimerLst;                   ////JCL
22012: 302 unit uPSI_JvMemTable;                   //JCL
22013: 303 unit uPSI_JvObjStr;                     //JCL
22014: 304 unit uPSI_StLArr;                       //SysTools4
22015: 305 unit uPSI_StWmDCpy;                     //SysTools4
22016: 306 unit uPSI_StText;                       //SysTools4
22017: 307 unit uPSI_StNTLog;                      //SysTools4
22018: 308 unit uPSI_xrtl_math_Integer;            //ExtendedRTL
22019: 309 unit uPSI_JvImagPrvw;                   //JCL
22020: 310 unit uPSI_JvFormPatch;                  //JCL
22021: 311 unit uPSI_JvPicClip;                    //JCL
22022: 312 unit uPSI_JvDataConv;                   //JCL
22023: 313 unit uPSI_JvCpuUsage;                   //JCL
22024: 314 unit uPSI_JclUnitConv_mX2;              //JCL
22025: 315 unit JvDualListForm;                    //JCL
22026: 316 unit uPSI_JvCpuUsage2;                  //JCL
```

```
22027: 317 unit uPSI_JvParserForm;                    //JCL
22028: 318 unit uPSI_JvJanTreeView;                   //JCL
22029: 319 unit uPSI_JvTransLED;                      //JCL
22030: 320 unit uPSI_JvPlaylist;                      //JCL
22031: 321 unit uPSI_JvFormAutoSize;                  //JCL
22032: 322 unit uPSI_JvYearGridEditForm;              //JCL
22033: 323 unit uPSI_JvMarkupCommon;                  //JCL
22034: 324 unit uPSI_JvChart;                         //JCL
22035: 325 unit uPSI_JvXPCore;                        //JCL
22036: 326 unit uPSI_JvXPCoreUtils;                   //JCL
22037: 327 unit uPSI_StatsClasses;                    //mX4
22038: 328 unit uPSI_ExtCtrls2;                       //VCL
22039: 329 unit uPSI_JvUrlGrabbers;                   //JCL
22040: 330 unit uPSI_JvXmlTree;                       //JCL
22041: 331 unit uPSI_JvWavePlayer;                    //JCL
22042: 332 unit uPSI_JvUnicodeCanvas;                 //JCL
22043: 333 unit uPSI_JvTFUtils;                       //JCL
22044: 334 unit uPSI_IdServerIOHandler;               //Indy
22045: 335 unit uPSI_IdServerIOHandlerSocket;         //Indy
22046: 336 unit uPSI_IdMessageCoder;                  //Indy
22047: 337 unit uPSI_IdMessageCoderMIME;              //Indy
22048: 338 unit uPSI_IdMIMETypes;                     //Indy
22049: 339 unit uPSI_JvConverter;                     //JCL
22050: 340 unit uPSI_JvCsvParse;                      //JCL
22051: 341 unit uPSI_umath;  unit uPSI_ugamma;        //DMath
22052: 342 unit uPSI_ExcelExport;(Nat:TJsExcelExport) //JCL
22053: 343 unit uPSI_JvDBGridExport;                  //JCL
22054: 344 unit uPSI_JvgExport;                       //JCL
22055: 345 unit uPSI_JvSerialMaker;                   //JCL
22056: 346 unit uPSI_JvWin32;                         //JCL
22057: 347 unit uPSI_JvPaintFX;                       //JCL
22058: 348 unit uPSI_JvOracleDataSet; (beta)          //JCL
22059: 349 unit uPSI_JvValidators; (preview)         //JCL
22060: 350 unit uPSI_JvNTEventLog;                    //JCL
22061: 351 unit uPSI_ShellZipTool;                    //mX4
22062: 352 unit uPSI_JvJoystick;                      //JCL
22063: 353 unit uPSI_JvMailSlots;                     //JCL
22064: 354 unit uPSI_JclComplex;                      //JCL
22065: 355 unit uPSI_SynPdf;                          //Synopse
22066: 356 unit uPSI_Registry;                        //VCL
22067: 357 unit uPSI_TlHelp32;                        //VCL
22068: 358 unit uPSI_JclRegistry;                     //JCL
22069: 359 unit uPSI_JvAirBrush;                      //JCL
22070: 360 unit uPSI_mORMotReport;                    //Synopse
22071: 361 unit uPSI_JclLocales;                      //JCL
22072: 362 unit uPSI_SynEdit;                         //SynEdit
22073: 363 unit uPSI_SynEditTypes;                    //SynEdit
22074: 364 unit uPSI_SynMacroRecorder;                //SynEdit
22075: 365 unit uPSI_LongIntList;                     //SynEdit
22076: 366 unit uPSI_devcutils;                       //DevC
22077: 367 unit uPSI_SynEditMiscClasses;              //SynEdit
22078: 368 unit uPSI_SynEditRegexSearch;              //SynEdit
22079: 369 unit uPSI_SynEditHighlighter;              //SynEdit
22080: 370 unit uPSI_SynHighlighterPas;               //SynEdit
22081: 371 unit uPSI_JvSearchFiles;                   //JCL
22082: 372 unit uPSI_SynHighlighterAny;               //Lazarus
22083: 373 unit uPSI_SynEditKeyCmds;                  //SynEdit
22084: 374 unit uPSI_SynEditMiscProcs,                //SynEdit
22085: 375 unit uPSI_SynEditKbdHandler                //SynEdit
22086: 376 unit uPSI_JvAppInst,                       //JCL
22087: 377 unit uPSI_JvAppEvent;                      //JCL
22088: 378 unit uPSI_JvAppCommand;                    //JCL
22089: 379 unit uPSI_JvAnimTitle;                     //JCL
22090: 380 unit uPSI_JvAnimatedImage;                 //JCL
22091: 381 unit uPSI_SynEditExport;                   //SynEdit
22092: 382 unit uPSI_SynExportHTML;                   //SynEdit
22093: 383 unit uPSI_SynExportRTF;                    //SynEdit
22094: 384 unit uPSI_SynEditSearch;                   //SynEdit
22095: 385 unit uPSI_fMain_back                       //maXbox;
22096: 386 unit uPSI_JvZoom;                          //JCL
22097: 387 unit uPSI_PMrand;                          //PM
22098: 388 unit uPSI_JvSticker;                       //JCL
22099: 389 unit uPSI_XmlVerySimple;                   //mX4
22100: 390 unit uPSI_Services;                        //ExtPascal
22101: 391 unit uPSI_ExtPascalUtils;                  //ExtPascal
22102: 392 unit uPSI_SocketsDelphi;                   //ExtPascal
22103: 393 unit uPSI_StBarC;                          //SysTools
22104: 394 unit uPSI_StDbBarC;                        //SysTools
22105: 395 unit uPSI_StBarPN;                         //SysTools
22106: 396 unit uPSI_StDbPNBC;                        //SysTools
22107: 397 unit uPSI_StDb2DBC;                        //SysTools
22108: 398 unit uPSI_StMoney;                         //SysTools
22109: 399 unit uPSI_JvForth;                         //JCL
22110: 400 unit uPSI_RestRequest;                     //mX4
22111: 401 unit uPSI_HttpRESTConnectionIndy;          //mX4
22112: 402 unit uPSI_JvXmlDatabase; //update         //JCL
22113: 403 unit uPSI_StAstro;                         //SysTools
22114: 404 unit uPSI_StSort;                          //SysTools
22115: 405 unit uPSI_StDate;                          //SysTools
```

```
22116: 406 unit uPSI_StDateSt;                    //SysTools
22117: 407 unit uPSI_StBase;                      //SysTools
22118: 408 unit uPSI_StVInfo;                     //SysTools
22119: 409 unit uPSI_JvBrowseFolder;              //JCL
22120: 410 unit uPSI_JvBoxProcs;                  //JCL
22121: 411 unit uPSI_urandom; (unit uranuvag;)    //DMath
22122: 412 unit uPSI_usimann; (unit ugenalg;)     //DMath
22123: 413 unit uPSI_JvHighlighter;               //JCL
22124: 414 unit uPSI_Diff;                        //mX4
22125: 415 unit uPSI_SpringWinAPI;                //DSpring
22126: 416 unit uPSI_StBits;                      //SysTools
22127: 417 unit uPSI_TomDBQue;                    //mX4
22128: 418 unit uPSI_MultilangTranslator;         //mX4
22129: 419 unit uPSI_HyperLabel;                  //mX4
22130: 420 unit uPSI_Starter;                     //mX4
22131: 421 unit uPSI_FileAssocs;                  //devC
22132: 422 unit uPSI_devFileMonitorX;             //devC
22133: 423 unit uPSI_devrun;                      //devC
22134: 424 unit uPSI_devExec;                     //devC
22135: 425 unit uPSI_oysUtils;                    //devC
22136: 426 unit uPSI_DosCommand;                  //devC
22137: 427 unit uPSI_CppTokenizer;                //devC
22138: 428 unit uPSI_JvHLParser;                  //devC
22139: 429 unit uPSI_JclMapi;                     //JCL
22140: 430 unit uPSI_JclShell;                    //JCL
22141: 431 unit uPSI_JclCOM;                      //JCL
22142: 432 unit uPSI_GR32_Math;                   //Graphics32
22143: 433 unit uPSI_GR32_LowLevel;               //Graphics32
22144: 434 unit uPSI_SimpleHl;                    //mX4
22145: 435 unit uPSI_GR32_Filters,                //Graphics32
22146: 436 unit uPSI_GR32_VectorMaps;             //Graphics32
22147: 437 unit uPSI_cXMLFunctions;               //Fundamentals 4
22148: 438 unit uPSI_JvTimer;                     //JCL
22149: 439 unit uPSI_cHTTPUtils;                  //Fundamentals 4
22150: 440 unit uPSI_cTLSUtils;                   //Fundamentals 4
22151: 441 unit uPSI_JclGraphics;                 //JCL
22152: 442 unit uPSI_JclSynch;                    //JCL
22153: 443 unit uPSI_IdTelnet;                    //Indy
22154: 444 unit uPSI_IdTelnetServer,              //Indy
22155: 445 unit uPSI_IdEcho,                      //Indy
22156: 446 unit uPSI_IdEchoServer,                //Indy
22157: 447 unit uPSI_IdEchoUDP,                   //Indy
22158: 448 unit uPSI_IdEchoUDPServer,             //Indy
22159: 449 unit uPSI_IdSocks,                     //Indy
22160: 450 unit uPSI_IdAntiFreezeBase;            //Indy
22161: 451 unit uPSI_IdHostnameServer;            //Indy
22162: 452 unit uPSI_IdTunnelCommon,              //Indy
22163: 453 unit uPSI_IdTunnelMaster,              //Indy
22164: 454 unit uPSI_IdTunnelSlave,               //Indy
22165: 455 unit uPSI_IdRSH,                       //Indy
22166: 456 unit uPSI_IdRSHServer,                 //Indy
22167: 457 unit uPSI_Spring_Cryptography_Utils;   //Spring4Delphi
22168: 458 unit uPSI_MapReader,                   //devC
22169: 459 unit uPSI_LibTar,                      //devC
22170: 460 unit uPSI_IdStack;                     //Indy
22171: 461 unit uPSI_IdBlockCipherIntercept;      //Indy
22172: 462 unit uPSI_IdChargenServer;             //Indy
22173: 463 unit uPSI_IdFTPServer,                 //Indy
22174: 464 unit uPSI_IdException,                 //Indy
22175: 465 unit uPSI_utexplot;                    //DMath
22176: 466 unit uPSI_uwinstr;                     //DMath
22177: 467 unit uPSI_VarRecUtils;                 //devC
22178: 468 unit uPSI_JvStringListToHtml,          //JCL
22179: 469 unit uPSI_JvStringHolder,              //JCL
22180: 470 unit uPSI_IdCoder;                     //Indy
22181: 471 unit uPSI_SynHighlighterDfm;           //Synedit
22182: 472 unit uHighlighterProcs; in 471         //Synedit
22183: 473 unit uPSI_LazFileUtils,                //LCL
22184: 474 unit uPSI_IDECmdLine;                  //LCL
22185: 475 unit uPSI_lazMasks;                    //LCL
22186: 476 unit uPSI_ip_misc;                     //mX4
22187: 477 unit uPSI_Barcode;                     //LCL
22188: 478 unit uPSI_SimpleXML;                   //LCL
22189: 479 unit uPSI_JclIniFiles;                 //JCL
22190: 480 unit uPSI_D2XXUnit;  {$X-}             //FTDI
22191: 481 unit uPSI_JclDateTime;                 //JCL
22192: 482 unit uPSI_JclEDI;                      //JCL
22193: 483 unit uPSI_JclMiscel2;                  //JCL
22194: 484 unit uPSI_JclValidation;               //JCL
22195: 485 unit uPSI_JclAnsiStrings; {-PString}   //JCL
22196: 486 unit uPSI_SynEditMiscProcs2;           //Synedit
22197: 487 unit uPSI_JclStreams;                  //JCL
22198: 488 unit uPSI_QRCode;                      //mX4
22199: 489 unit uPSI_BlockSocket;                 //ExtPascal
22200: 490 unit uPSI_Masks,Utils                  //VCL
22201: 491 unit uPSI_synautil;                    //Synapse!
22202: 492 unit uPSI_JclMath_Class;               //JCL RTL
22203: 493 unit ugamdist; //Gamma function       //DMath
22204: 494 unit uibeta, ucorrel; //IBeta         //DMath
```

```
22205: 495 unit uPSI_SRMgr;                          //mX4
22206: 496 unit uPSI_HotLog;                         //mX4
22207: 497 unit uPSI_DebugBox;                       //mX4
22208: 498 unit uPSI_ustrings;                       //DMath
22209: 499 unit uPSI_uregtest;                       //DMath
22210: 500 unit uPSI_usimplex;                       //DMath
22211: 501 unit uPSI_uhyper;                         //DMath
22212: 502 unit uPSI_IdHL7;                          //Indy
22213: 503 unit uPSI_IdIPMCastBase,                  //Indy
22214: 504 unit uPSI_IdIPMCastServer;                //Indy
22215: 505 unit uPSI_IdIPMCastClient;                //Indy
22216: 506 unit uPSI_unlfit; //nlregression         //DMath
22217: 507 unit uPSI_IdRawHeaders;                   //Indy
22218: 508 unit uPSI_IdRawClient;                    //Indy
22219: 509 unit uPSI_IdRawFunctions;                 //Indy
22220: 510 unit uPSI_IdTCPStream;                    //Indy
22221: 511 unit uPSI_IdSNPP;                         //Indy
22222: 512 unit uPSI_St2DBarC;                       //SysTools
22223: 513 unit uPSI_ImageWin;  //FTL               //VCL
22224: 514 unit uPSI_CustomDrawTreeView; //FTL      //VCL
22225: 515 unit uPSI_GraphWin;  //FTL               //VCL
22226: 516 unit uPSI_actionMain;  //FTL             //VCL
22227: 517 unit uPSI_StSpawn;                        //SysTools
22228: 518 unit uPSI_CtlPanel;                       //VCL
22229: 519 unit uPSI_IdLPR;                          //Indy
22230: 520 unit uPSI_SockRequestInterpreter;         //Indy
22231: 521 unit uPSI_ulambert;                       //DMath
22232: 522 unit uPSI_ucholesk;                       //DMath
22233: 523 unit uPSI_SimpleDS;                       //VCL
22234: 524 unit uPSI_DBXSqlScanner;                  //VCL
22235: 525 unit uPSI_DBXMetaDataUtil;                //VCL
22236: 526 unit uPSI_Chart;                          //TEE
22237: 527 unit uPSI_TeeProcs;                       //TEE
22238: 528 unit mXBDEUtils;                          //mX4
22239: 529 unit uPSI_MDIEdit;                        //VCL
22240: 530 unit uPSI_CopyPrsr;                       //VCL
22241: 531 unit uPSI_SockApp;                        //VCL
22242: 532 unit uPSI_AppEvnts;                       //VCL
22243: 533 unit uPSI_ExtActns;                       //VCL
22244: 534 unit uPSI_TeEngine;                       //TEE
22245: 535 unit uPSI_CoolMain; //browser            //VCL
22246: 536 unit uPSI_StCRC;                          //SysTools
22247: 537 unit uPSI_StDecMth2;                      //SysTools
22248: 538 unit uPSI_frmExportMain;                  //Synedit
22249: 539 unit uPSI_SynDBEdit;                      //Synedit
22250: 540 unit uPSI_SynEditWildcardSearch;          //Synedit
22251: 541 unit uPSI_BoldComUtils;                   //BOLD
22252: 542 unit uPSI_BoldIsoDateTime;                //BOLD
22253: 543 unit uPSI_BoldGUIDUtils; //inCOMUtils    //BOLD
22254: 544 unit uPSI_BoldXMLRequests;                //BOLD
22255: 545 unit uPSI_BoldStringList;                 //BOLD
22256: 546 unit uPSI_BoldFileHandler;                //BOLD
22257: 547 unit uPSI_BoldContainers;                 //BOLD
22258: 548 unit uPSI_BoldQueryUserDlg;               //BOLD
22259: 549 unit uPSI_BoldWinINet;                    //BOLD
22260: 550 unit uPSI_BoldQueue;                      //BOLD
22261: 551 unit uPSI_JvPcx;                          //JCL
22262: 552 unit uPSI_IdWhois;                        //Indy
22263: 553 unit uPSI_IdWhoIsServer;                  //Indy
22264: 554 unit uPSI_IdGopher;                       //Indy
22265: 555 unit uPSI_IdDateTimeStamp;                //Indy
22266: 556 unit uPSI_IdDayTimeServer;                //Indy
22267: 557 unit uPSI_IdDayTimeUDP;                   //Indy
22268: 558 unit uPSI_IdDayTimeUDPServer;             //Indy
22269: 559 unit uPSI_IdDICTServer;                   //Indy
22270: 560 unit uPSI_IdDiscardServer;                //Indy
22271: 561 unit uPSI_IdDiscardUDPServer;             //Indy
22272: 562 unit uPSI_IdMappedFTP;                    //Indy
22273: 563 unit uPSI_IdMappedPortTCP;                //Indy
22274: 564 unit uPSI_IdGopherServer;                 //Indy
22275: 565 unit uPSI_IdQotdServer;                   //Indy
22276: 566 unit uPSI_JvRgbToHtml;                    //JCL
22277: 567 unit uPSI_JvRemLog,                       //JCL
22278: 568 unit uPSI_JvSysComp;                      //JCL
22279: 569 unit uPSI_JvTMTL;                         //JCL
22280: 570 unit uPSI_JvWinampAPI;                    //JCL
22281: 571 unit uPSI_MSysUtils;                      //mX4
22282: 572 unit uPSI_ESBMaths;                       //ESB
22283: 573 unit uPSI_ESBMaths2;                      //ESB
22284: 574 unit uPSI_uLkJSON;                        //Lk
22285: 575 unit uPSI_ZURL;  //Zeos                   //Zeos
22286: 576 unit uPSI_ZSysUtils;                      //Zeos
22287: 577 unit unaUtils internals                   //UNA
22288: 578 unit uPSI_ZMatchPattern;                  //Zeos
22289: 579 unit uPSI_ZClasses;                       //Zeos
22290: 580 unit uPSI_ZCollections;                   //Zeos
22291: 581 unit uPSI_ZEncoding;                      //Zeos
22292: 582 unit uPSI_IdRawBase;                      //Indy
22293: 583 unit uPSI_IdNTLM;                         //Indy
```

```
22294: 584 unit uPSI_IdNNTP;                        //Indy
22295: 585 unit uPSI_usniffer; //PortScanForm       //mX4
22296: 586 unit uPSI_IdCoderMIME;                   //Indy
22297: 587 unit uPSI_IdCoderUUE;                    //Indy
22298: 588 unit uPSI_IdCoderXXE;                    //Indy
22299: 589 unit uPSI_IdCoder3to4;                   //Indy
22300: 590 unit uPSI_IdCookie;                      //Indy
22301: 591 unit uPSI_IdCookieManager;               //Indy
22302: 592 unit uPSI_WDosSocketUtils;               //WDos
22303: 593 unit uPSI_WDosPlcUtils;                  //WDos
22304: 594 unit uPSI_WDosPorts;                     //WDos
22305: 595 unit uPSI_WDosResolvers;                 //WDos
22306: 596 unit uPSI_WDosTimers;                    //WDos
22307: 597 unit uPSI_WDosPlcs;                      //WDos
22308: 598 unit uPSI_WDosPneumatics;                //WDos
22309: 599 unit uPSI_IdFingerServer;                //Indy
22310: 600 unit uPSI_IdDNSResolver;                 //Indy
22311: 601 unit uPSI_IdHTTPWebBrokerBridge;         //Indy
22312: 602 unit uPSI_IdIntercept;                   //Indy
22313: 603 unit uPSI_IdIPMCastBase;                 //Indy
22314: 604 unit uPSI_IdLogBase;                     //Indy
22315: 605 unit uPSI_IdIOHandlerStream;             //Indy
22316: 606 unit uPSI_IdMappedPortUDP;               //Indy
22317: 607 unit uPSI_IdQOTDUDPServer;               //Indy
22318: 608 unit uPSI_IdQOTDUDP;                     //Indy
22319: 609 unit uPSI_IdSysLog;                      //Indy
22320: 610 unit uPSI_IdSysLogServer;                //Indy
22321: 611 unit uPSI_IdSysLogMessage;               //Indy
22322: 612 unit uPSI_IdTimeServer;                  //Indy
22323: 613 unit uPSI_IdTimeUDP;                     //Indy
22324: 614 unit uPSI_IdTimeUDPServer;               //Indy
22325: 615 unit uPSI_IdUserAccounts;                //Indy
22326: 616 unit uPSI_TextUtils;                     //mX4
22327: 617 unit uPSI_MandelbrotEngine;              //mX4
22328: 618 unit uPSI_delphi_arduino_Unit1;          //mX4
22329: 619 unit uPSI_DTDSchema2;                    //mX4
22330: 620 unit uPSI_fplotMain;                     //DMath
22331: 621 unit uPSI_FindFileIter;                  //mX4
22332: 622 unit uPSI_PppState;  (JclStrHashMap)     //PPP
22333: 623 unit uPSI_PppParser;                     //PPP
22334: 624 unit uPSI_PppLexer;                      //PPP
22335: 625 unit uPSI_PCharUtils;                    //PPP
22336: 626 unit uPSI_uJSON;                         //WU
22337: 627 unit uPSI_JclStrHashMap;                 //JCL
22338: 628 unit uPSI_JclHookExcept;                 //JCL
22339: 629 unit uPSI_EncdDecd;                      //VCL
22340: 630 unit uPSI_SockAppReg;                    //VCL
22341: 631 unit uPSI_PJFileHandle;                  //PJ
22342: 632 unit uPSI_PJEnvVars;                     //PJ
22343: 633 unit uPSI_PJPipe;                        //PJ
22344: 634 unit uPSI_PJPipeFilters;                 //PJ
22345: 635 unit uPSI_PJConsoleApp;                  //PJ
22346: 636 unit uPSI_UConsoleAppEx;                 //PJ
22347: 637 unit uPSI_DbxSocketChannelNative,        //VCL
22348: 638 unit uPSI_DbxDataGenerator,              //VCL
22349: 639 unit uPSI_DBXClient;                     //VCL
22350: 640 unit uPSI_IdLogEvent;                    //Indy
22351: 641 unit uPSI_Reversi;                       //mX4
22352: 642 unit uPSI_Geometry;                      //mX4
22353: 643 unit uPSI_IdSMTPServer;                  //Indy
22354: 644 unit uPSI_Textures;                      //mX4
22355: 645 unit uPSI_IBX;                           //VCL
22356: 646 unit uPSI_IWDBCommon;                    //VCL
22357: 647 unit uPSI_SortGrid;                      //mX4
22358: 648 unit uPSI_IB;                            //VCL
22359: 649 unit uPSI_IBScript;                      //VCL
22360: 650 unit uPSI_JvCSVBaseControls;             //JCL
22361: 651 unit uPSI_Jvg3DColors;                   //JCL
22362: 652 unit uPSI_JvHLEditor;  //beat            //JCL
22363: 653 unit uPSI_JvShellHook;                   //JCL
22364: 654 unit uPSI_DBCommon2                      //VCL
22365: 655 unit uPSI_JvSHFileOperation;             //JCL
22366: 656 unit uPSI_uFilexport;                    //mX4
22367: 657 unit uPSI_JvDialogs;                     //JCL
22368: 658 unit uPSI_JvDBTreeView;                  //JCL
22369: 659 unit uPSI_JvDBUltimGrid;                 //JCL
22370: 660 unit uPSI_JvDBQueryParamsForm;           //JCL
22371: 661 unit uPSI_JvExControls;                  //JCL
22372: 662 unit uPSI_JvBDEMemTable;                 //JCL
22373: 663 unit uPSI_JvCommStatus;                  //JCL
22374: 664 unit uPSI_JvMailSlots2;                  //JCL
22375: 665 unit uPSI_JvgWinMask;                    //JCL
22376: 666 unit uPSI_StEclpse;                      //SysTools
22377: 667 unit uPSI_StMime;                        //SysTools
22378: 668 unit uPSI_StList;                        //SysTools
22379: 669 unit uPSI_StMerge;                       //SysTools
22380: 670 unit uPSI_StStrS;                        //SysTools
22381: 671 unit uPSI_StTree,                        //SysTools
22382: 672 unit uPSI_StVArr;                        //SysTools
```

```
22383: 673 unit uPSI_StRegIni;                    //SysTools
22384: 674 unit uPSI_urkf;                        //DMath
22385: 675 unit uPSI_usvd;                        //DMath
22386: 676 unit uPSI_DepWalkUtils;                //JCL
22387: 677 unit uPSI_OptionsFrm;                  //JCL
22388: 678 unit yuvconverts;                      //mX4
22389: 679 uPSI_JvPropAutoSave;                   //JCL
22390: 680 uPSI_AclAPI;                           //alcinoe
22391: 681 uPSI_AviCap;                           //alcinoe
22392: 682 uPSI_ALAVLBinaryTree;                  //alcinoe
22393: 683 uPSI_ALFcnMisc;                        //alcinoe
22394: 684 uPSI_ALStringList;                     //alcinoe
22395: 685 uPSI_ALQuickSortList;                  //alcinoe
22396: 686 uPSI_ALStaticText;                     //alcinoe
22397: 687 uPSI_ALJSONDoc;                        //alcinoe
22398: 688 uPSI_ALGSMComm;                        //alcinoe
22399: 689 uPSI_ALWindows;                        //alcinoe
22400: 690 uPSI_ALMultiPartFormDataParser;        //alcinoe
22401: 691 uPSI_ALHttpCommon;                     //alcinoe
22402: 692 uPSI_ALWebSpider,                      //alcinoe
22403: 693 uPSI_ALHttpClient;                     //alcinoe
22404: 694 uPSI_ALFcnHTML;                        //alcinoe
22405: 695 uPSI_ALFTPClient;                      //alcinoe
22406: 696 uPSI_ALInternetMessageCommon;          //alcinoe
22407: 697 uPSI_ALWininetHttpClient;              //alcinoe
22408: 698 uPSI_ALWinInetFTPClient;               //alcinoe
22409: 699 uPSI_ALWinHttpWrapper;                 //alcinoe
22410: 700 uPSI_ALWinHttpClient;                  //alcinoe
22411: 701 uPSI_ALFcnWinSock;                     //alcinoe
22412: 702 uPSI_ALFcnSQL;                         //alcinoe
22413: 703 uPSI_ALFcnCGI;                         //alcinoe
22414: 704 uPSI_ALFcnExecute;                     //alcinoe
22415: 705 uPSI_ALFcnFile;                        //alcinoe
22416: 706 uPSI_ALFcnMime;                        //alcinoe
22417: 707 uPSI_ALPhpRunner;                      //alcinoe
22418: 708 uPSI_ALGraphic;                        //alcinoe
22419: 709 uPSI_ALIniFiles;                       //alcinoe
22420: 710 uPSI_ALMemCachedClient;                //alcinoe
22421: 711 unit uPSI_MyGrids;                     //mX4
22422: 712 uPSI_ALMultiPartMixedParser            //alcinoe
22423: 713 uPSI_ALSMTPClient                      //alcinoe
22424: 714 uPSI_ALNNTPClient;                     //alcinoe
22425: 715 uPSI_ALHintBalloon;                    //alcinoe
22426: 716 unit uPSI_ALXmlDoc;                    //alcinoe
22427: 717 unit uPSI_IPCThrd;                     //VCL
22428: 718 unit uPSI_MonForm;                     //VCL
22429: 719 unit uPSI_TeCanvas;                    //Orpheus
22430: 720 unit uPSI_Ovcmisc;                     //Orpheus
22431: 721 unit uPSI_ovcfiler;                    //Orpheus
22432: 722 unit uPSI_ovcstate;                    //Orpheus
22433: 723 unit uPSI_ovccoco;                     //Orpheus
22434: 724 unit uPSI_ovcrvexp;                    //Orpheus
22435: 725 unit uPSI_OvcFormatSettings;           //Orpheus
22436: 726 unit uPSI_OvcUtils;                    //Orpheus
22437: 727 unit uPSI_ovcstore;                    //Orpheus
22438: 728 unit uPSI_ovcstr;                      //Orpheus
22439: 729 unit uPSI_ovcmru;                      //Orpheus
22440: 730 unit uPSI_ovccmd;                      //Orpheus
22441: 731 unit uPSI_ovctimer;                    //Orpheus
22442: 732 unit uPSI_ovcintl;                     //Orpheus
22443: 733 uPSI_AfCircularBuffer;                 //AsyncFree
22444: 734 uPSI_AfUtils;                          //AsyncFree
22445: 735 uPSI_AfSafeSync;                       //AsyncFree
22446: 736 uPSI_AfComPortCore;                    //AsyncFree
22447: 737 uPSI_AfComPort;                        //AsyncFree
22448: 738 uPSI_AfPortControls;                   //AsyncFree
22449: 739 uPSI_AfDataDispatcher;                 //AsyncFree
22450: 740 uPSI_AfViewers;                        //AsyncFree
22451: 741 uPSI_AfDataTerminal;                   //AsyncFree
22452: 742 uPSI_SimplePortMain;                   //AsyncFree
22453: 743 unit uPSI_ovcclock;                    //Orpheus
22454: 744 unit uPSI_o32intlst;                   //Orpheus
22455: 745 unit uPSI_o32ledlabel;                 //Orpheus
22456: 746 unit uPSI_AlMySqlClient;               //alcinoe
22457: 747 unit uPSI_ALFBXClient;                 //alcinoe
22458: 748 unit uPSI_ALFcnSQL;                    //alcinoe
22459: 749 unit uPSI_AsyncTimer;                  //mX4
22460: 750 unit uPSI_ApplicationFileIO;           //mX4
22461: 751 unit uPSI_PsAPI;                       //VCLé
22462: 752 uPSI_ovcuser;                          //Orpheus
22463: 753 uPSI_ovcurl;                           //Orpheus
22464: 754 uPSI_ovcvlb;                           //Orpheus
22465: 755 uPSI_ovccolor;                         //Orpheus
22466: 756 uPSI_ALFBXLib,                         //alcinoe
22467: 757 uPSI_ovcmeter;                         //Orpheus
22468: 758 uPSI_ovcpeakm;                         //Orpheus
22469: 759 uPSI_O32BGSty;                         //Orpheus
22470: 760 uPSI_ovcBidi;                          //Orpheus
22471: 761 uPSI_ovctcary;                         //Orpheus
```

```
22472: 762 uPSI_DXPUtils;                          //mX4
22473: 763 uPSI_ALMultiPartBaseParser;             //alcinoe
22474: 764 uPSI_ALMultiPartAlternativeParser;      //alcinoe
22475: 765 uPSI_ALPOP3Client;                      //alcinoe
22476: 766 uPSI_SmallUtils;                        //mX4
22477: 767 uPSI_MakeApp;                           //mX4
22478: 768 uPSI_O32MouseMon;                       //Orpheus
22479: 769 uPSI_OvcCache;                          //Orpheus
22480: 770 uPSI_ovccalc;                          //Orpheus
22481: 771 uPSI_Joystick,                         //OpenGL
22482: 772 uPSI_ScreenSaver;                      //OpenGL
22483: 773 uPSI_XCollection,                      //OpenGL
22484: 774 uPSI_Polynomials,                      //OpenGL
22485: 775 uPSI_PersistentClasses, //9.86        //OpenGL
22486: 776 uPSI_VectorLists;                      //OpenGL
22487: 777 uPSI_XOpenGL,                         //OpenGL
22488: 778 uPSI_MeshUtils;                       //OpenGL
22489: 779 unit uPSI_JclSysUtils;                //JCL
22490: 780 unit uPSI_JclBorlandTools;            //JCL
22491: 781 unit JclFileUtils_max;                //JCL
22492: 782 uPSI_AfDataControls,                  //AsyncFree
22493: 783 uPSI_GLSilhouette;                    //OpenGL
22494: 784 uPSI_JclSysUtils_class;               //JCL
22495: 785 uPSI_JclFileUtils_class;              //JCL
22496: 786 uPSI_FileUtil;                        //JCL
22497: 787 uPSI_changefind;                      //mX4
22498: 788 uPSI_cmdIntf;                         //mX4
22499: 789 uPSI_fservice;                        //mX4
22500: 790 uPSI_Keyboard;                        //OpenGL
22501: 791 uPSI_VRMLParser,                      //OpenGL
22502: 792 uPSI_GLFileVRML,                      //OpenGL
22503: 793 uPSI_Octree;                          //OpenGL
22504: 794 uPSI_GLPolyhedron,                    //OpenGL
22505: 795 uPSI_GLCrossPlatform;                 //OpenGL
22506: 796 uPSI_GLParticles;                     //OpenGL
22507: 797 uPSI_GLNavigator;                     //OpenGL
22508: 798 uPSI_GLStarRecord;                    //OpenGL
22509: 799 uPSI_GLTextureCombiners;              //OpenGL
22510: 800 uPSI_GLCanvas;                        //OpenGL
22511: 801 uPSI_GeometryBB;                      //OpenGL
22512: 802 uPSI_GeometryCoordinates;             //OpenGL
22513: 803 uPSI_VectorGeometry;                  //OpenGL
22514: 804 uPSI_BumpMapping;                     //OpenGL
22515: 805 uPSI_TGA;                             //OpenGL
22516: 806 uPSI_GLVectorFileObjects;             //OpenGL
22517: 807 uPSI_IMM;                             //VCL
22518: 808 uPSI_CategoryButtons;                 //VCL
22519: 809 uPSI_ButtonGroup;                     //VCL
22520: 810 uPSI_DbExcept;                        //VCL
22521: 811 uPSI_AxCtrls;                         //VCL
22522: 812 uPSI_GL_actorUnit1;                   //OpenGL
22523: 813 uPSI_StdVCL;                          //VCL
22524: 814 unit CurvesAndSurfaces;               //OpenGL
22525: 815 uPSI_DataAwareMain;                   //AsyncFree
22526: 816 uPSI_TabNotBk;                        //VCL
22527: 817 uPSI_udwsfiler;                       //mX4
22528: 818 uPSI_synaip;                          //Synapse!
22529: 819 uPSI_synacode;                        //Synapse
22530: 820 uPSI_synachar;                        //Synapse
22531: 821 uPSI_synamisc;                        //Synapse
22532: 822 uPSI_synaser;                         //Synapse
22533: 823 uPSI_synaicnv;                        //Synapse
22534: 824 uPSI_tlntsend;                        //Synapse
22535: 825 uPSI_pingsend;                        //Synapse
22536: 826 uPSI_blcksock;                        //Synapse
22537: 827 uPSI_asn1util;                        //Synapse
22538: 828 uPSI_dnssend;                         //Synapse
22539: 829 uPSI_clamsend;                        //Synapse
22540: 830 uPSI_ldapsend;                        //Synapse
22541: 831 uPSI_mimemess;                        //Synapse
22542: 832 uPSI_slogsend;                        //Synapse
22543: 833 uPSI_mimepart;                        //Synapse
22544: 834 uPSI_mimeinln;                        //Synapse
22545: 835 uPSI_ftpsend,                         //Synapse
22546: 836 uPSI_ftptsend;                        //Synapse
22547: 837 uPSI_httpsend;                        //Synapse
22548: 838 uPSI_sntpsend;                        //Synapse
22549: 839 uPSI_smtpsend;                        //Synapse
22550: 840 uPSI_snmpsend;                        //Synapse
22551: 841 uPSI_imapsend;                        //Synapse
22552: 842 uPSI_pop3send;                        //Synapse
22553: 843 uPSI_nntpsend;                        //Synapse
22554: 844 uPSI_ssl_cryptlib;                    //Synapse
22555: 845 uPSI_ssl_openssl;                     //Synapse
22556: 846 uPSI_synhttp_daemon;                  //Synapse
22557: 847 uPSI_NetWork;                         //mX4
22558: 848 uPSI_PingThread;                      //Synapse
22559: 849 uPSI_JvThreadTimer;                   //JCL
22560: 850 unit uPSI_wwSystem;                   //InfoPower
```

```
22561: 851 unit uPSI_IdComponent;                    //Indy
22562: 852 unit uPSI_IdIOHandlerThrottle;            //Indy
22563: 853 unit uPSI_Themes;                         //VCL
22564: 854 unit uPSI_StdStyleActnCtrls;              //VCL
22565: 855 unit uPSI_UDDIHelper;                     //VCL
22566: 856 unit uPSI_IdIMAP4Server;                  //Indy
22567: 857 uPSI_VariantSymbolTable,                  //VCL //3.9.9.92
22568: 858 uPSI_udf_glob,                           //mX4
22569: 859 uPSI_TabGrid,                            //VCL
22570: 860 uPSI_JsDBTreeView,                       //mX4
22571: 861 uPSI_JsSendMail,                         //mX4
22572: 862 uPSI_dbTvRecordList,                     //mX4
22573: 863 uPSI_TreeVwEx,                           //mX4
22574: 864 uPSI_ECDataLink,                         //mX4
22575: 865 uPSI_dbTree,                             //mX4
22576: 866 uPSI_dbTreeCBox,                         //mX4
22577: 867 unit uPSI_Debug; //TfrmDebug            //mX4
22578: 868 uPSI_TimeFncs;                           //mX4
22579: 869 uPSI_FileIntf,                          //VCL
22580: 870 uPSI_SockTransport,                     //RTL
22581: 871 unit uPSI_WinInet;                      //RTL
22582: 872 unit uPSI_Wwstr;                        //mX4
22583: 873 uPSI_DBLookup,                          //VCL
22584: 874 uPSI_Hotspot,                           //mX4
22585: 875 uPSI_HList; //History List              //mX4
22586: 876 unit uPSI_DrTable;                      //VCL
22587: 877 uPSI_TConnect,                          //VCL
22588: 878 uPSI_DataBkr,                           //VCL
22589: 879 uPSI_HTTPIntr;                          //VCL
22590: 880 unit uPSI_Mathbox;                      //mX4
22591: 881 uPSI_cyIndy,                            //cY
22592: 882 uPSI_cySysUtils,                        //cY
22593: 883 uPSI_cyWinUtils,                        //cY
22594: 884 uPSI_cyStrUtils,                        //cY
22595: 885 uPSI_cyObjUtils,                        //cY
22596: 886 uPSI_cyDateUtils,                       //cY
22597: 887 uPSI_cyBDE,                             //cY
22598: 888 uPSI_cyClasses,                         //cY
22599: 889 uPSI_cyGraphics,  //3.9.9.94_2          //cY
22600: 890 unit uPSI_cyTypes;                      //cY
22601: 891 uPSI_JvDateTimePicker,                  //JCL
22602: 892 uPSI_JvCreateProcess,                   //JCL
22603: 893 uPSI_JvEasterEgg,                       //JCL
22604: 894 uPSI_WinSvc,  //3.9.9.94_3             //VCL
22605: 895 uPSI_SvcMgr                            //VCL
22606: 896 unit uPSI_JvPickDate;                   //JCL
22607: 897 unit uPSI_JvNotify;                     //JCL
22608: 898 uPSI_JvStrHlder                         //JCL
22609: 899 unit uPSI_JclNTFS2;                     //JCL
22610: 900 uPSI_Jcl8087 //math coprocessor        //JCL
22611: 901 uPSI_JvAddPrinter                       //JCL
22612: 902 uPSI_JvCabFile                          //JCL
22613: 903 uPSI_JvDataEmbedded;                    //JCL
22614: 904 unit uPSI_U_HexView;                    //mX4
22615: 905 uPSI_UWavein4,                          //mX4
22616: 906 uPSI_AMixer,                            //mX4
22617: 907 uPSI_JvaScrollText,                     //mX4
22618: 908 uPSI_JvArrow,                           //mX4
22619: 909 unit uPSI_UrlMon;                       //mX4
22620: 910 U_Oscilloscope4 in 'U_Oscilloscope4.pas'  //mX4
22621: 911 unit uPSI_U_Oscilloscope4; //TOscfrmMain;  //DFF
22622: 912 unit uPSI_DFFUtils;                     //DFF
22623: 913 unit uPSI_MathsLib;                     //DFF
22624: 914 uPSI_UIntList;                          //DFF
22625: 915 uPSI_UGetParens;                        //DFF
22626: 916 unit uPSI_UGeometry;                    //DFF
22627: 917 unit uPSI_UAstronomy;                   //DFF
22628: 918 unit uPSI_UCardComponentV2;             //DFF
22629: 919 unit uPSI_UTGraphSearch;                //DFF
22630: 920 unit uPSI_UParser10;                    //DFF
22631: 921 unit uPSI_cyIEUtils;                    //cY
22632: 922 unit uPSI_UcomboV2;                     //DFF
22633: 923 uPSI_cyBaseComm,                        //cY
22634: 924 uPSI_cyAppInstances,                    //cY
22635: 925 uPSI_cyAttract,                         //cY
22636: 926 uPSI_cyDERUtils                         //cY
22637: 927 unit uPSI_cyDocER;                      //cY
22638: 928 unit uPSI_ODBC;                         //mX
22639: 929 unit uPSI_AssocExec;                    //mX
22640: 930 uPSI_cyBaseCommRoomConnector,           //cY
22641: 931 uPSI_cyCommRoomConnector,               //cY
22642: 932 uPSI_cyCommunicate,                     //cY
22643: 933 uPSI_cyImage;                           //cY
22644: 934 uPSI_cyBaseContainer                    //cY
22645: 935 uPSI_cyModalContainer,                  //cY
22646: 936 uPSI_cyFlyingContainer;                 //cY
22647: 937 uPSI_RegStr,                            //VCL
22648: 938 uPSI_HtmlHelpViewer;                    //VCL
22649: 939 unit uPSI_cyIniForm                     //cY
```

```
22650: 940 unit uPSI_cyVirtualGrid;                  //cY
22651: 941 uPSI_Profiler,                            //DA
22652: 942 uPSI_BackgroundWorker,                    //DA
22653: 943 uPSI_WavePlay,                           //DA
22654: 944 uPSI_WaveTimer,                          //DA
22655: 945 uPSI_WaveUtils;                          //DA
22656: 946 uPSI_NamedPipes,                         //TB
22657: 947 uPSI_NamedPipeServer,                    //TB
22658: 948 unit uPSI_process,                       //TB
22659: 949 unit uPSI_DPUtils;                       //TB
22660: 950 unit uPSI_CommonTools;                   //TB
22661: 951 uPSI_DataSendToWeb,                      //TB
22662: 952 uPSI_StarCalc,                          //TB
22663: 953 uPSI_D2_XPVistaHelperU                   //TB
22664: 954 unit uPSI_NetTools                      //TB
22665: 955 unit uPSI_Pipes                         //TB
22666: 956 uPSI_ProcessUnit,                       //mX
22667: 957 uPSI_adGSM,                             //mX
22668: 958 unit uPSI_BetterADODataSet;             //mX
22669: 959 unit uPSI_AdSelCom; //FTT               //mX
22670: 960 unit unit uPSI_dwsXPlatform;            //DWS
22671: 961 uPSI_AdSocket;                          //mX Turbo Power
22672: 962 uPSI_AdPacket;                          //mX
22673: 963 uPSI_AdPort;                            //mX
22674: 964 uPSI_PathFunc;                          //Inno
22675: 965 uPSI_CmnFunc;                           //Inno
22676: 966 uPSI_CmnFunc2; //Inno Setup             //Inno
22677: 967 unit uPSI_BitmapImage;                  //mX4
22678: 968 unit uPSI_ImageGrabber;                 //mX4
22679: 969 uPSI_SecurityFunc,                      //Inno
22680: 970 uPSI_RedirFunc,                         //Inno
22681: 971 uPSI_FIFO, (MemoryStream)               //mX4
22682: 972 uPSI_Int64Em,                           //Inno
22683: 973 unit uPSI_InstFunc;                     //Inno
22684: 974 unit uPSI_LibFusion;                    //Inno
22685: 975 uPSI_SimpleExpression;                  //Inno
22686: 976 uPSI_unitResourceDetails,               //XN
22687: 977 uPSI_unitResFile,                       //XN
22688: 978 unit uPSI_simpleComport;                //mX4
22689: 979 unit uPSI_AfViewershelpers;             //Async
22690: 980 unit uPSI_Console;                      //mX4
22691: 981 unit uPSI_AnalogMeter;                  //TB
22692: 982 unit uPSI_XPrinter,                     //TB
22693: 983 unit uPSI_IniFiles;                     //VCL
22694: 984 unit uPSI_lazIniFiles;                  //FP
22695: 985 uPSI_testutils;                         //FP
22696: 986 uPSI_ToolsUnit; (DBTests)               //FP
22697: 987 uPSI_fpcunit                            //FP
22698: 988 uPSI_testdecorator;                     //FP
22699: 989 unit uPSI_fpcunittests;                 //FP
22700: 990 unit uPSI_cTCPBuffer;                   //Fundamentals 4
22701: 991 unit uPSI_Glut,                         //Open GL
22702: 992 uPSI_LEDBitmaps,                        //mX4
22703: 993 uPSI_FileClass,                         //Inno
22704: 994 uPSI_FileUtilsClass,                    //mX4
22705: 995 uPSI_ComPortInterface; //Kit           //mX4
22706: 996 unit uPSI_SwitchLed;                    //mX4
22707: 997 unit uPSI_cyDmmCanvas;                  //cY
22708: 998 uPSI_uColorFunctions;                   //DFF
22709: 999 uPSI_uSettings;                         //DFF
22710: 1000 uPSI_cyDebug.pas                       //cY
22711: 1001 uPSI_cyColorMatrix;                     //cY
22712: 1002 unit uPSI_cyCopyFiles;                 //cY
22713: 1003 unit uPSI_cySearchFiles;               //cY
22714: 1004 unit uPSI_cyBaseMeasure;               //cY
22715: 1005 unit uPSI_PJIStreams;                  //DD
22716: 1006 unit uPSI_cyRunTimeResize;             //cY
22717: 1007 unit uPSI_jcontrolutils;               //cY
22718: 1008 unit uPSI_kcMapViewer; (+GEONames)     //kc
22719: 1009 unit uPSI_kcMapViewerDESynapse;        //kc
22720: 1010 unit uPSI_cparserutils; (+GIS_SysUtils) //kc
22721: 1011 unit uPSI_LedNumber;                   //TurboPower
22722: 1012 unit uPSI_StStrL;                      //SysTools
22723: 1013 unit uPSI_indGnouMeter;                //LAZ
22724: 1014 unit uPSI_Sensors;                     //LAZ
22725: 1015 unit uPSI_pwmain;  //cgi of powtils    //Pow
22726: 1016 unit uPSI_HTMLUtil;                    //Pow
22727: 1017 unit uPSI_synwrap1; //httpsend         //Pow
22728: 1018 unit StreamWrap1                       //Pow
22729: 1019 unit uPSI_pwmain;                      //Pow
22730: 1020 unit pwtypes                           //Pow
22731: 1021 uPSI_W32VersionInfo                    //LAZ
22732: 1022 unit uPSI_IpAnim;                      //LAZ
22733: 1023 unit uPSI_IpUtils; //iputils2(TurboPower) //TP
22734: 1024 unit uPSI_LrtPoTools;                  //LAZ
22735: 1025 unit uPSI_Laz_DOM;                     //LAZ
22736: 1026 unit uPSI_hhAvComp;                    //LAZ
22737: 1027 unit uPSI_GPS2;                        //mX4
22738: 1028 unit uPSI_GPS;                         //mX4
```

```
22739: 1029 unit uPSI_GPSUDemo; // formtemplate TFDemo//mX4
22740: 1030 unit uPSI_NMEA;     // GPS                //mX4
22741: 1031 unit uPSI_ScreenThreeDLab;                //mX4
22742: 1032 unit uPSI_Spin;                           //VCL
22743: 1033 unit uPSI_DynaZip;                        //mX4
22744: 1034 unit uPSI_clockExpert;                    //TB
22745: 1035 unit debugLn                             //mX4
22746: 1036 uPSI_SortUtils;                          //Jcl
22747: 1037 uPSI_BitmapConversion;                   //Jcl
22748: 1038 unit uPSI_JclTD32;                       //Jcl
22749: 1039 unit uPSI_ZDbcUtils;                     //Zeos
22750: 1040 unit uPSI_ZScriptParser;                 //Zeos
22751: 1041 uPSI_JvIni,                              //JCL
22752: 1042 uPSI_JvFtpGrabber;                       //JCL
22753:
22754:
22755: ////////////////////////////////////////////////////////////////////////////
22756: //Form Template Library FTL
22757: ////////////////////////////////////////////////////////////////////////////
22758:
22759: 34 FTL For Form Building out of the Script, eg. 399_form_templates.txt
22760:
22761: 045 unit uPSI_VListView                         TFormListView;
22762: 263 unit uPSI_JvProfiler32;                     TProfReport
22763: 270 unit uPSI_ImgList;                          TCustomImageList
22764: 278 unit uPSI_JvImageWindow;                    TJvImageWindow
22765: 317 unit uPSI_JvParserForm;                     TJvHTMLParserForm
22766: 497 unit uPSI_DebugBox;                         TDebugBox
22767: 513 unit uPSI_ImageWin;                         TImageForm, TImageForm2
22768: 514 unit uPSI_CustomDrawTreeView;               TCustomDrawForm
22769: 515 unit uPSI_GraphWin;                         TGraphWinForm
22770: 516 unit uPSI_actionMain;                       TActionForm
22771: 518 unit uPSI_CtlPanel;                         TAppletApplication
22772: 529 unit uPSI_MDIEdit;                         TEditForm
22773: 535 unit uPSI_CoolMain; {browser}              TWebMainForm
22774: 538 unit uPSI_frmExportMain;                   TSynexportForm
22775: 585 unit uPSI_usniffer; {//PortScanForm}       TSniffForm
22776: 600 unit uPSI_ThreadForm;                      TThreadSortForm;
22777: 618 unit uPSI_delphi_arduino_Unit1;            TLEDForm
22778: 620 unit uPSI_fplotMain;                       TfplotForm1
22779: 660 unit uPSI_JvDBQueryParamsForm;            TJvQueryParamsDialog
22780: 677 unit uPSI_OptionsFrm;                      TfrmOptions;
22781: 718 unit uPSI_MonForm;                        TMonitorForm
22782: 742 unit uPSI_SimplePortMain;                 TPortForm1
22783: 770 unit uPSI_ovccalc;                        TOvcCalculator  //widget
22784: 810 unit uPSI_DbExcept;                       TDbEngineErrorDlg
22785: 812 unit uPSI_GL_actorUnit1;                  TglActorForm1  //OpenGL Robot
22786: 846 unit uPSI_synhttp_daemon;                 TTCPHttpDaemon, TTCPHttpThrd, TPingThread
22787: 867 unit uPSI_Debug;                          TfrmDebug
22788: 904 unit uPSI_U_HexView;                      THexForm2
22789: 911 unit uPSI_U_Oscilloscope4; (OscfrmMain)  TOscfrmMain
22790: 959 unit uPSI_AdSelCom;                      TComSelectForm
22791: 1029 unit uPSI_GPSUDemo;                     TFDemo
22792: 1031 unit uPSI_ScreenThreeDLab;              TFormLab3D
22793:
22794:
22795: ex.:with TEditForm.create(self) do begin
22796:       caption:= 'Template Form Tester';
22797:       FormStyle:= fsStayOnTop;
22798:       with editor do begin
22799:         Lines.LoadFromFile(Exepath+'\docs\Readme_rus_mX2.rtf
22800:         SelStart:= 0;
22801:         Modified:= False;
22802:       end;
22803:     end;
22804:   with TWebMainForm.create(self) do begin
22805:     URLs.Text:= 'http://www.kleiner.ch';
22806:     URLsClick(self); Show;
22807:   end;
22808:   with TSynexportForm.create(self) do begin
22809:     Caption:= 'Synexport HTML RTF tester';
22810:     Show;
22811:   end;
22812:   with TThreadSortForm.create(self) do begin
22813:      showmodal; free;
22814:   end;
22815:   with TCustomDrawForm.create(self) do begin
22816:        width:=820; height:=820;
22817:        image1.height:= 600; //add properties
22818:        image1.picture.bitmap:= image2.picture.bitmap;
22819:        //SelectionBackground1Click(self) CustomDraw1Click(self);
22820:        Background1.click;
22821:        bitmap1.click; Tile1.click;
22822:        Showmodal;
22823:        Free;
22824:     end;
22825:    with TfplotForm1.Create(self) do begin
22826:      BtnPlotClick(self);
22827:      Showmodal; Free;
```

```
22828:    end;
22829:   with TOvcCalculator.create(self) do begin
22830:     parent:= aForm;
22831:    //free;
22832:     setbounds(550,510,200,150);
22833:     displaystr:= 'maXcalc';
22834:   end;
22835:   with THexForm2.Create(self) do begin
22836:      ShowModal;
22837:      Free;
22838:   end;
22839:
22840: function CheckBox: string;
22841: var idHTTP: TIDHTTP;
22842:  begin
22843:    result:= 'version not found';
22844:    if IsInternet then begin
22845:      idHTTP:= TIdHTTP.Create(NIL);
22846:      try
22847:        result:= idHTTP.Get(MXVERSIONFILE2);
22848:        result:= result[1]+result[2]+result[3]+result[4]+result[5];
22849:        if result = MBVER2 then begin
22850:          //output.Font.Style:= [fsbold];
22851:          //Speak(' A new Version '+vstr+' of max box is available! ');
22852:          result:= ('!!! OK. You have latest Version: '+result+' available at '+MXSITE);
22853:        end;
22854:       //idhttp.get2('http://www.softwareschule.ch/maxbox.htm')
22855:      finally
22856:        idHTTP.Free
22857:    end;
22858:  end;
22859: end;
22860:
22861: //Runtimer Functions Edition
22862: function ApWinExecAndWait32(FileName:PChar; CommandLine:PChar; Visibility:Integer):Integer;
22863: function KillTask(ExeFileName: string): Integer;
22864: procedure KillProcess(hWindowHandle: HWND);
22865: function FindWindowByTitle(WindowTitle: string): Hwnd;
22866: function IntToFloat(i: Integer): double;
22867: function AddThousandSeparator(S: string; myChr: Char): string;
22868: function mciSendString(cmd: PChar; ret: PChar; len: integer; callback: integer): cardinal;
22869: procedure FormAnimation(Sender: TObject; adelay: integer);
22870: procedure LoadResourceFile2(aFile:string; ms:TMemoryStream);
22871: function putBinResTo(binresname: pchar; newpath: string): boolean;
22872: procedure ExecuteHyperlink(Sender: TObject; HyperLinkClick: TJvHyperLinkClickEvent; const LinkName:
      string);');
22873: function IsHyperLink(Canvas:TCanvas;Rect:TRect;const Text:string; MouseX,MouseY:Integer;var
      HyperLink:string):Bool
22874: Function GetWindowThreadProcessId( hWnd : HWND; var dwProcessId : DWORD) : DWORD;');
22875: Function GetWindowTask( hWnd : HWND) : THandle');
22876: Function LoadBitmap( hInstance : HINST; lpBitmapName : PChar) : HBITMAP');
22877: Function GetCommConfig(hCommDev: THandle; var lpCC: TCommConfig; var lpdwSize: DWORD): BOOL');
22878:
22879:
22880:   SendMCICommand('open waveaudio shareable');   //parallels
22881:   SendMCICommand('play "G:\sonysavefeb2014\maxbox\maxbox3_back\examples\maxbox.wav"');
22882:   SendMCICommand('play "G:\sonysavefeb2014\maxbox\maxbox3_back\examples\moon.wav"');
22883:   SendMCICommand('close waveaudio');
22884:
22885:
22886:
22887: ////////////////////////////////////////////////////////////////////////////
22888: All maXbox Tutorials Table of Content 2014
22889: ////////////////////////////////////////////////////////////////////////////
22890:     Tutorial 00 Function-Coding  (Blix the Programmer)
22891:     Tutorial 01 Procedural-Coding
22892:     Tutorial 02 OO-Programming
22893:     Tutorial 03 Modular Coding
22894:     Tutorial 04 UML Use Case Coding
22895:     Tutorial 05 Internet Coding
22896:     Tutorial 06 Network Coding
22897:     Tutorial 07 Game Graphics Coding
22898:     Tutorial 08 Operating System Coding
22899:     Tutorial 09 Database Coding
22900:     Tutorial 10 Statistic Coding
22901:     Tutorial 11 Forms Coding
22902:     Tutorial 12 SQL DB Coding
22903:     Tutorial 13 Crypto Coding
22904:     Tutorial 14 Parallel Coding
22905:     Tutorial 15 Serial RS232 Coding
22906:     Tutorial 16 Event Driven Coding
22907:     Tutorial 17 Web Server Coding
22908:     Tutorial 18 Arduino System Coding
22909:     Tutorial 18_3 RGB LED System Coding
22910:     Tutorial 19 WinCOM /Arduino Coding
22911:     Tutorial 20 Regular Expressions RegEx
22912:     Tutorial 21 Android Coding (coming 2013)
22913:     Tutorial 22 Services Programming
22914:     Tutorial 23 Real Time Systems
```

```
22915:     Tutorial 24 Clean Code
22916:     Tutorial 25 maXbox Configuration I+II
22917:     Tutorial 26 Socket Programming with TCP
22918:     Tutorial 27 XML & TreeView
22919:     Tutorial 28 DLL Coding (available)
22920:     Tutorial 29 UML Scripting (2014)
22921:     Tutorial 30 Web of Things (2014)
22922:     Tutorial 31 Closures (2014)
22923:     Tutorial 32 SQL Firebird (coming 2014)
22924:     Tutorial 33 Oscilloscope (coming 2015)
22925:     Tutorial 34 GPS Navigation (2014)
22926:     Tutorial 35 Web Box (available)
22927:     Tutorial 36 Unit Testing (coming 2015)
22928:     Tutorial 37 API Coding (coming 2015)
22929:     Tutorial 38 3D Coding (coming 2015)
22930:     Tutorial 39 GEO Map Coding (available)
22931:     Tutorial 39_1 GEO Map Layers Coding (available)
22932:     Tutorial 40 REST Coding (coming 2015)
22933:
22934:
22935: Doc ref Docu for all Type Class and Const in maXbox_types.pdf
22936: using Docu for this file is maxbox_functions_all.pdf
22937: PEP - Pascal Education Program  Low Lib Lab ShellHell
22938:
22939:
22940: http://stackoverflow.com/tags/pascalscript/hot
22941: http://www.jrsoftware.org/ishelp/index.php?topic=scriptfunctions
22942: http://sourceforge.net/projects/maXbox   #locs:51620
22943: http://sourceforge.net/apps/mediawiki/maXbox
22944: http://www.blaisepascal.eu/
22945: https://github.com/maxkleiner/maXbox3.git
22946: http://www.heise.de/download/maxbox-1176464.html
22947: http://www.softpedia.com/get/Programming/Other-Programming-Files/maXbox.shtml
22948: https://www.facebook.com/pages/Programming-maXbox/166844836691703
22949: http://www.softwareschule.ch/arduino_training.pdf
22950: http://www.delphiarea.com
22951: http://www.freepascal.org/docs-html/rtl/strutils/index-5.html
22952: http://entwickler-konferenz.de/2014/speakers/max-kleiner
22953: http://www.heise.de/download/maxbox-1176464.html
22954:
22955:
22956:
22957: All maXbox Examples List
22958: https://github.com/maxkleiner/maXbox3/releases
22959: ********************************************************************************************
22960: 000_pas_baseconvert.txt                          282_fadengraphik.txt
22961: 000_pas_baseconvert.txt_encrypt                  283_SQL_API_messagetimeout.txt
22962: 000_pas_baseconvert.txt_decrypt                  284_SysTools4.txt
22963: 001_1_pas_functest - Kopie.txt                   285_MineForm_GR32.TXT
22964: 001_1_pas_functest.txt                          285_MineForm_GR32main.TXT
22965: 001_1_pas_functest2.txt                         285_MineForm_GR32mainsolution.TXT
22966: 001_1_pas_functest_clx2.txt                    285_MineForm_propas.TXT
22967: 001_1_pas_functest_clx2_2.txt                  285_MineForm_propas2.TXT
22968: 001_1_pas_functest_openarray.txt               285_minesweeper2.TXT
22969: 001_pas_lottogen.txt                           285_Patterns_process.txt
22970: 001_pas_lottogen_template.txt                  286_colormixer_jpeg_charcounter.txt
22971: 001_pas_lottogen.txtcopy                       286_colormixer_jpeg_charcounter2.txt
22972: 002_pas_russianroulette.txt                    287_eventhandling.txt
22973: 002_pas_russianroulette.txtcopy                287_eventhandling2.txt
22974: 002_pas_russianroulette.txtcopy_decrypt        287_eventhandling2_negpower.txt
22975: 002_pas_russianroulette.txtcopy_encrypt        288_bitblt.txt
22976: 003_pas_motion.txt                             288_bitblt_resize.txt
22977: 003_pas_motion.txtcopy                         289_regression.txt
22978: 004_pas_search.txt                             289_regression2.txt
22979: 004_pas_search_replace.txt                     290_bestofbox.txt
22980: 004_search_replace_allfunctionlist.txt         290_bestofbox2.txt
22981: 005_pas_oodesign.txt                           290_bestofbox3.txt
22982: 005_pas_shelllink.txt                          291_3sort_visual_thread.txt
22983: 006_pas_oobatch.txt                            292_refactoring2.txt
22984: 007_pas_streamcopy.txt                         293_bold_utils.txt
22985: 008_EINMALEINS_FUNC.TXT                        293_ib_utils.txt
22986: 008_explanation.txt                            293_ib_utils_timetest.txt
22987: 008_pas_verwechselt.txt                        294_maxcalc_demo.txt
22988: 008_pas_verwechselt_ibz_bern_func.txt          294_maxcalc_demo2.txt
22989: 008_stack_ibz.TXT                              295_easter_calendar.txt
22990: 009_pas_umlrunner.txt                          295_easter_calendar2.txt
22991: 009_pas_umlrunner_all.txt                      295_easter_combobox.txt
22992: 009_pas_umlrunner_componenttest.txt            297_atomimage.txt
22993: 009_pas_umlrunner_solution.txt                 297_atomimage2.txt
22994: 009_pas_umlrunner_solution_2step.txt           297_atomimage3.txt
22995: 010_pas_oodesign_solution.txt                  297_atomimage4.txt
22996: 011_pas_puzzlepas_defect.txt                   297_maxonmotor.TXT
22997: 012_pas_umlrunner_solution.txt                 297_maxon_atomimage9.txt
22998: 012_pas_umlrunner_solution2.txt                298_bitblt_animation.txt
22999: 013_pas_linenumber.txt                         298_bitblt_animation2.txt
23000: 014_pas_primetest.txt                          298_bitblt_animation3.txt
23001: 014_pas_primetest_first.txt                    298_bitblt_animation4.txt
23002: 014_pas_primetest_sync.txt                     298_bitblt_animation4_screensaver.txt
23003: 015_pas_designbycontract.txt                   298_bitblt_animation5_screensaver.txt
```

23004: 015_pas_designbycontract_solution.txt
23005: 016_pas_searchrec.txt
23006: 017_chartgen.txt
23007: 018_data_simulator.txt
23008: 019_dez_to_bin.txt
23009: 019_dez_to_bin_grenzwert_ibz.txt
23010: 020_proc_feedback.txt
23011: 021_pas_symkey.txt
23012: 021_pas_symkey_solution.txt
23013: 022_pas_filestreams.txt
23014: 023_pas_find_searchrec.txt
23015: 023_pas_pathfind.txt
23016: 024_pas_TFileStream_records.txt
23017: 025_prime_direct.txt
23018: 026_pas_memorystream.txt
23019: 027_pas_shellexecute_beta.txt
23020: 027_pas_shellexecute_solution.txt
23021: 028_pas_dataset.txt
23022: 029_pas_assignfile.txt
23023: 029_pas_assignfile_dragndropexe.txt
23024: 030_palindrome_2.txt
23025: 030_palindrome_tester.txt
23026: 030_pas_recursion.txt
23027: 030_pas_recursion2.txt
23028: 031_pas_hashcode.txt
23029: 032_pas_crc_const.txt
23030: 033_pas_cipher.txt
23031: 033_pas_cipher_def.txt
23032: 033_pas_cipher_file_2_solution.txt
23033: 034_pas_soundbox.txt
23034: 035_pas_crcscript.txt
23035: 035_pas_CRCscript_modbus.txt
23036: 036_pas_includetest.txt
23037: 036_pas_includetest_basta.txt
23038: 037_pas_define_demo32.txt
23039: 038_pas_box_demonstrator.txt
23040: 039_pas_dllcall.txt
23041: 040_paspointer.txt
23042: 040_paspointer_old.txt
23043: 041_pasplotter.txt
23044: 041_pasplotter_plus.txt
23045: 042_pas_kgv_ggt.txt
23046: 043_pas_proceduretype.txt
23047: 044_pas_14queens_solwith14.txt
23048: 044_pas_8queens.txt
23049: 044_pas_8queens_sol2.txt
23050: 044_pas_8queens_solutions.txt
23051: 044_queens_performer.txt
23052: 044_queens_performer2.txt
23053: 044_queens_performer2tester.txt
23054: 045_pas_listhandling.txt
23055: 046_pas_records.txt
23056: 047_pas_modula10.txt
23057: 048_pas_romans.txt
23058: 049_pas_ifdemo.txt
23059: 049_pas_ifdemo_BROKER.txt
23060: 050_pas_primetest2.txt
23061: 050_pas_primetester_thieves.txt
23062: 050_program_starter.txt
23063: 050_program_starter_performance.txt
23064: 051_pas_findtext_solution.txt
23065: 052_pas_text_as_stream.txt
23066: 052_pas_text_as_stream_include.txt
23067: 053_pas_singleton.txt
23068: 054_pas_speakpassword.txt
23069: 054_pas_speakpassword2.txt
23070: 054_pas_speakpassword_searchtest.txt
23071: 055_pas_factorylist.txt
23072: 056_pas_demeter.txt
23073: 057_pas_dirfinder.txt
23074: 058_pas_filefinder.txt
23075: 058_pas_filefinder_pdf.txt
23076: 058_pas_filefinder_screview.txt
23077: 058_pas_filefinder_screview2.txt
23078: 058_pas_filefinder_screview3.txt
23079: 059_pas_timertest.txt
23080: 059_pas_timertest_2.txt
23081: 059_pas_timertest_time_solution.txt
23082: 059_timerobject_starter2.txt
23083: 059_timerobject_starter2_ibz2_async.txt
23084: 059_timerobject_starter2_uml.txt
23085: 059_timerobject_starter2_uml_main.txt
23086: 059_timerobject_starter4_ibz.txt
23087: 060_pas_datefind.txt
23088: 060_pas_datefind_exceptions2.txt
23089: 060_pas_datefind_exceptions_CHECKTEST.txt
23090: 060_pas_datefind_fulltext.txt
23091: 060_pas_datefind_plus.txt
23092: 060_pas_datefind_plus_mydate.txt
299_animation.txt
299_animationmotor_arduino.txt
299_animation_formprototype.txt
299_realtimeclock_arduino.txt
299_realtimeclock_arduino2.txt
300_treeview.txt
300_treeview_test.txt
300_treeview_test2.txt
300_treeview_test3.txt
301_LED_Arduino3.txt
301_led_arduino3_simple.txt
301_led_arduino3_simplecode.txt
301_log_arduino.txt
301_log_arduino2.txt
301_SQL_DBfirebird3.txt
301_SQL_DBfirebird4.txt
302_LCLActivity_java.txt
302_LED_DataLogger.txt
303_Android_LCLActivity_java.txt
303_webserver.txt
303_webserver2.txt
303_webserver_alldocs2.txt
303_webserver_alldocs2_tester.txt
303_webserver_minimal.txt
303_webserver_simple.txt
304_st_system.txt
305_indy_elizahttpserver.TXT
305_indy_elizahttpserver2.TXT
305_indy_elizahttpserver3.TXT
305_indy_elizahttpserver4file.TXT
305_webserver_arduino.txt
305_webserver_arduino2.txt
305_webserver_arduino3.txt
305_webserver_arduino3ibz.txt
305_webserver_arduino3ibz_rgb_led.txt
305_webserver_arduino3test.txt
306_SPS_http_command.txt
307_all_booleanlogic.txt
308_bitbox3.txt
308_bitbox3_exec.txt
308_boolean_animation.txt
308_boolean_animation2.txt
309_regex_power.txt
309_regex_powertester2.txt
309_regex_powertester3.txt
310_regex_decorator.TXT
312_ListView.txt
313_dmath_dll.txt
314_fundamentals4_tester.TXT
315_funcplot_dmath.TXT
316_cfileutils_cdatetime_tester.TXT
317_excel_export_tester.TXT
318_excel_export.TXT
318_excel_export2.TXT
318_excel_export3.TXT
318_excel_export3_tester.TXT
319_superfunctions_math.TXT
319_superfunctions_mathdefect.TXT
320_superfunctions.TXT
320_superfunctions2.TXT
321_SQL_Excel.txt
321_SQL_Excel2.txt
321_SQL_Excel_Export.txt
321_SQL_ExportExec.txt
321_SQL_ExportTest.txt
321_SQL_SAS_tester3.txt
321_SQL_SAS_tester3_selfcompile.txt
321_SQL_SAS_tester3_selfcompile2.txt
321_SQL_SAS_tester4.txt
321_SQL_SAS_updater.txt
322_timezones.TXT
323_datefind_fulltext_search.txt
323_datefind_fulltext_searchtester.txt
324_interfacenavi.TXT
325_ampelsteuerung.txt
325_analogclock.txt
326_world_analogclock.txt
326_world_analogclock2.txt
327_atomimage_clock.txt
328_starfield.txt
329_starfield2.txt
330_myclock.txt
330_myclock2.txt
331_SQL_DBfirebird4.txt
332_jprofiler.txt
332_jprofiler_form.txt
332_jprofiler_form2.txt
333_querybyexample.txt
333_querybyexample2.txt

23093: 061_pas_randomwalk.txt
23094: 061_pas_randomwalk_plus.txt
23095: 062_paskorrelation.txt
23096: 063_pas_calculateform.txt
23097: 063_pas_calculateform_2list.txt
23098: 064_pas_timetest.txt
23099: 065_pas_bitcounter.txt
23100: 066_pas_eliza.txt
23101: 066_pas_eliza_include_sol.txt
23102: 067_pas_morse.txt
23103: 068_pas_piezo_sound.txt
23104: 069_LED_Matrix_R1_3_6_NV_PSchaer.TXT
23105: 069_my_LEDBOX.TXT
23106: 069_pas_ledmatrix.txt
23107: 069_pas_LEDMATRIX_Alphabet.txt
23108: 069_pas_LEDMATRIX_Alphabet_run.txt
23109: 069_pas_LEDMATRIX_Alphabet_tester.txt
23110: 069_PAS_LEDMATRIX_COLOR.TXT
23111: 069_pas_ledmatrix_fixedit.txt
23112: 069_pas_LEDMATRIX_soundbox.txt
23113: 069_pas_LEDMATRIX_soundbox2.txt
23114: 069_Richter_MATRIX.TXT
23115: 070_pas_functionplot.txt
23116: 070_pas_functionplotter2.txt
23117: 070_pas_functionplotter2_mx4.txt
23118: 070_pas_functionplotter2_tester.txt
23119: 070_pas_functionplotter3.txt
23120: 070_pas_functionplotter4.txt
23121: 070_pas_functionplotter_digital.txt
23122: 070_pas_functionplotter_elliptic.txt
23123: 070_pas_function_helmholtz.txt
23124: 070_pas_textcheck_experimental.txt
23125: 071_pas_graphics.txt
23126: 071_pas_graphics_drawsym.txt
23127: 071_pas_graphics_drawsym_save.txt
23128: 071_pas_graphics_random.txt
23129: 072_pas_fractals.txt
23130: 072_pas_fractals_2.txt
23131: 072_pas_fractals_blackhole.txt
23132: 072_pas_fractals_perfomance.txt
23133: 072_pas_fractals_perfomance_new.txt
23134: 072_pas_fractals_perfomance_sharp.txt
23135: 072_pas_fractals_performance.txt
23136: 072_pas_fractals_performance_mX4.txt
23137: 073_pas_forms.txt
23138: 074_pas_chartgenerator.txt
23139: 074_pas_chartgenerator_solution.txt
23140: 074_pas_chartgenerator_solution_back.txt
23141: 074_pas_charts.txt
23142: 075_bitmap_Artwork2.txt
23143: 075_pas_bitmappuzzle.txt
23144: 075_pas_bitmappuzzle24.prod.txt
23145: 075_pas_bitmappuzzle2_prod.txt
23146: 075_pas_bitmappuzzle3.txt
23147: 075_pas_bitmapsolve.txt
23148: 075_pas_bitmap_Artwork.txt
23149: 075_pas_puzzlepas_solution.txt
23150: 076_pas_3dcube.txt
23151: 076_pas_circle.txt
23152: 077_pas_mmshow.txt
23153: 078_pas_pi.txt
23154: 079_pas_3dcube_animation.txt
23155: 079_pas_3dcube_animation4.txt
23156: 079_pas_3dcube_plus.txt
23157: 080_pas_hanoi.txt
23158: 080_pas_hanoi2.txt
23159: 080_pas_hanoi2_file.txt
23160: 080_pas_hanoi2_sol.txt
23161: 080_pas_hanoi2_tester.txt
23162: 080_pas_hanoi2_tester_fast.txt
23163: 080_pas_hanoi3.txt
23164: 081_pas_chartist2.txt
23165: 082_pas_biorythmus.txt
23166: 082_pas_biorythmus_solution.txt
23167: 082_pas_biorythmus_solution_3.txt
23168: 082_pas_biorythmus_test.txt
23169: 083_pas_GITARRE.txt
23170: 083_pas_soundbox_tones.txt
23171: 084_pas_waves.txt
23172: 085_mxsinus_logo.txt
23173: 085_sinus_plot_waves.txt
23174: 086_pas_graph_arrow_heart.txt
23175: 087_bitmap_loader.txt
23176: 087_pas_bitmap_solution.txt
23177: 087_pas_bitmap_solution2.txt
23178: 087_pas_bitmap_subimage.txt
23179: 087_pas_bitmap_test.txt
23180: 088_pas_soundbox2_mp3.txt
23181: 088_pas_soundbox_mp3.txt
334_jvutils_u.txt
335_atomimage5.txt
335_atomimage6.txt
335_atomimage7.txt
336_digiclock.txt
336_digiclock2.txt
336_digiclock2test.txt
336_digiclock3.txt
337_4games.txt
337_4games_inone.txt
338_compress.txt
338_compress2.txt
339_ntfs.txt
340_docutype.txt
340_logsimulation.txt
340_logsimulation2.txt
340_soundControltype.txt
341_blix_clock.txt
341_blix_clock2.txt
341_blix_clock_tester.txt
342_set_enumerator.txt
343_dice2.txt
344_pe_header.txt
344_pe_header2.txt
345_velocity.txt
346_conversions.txt
347_pictureview.txt
348_duallistview.txt
349_biginteger.txt
350_parserform.txt
351_chartform.txt
351_chartform2.txt
351_chartform3.txt
352_array_unittest.txt
353_smtp_email.txt
353_smtp_email2.txt
354_josephus.txt
355_life_of_PI.txt
356_3D_printer.txt
357_fplot.TXT
358_makesound.txt
359_charsetrules.TXT
360_allobjects.TXT
360_JvPaintFX.TXT
361_heartbeat_wave.TXT
362_maxonmotor2.TXT
363_compress_services.txt
363_compress_services2.txt
364_pdf_services.txt
365_memorystream.txt
365_memorystream2.txt
365_memorystream_test.txt
365_U_HexView.txt
366_mp3player.txt
366_mp3player2.txt
366_mp3player2_themestest.txt
367_silvi_player_widgets.txt
367_silvi_player_widgets2.txt
367_widgets.txt
368_configuration_demo.txt
369_macro_demo.txt
370_callback2grid.TXT
370_richedit.txt
370_richedit_highlight.txt
370_synedit.txt
370_synedit2.txt
370_synedit2_mxtester.txt
370_synedit2_mxtester2.txt
371_maXbook_v4tester.txt
372stackibz2_memoryalloc.TXT
372_synedit_export.txt
373_batman.txt
373_fractals_tvout.txt
374_realtime_random.txt
374_realtime_random2.txt
374_realtime_randomtest.txt
374_realtime_randomtest2.txt
375_G9_musicbox.txt
376_collections_list.txt
377_simpleXML.txt
377_smartXML.txt
377_smartXMLWorkshop.txt
377_smartXMLWorkshop2.txt
378_queryperformance3.txt
378_REST1.txt
378_REST2.txt
379_timefunc.txt
379_timefunctesterfilemon.txt
380_coolfunc.txt

23182: 088_pas_sphere_2.txt
23183: 089_pas_gradient.txt
23184: 089_pas_maxland2.txt
23185: 090_pas_sudoku4.txt
23186: 090_pas_sudoku4_2.txt
23187: 091_pas_cube4.txt
23188: 092_pas_statistics4.txt
23189: 093_variance.txt
23190: 093_variance_debug.txt
23191: 094_pas_daysold.txt
23192: 094_pas_stat_date.txt
23193: 095_pas_ki_simulation.txt
23194: 096_pas_geisen_problem.txt
23195: 096_pas_montyhall_problem.txt
23196: 097_lotto_proofofconcept.txt
23197: 097_pas_lottocombinations_beat_plus.txt
23198: 097_pas_lottocombinations_beat_plus2.txt
23199: 097_pas_lottocombinations_universal.txt
23200: 097_pas_lottosimulation.txt
23201: 098_pas_chartgenerator_plus.txt
23202: 099_pas_3D_show.txt
23203: 200_big_numbers.txt
23204: 200_big_numbers2.txt
23205: 201_streamload_xml.txt
23206: 202_systemcheck.txt
23207: 203_webservice_simple_intftester.txt
23208: 204_webservice_simple.txt
23209: 205_future_value_service.txt
23210: 206_DTD_string_functions.txt
23211: 207_ibz2_async_process.txt
23212: 208_crc32_hash.txt
23213: 209_cryptohash.txt
23214: 210_public_private.txt
23215: 210_public_private_cryptosystem.txt
23216: 211_wipe_pattern.txt
23217: 211_wipe_pattern2.txt
23218: 211_wipe_pattern_solution.txt
23219: 212_pas_statisticmodule4.TXT
23220: 212_pas_statisticmoduletxt.TXT
23221: 212_statisticmodule4.txt
23222: 213_pas_BBP_Algo.txt
23223: 214_mxdocudemo.txt
23224: 214_mxdocudemo2.txt
23225: 214_mxdocudemo3.txt
23226: 215_hints_test.TXT
23227: 216_warnings_test.TXT
23228: 217_pas_heartbeat.txt
23229: 218_biorythmus_studio.txt
23230: 219_cipherbox.txt
23231: 219_crypt_source_comtest_solution.TXT
23232: 220_cipherbox_form.txt
23233: 220_cipherbox_form2.txt
23234: 221_bcd_explain.txt
23235: 222_memoform.txt
23236: 223_directorybox.txt
23237: 224_dialogs.txt
23238: 225_sprite_animation.txt
23239: 226_ASCII_Grid2.TXT
23240: 227_animation.txt
23241: 227_animation2.txt
23242: 228_android_calendar.txt
23243: 229_android_game.txt
23244: 229_android_game_tester.txt
23245: 230_DataProvider.txt
23246: 230_DataSetProvider.txt
23247: 230_DataSetXMLBackupScholz.txt
23248: 231_DBGrid_access.txt
23249: 231_DBGrid_XMLaccess.txt
23250: 231_DBGrid_XMLaccess2.txt
23251: 231_DBGrid_XMLaccess_locatetester.txt
23252: 231_DBGrid_XML_CDS_local.txt
23253: 232_outline.txt
23254: 232_outline_2.txt
23255: 233_modular_form.txt
23256: 234_debugoutform.txt
23257: 235_fastform.TXT
23258: 236_componentpower.txt
23259: 236_componentpower_back.txt
23260: 237_pas_4forms.txt
23261: 238_lottogen_form.txt
23262: 239_pas_sierpinski.txt
23263: 239_pas_sierpinski2.txt
23264: 240_unitGlobal_tester.txt
23265: 241_db3_sql_tutorial.txt
23266: 241_db3_sql_tutorial2.txt
23267: 241_db3_sql_tutorial2fix.txt
23268: 241_db3_sql_tutorial3.txt
23269: 241_db3_sql_tutorial3connect.txt
23270: 241_db3_sql_tutorial3_fptest.txt
380_coolfunc2.txt
380_coolfunc_tester.txt
381_bitcoin_simulation.txt
382_GRMath.TXT
382_GRMath_PI_Proof.TXT
382_GRMath_Riemann.TXT
383_MDAC_DCOM.txt
384_TeamViewerID.TXT
386_InternetRadio.TXT
387_fulltextfinder.txt
387_fulltextfinder_cleancode.txt
387_fulltextfinder_fast.txt
387_fulltext_getscripttest.txt
388_TCPServerSock.TXT
388_TCPServerSock2.TXT
388_TCPServerSockClient.TXT
389_TAR_Archive.TXT
389_TAR_Archive_test.TXT
389_TAR_Archive_test2.TXT
390_Callback3.TXT
390_Callback3Rec.TXT
390_CallbackClean.TXT
390_StringlistHTML.TXT
391_ToDo_List.TXT
392_Barcode.TXT
392_Barcode2.TXT
392_Barcode23.TXT
392_Barcode2scholz.TXT
392_Barcode3scholz.TXT
393_QRCode.TXT
393_QRCode2.TXT
393_QRCode2Direct.TXT
393_QRCode2DirectIndy.TXT
393_QRCode2Direct_detlef.TXT
393_QRCode3.TXT
394_networkgraph.TXT
394_networkgraph_depwalkutilstest.TXT
394_networkgraph_depwalkutilstest2.TXT
395_USBController.TXT
396_Sort.TXT
397_Hotlog.TXT
397_Hotlog2.TXT
398_ustrings.txt
399_form_templates.txt
400_fplottchart.TXT
400_fplottchart2.TXT
400_fplottchart2teetest.TXT
400_QRCodeMarket.TXT
401_tfilerun.txt
402_richedit2.txt
403_outlookspy.txt
404_simplebrowser.txt
405_datefinder_today.txt
406_portscan.txt
407_indydemo.txt
408_testroboter.txt
409_excel_control.txt
410_keyboardevent.txt
411_json_test.txt
412_Zeosutils.txt
413_listview2.txt
414_avrdude_flash.txt
415_avrdude_writehex.txt
416_sonar_startscriptEKON.TXT
416_sonar_startscriptEKON_reporting.TXT
417_GRMath_PI_Proof2.TXT
418_functional_paradigm.txt
419_archimedes_spiral.txt
419_archimedes_spiral2.txt
420_archimedes_arduino.txt
420_Lissajous.txt
421_PI_Power.TXT
421_PI_Power2.TXT
422_world_bitboxx.txt
423_game_of_life.TXT
423_game_of_life2.TXT
423_game_of_life3.TXT
423_game_of_life3_test.TXT
423_game_of_life4.TXT
423_game_of_life4_kryptum.TXT
424_opengl_tester.txt
425_reversi_game.txt
426_IBUtils.TXT
427_IBDatabase.TXT
428_SortGrid.TXT
429_fileclass.txt
430_fileoperation.txt
430_fileoperation_tester.txt
431_performance_index.txt

23271: 241_RTL_SET2.txt
23272: 241_RTL_SET2_tester.txt
23273: 242_Component_Control.txt
23274: 243_tutorial_loader.txt
23275: 244_script_loader_loop.txt
23276: 245_formapp2.txt
23277: 245_formapp2_tester.txt
23278: 245_formapp2_testerX.txt
23279: 246_httpapp.txt
23280: 247_datecalendar.txt
23281: 248_ASCII_Grid2_sorted.TXT
23282: 249_picture_grid.TXT
23283: 250_tipsandtricks2.txt
23284: 250_tipsandtricks3.txt
23285: 250_tipsandtricks3api.txt
23286: 250_tipsandtricks3_admin_elevation.txt
23287: 250_tipsandtricks3_tester.txt
23288: 250_tipsandtricks4_tester.txt
23289: 250_tipsandtricks4_tester2.txt
23290: 251_compare_noise_gauss.txt
23291: 251_whitenoise.txt
23292: 251_whitenoise2.txt
23293: 252_hilbert_turtle.txt
23294: 252_pas_hilbert.txt
23295: 253_opearatingsystem3.txt
23296: 254_dynarrays.txt
23297: 255_einstein.txt
23298: 256_findconsts_of_EXE.txt
23299: 256_findfunctions2_of_EXE.txt
23300: 256_findfunctions2_of_EXEaverp.txt
23301: 256_findfunctions2_of_EXEspec.txt
23302: 256_findfunctions3.txt
23303: 256_findfunctions_of_EXE.txt
23304: 257_AES_Cipher.txt
23305: 258_AES_cryptobox.txt
23306: 258_AES_cryptobox2.txt
23307: 258_AES_cryptobox2_passdlg.txt
23308: 259_AES_crypt_directory.txt
23309: 260_sendmessage_2.TXT
23310: 260_sendmessage_beta.TXT
23311: 261_probability.txt
23312: 262_mxoutputdemo4.txt
23313: 263_async_sound.txt
23314: 264_vclutils.txt
23315: 264_VCL_utils2.txt
23316: 265_timer_API.txt
23317: 266_serial_interface.txt
23318: 266_serial_interface2.txt
23319: 266_serial_interface3.txt
23320: 267_ackermann_rec.txt
23321: 267_ackermann_variants.txt
23322: 268_DBGrid_tree.txt
23323: 269_record_grid.TXT
23324: 270_Jedi_FunctionPower.txt
23325: 270_Jedi_FunctionPowertester.txt
23326: 271_closures_study.txt
23327: 271_closures_study_workingset2.txt
23328: 272_pas_function_show.txt
23329: 273_pas_function_show2.txt
23330: 274_library_functions.txt
23331: 275_turtle_language.txt
23332: 275_turtle_language_save.txt
23333: 276_save_algo.txt
23334: 276_save_algo2.txt
23335: 277_functionsfor39.txt
23336: 278_DB_Dialogs.TXT
23337: 279_hexer2.TXT
23338: 279_hexer2macro.TXT
23339: 279_hexer2macroback.TXT
23340: 280_UML_process.txt
23341: 280_UML_process_knabe2.txt
23342: 280_UML_process_knabe3.txt
23343: 280_UML_process_TIM_Botzenhardt.txt
23344: 280_UML_TIM_Seitz.txt
23345: 281_picturepuzzle.txt
23346: 281_picturepuzzle2.txt
23347: 281_picturepuzzle3.txt
23348: 281_picturepuzzle4.txt
23349: 479_inputquery.txt
23350: 480_regex_pathfinder2.txt
23351: 482 processPipe.txt
23352: 483_PathFuncTest_mX.txt
23353: 485_InnoFunc.txt
23354: 487_asyncKeyState.txt
23355: 489_simpleComport.txt
23356: 491_analogmeter.txt
23357: 493_gadgets.txt
23358: 496_InstallX.txt
23359: 498_UnitTesting.txt
432_shortstring_routines.txt
433_video_avicap.txt
433_video_avicap2.txt
434_GSM_module.TXT
435_httpcommon.txt
436_GraphicSplitter.txt
436_GraphicSplitter_form.txt
436_GraphicSplitter_form2.txt
436_teetest_screen.TXT
436_teetest_screen2.TXT
437_WinAPItop.txt
437_WinAPItop_Firebirdtester.txt
438_OvcInternational.txt
439_AsyncFreeDemo.txt
439_AsyncFreeDemoForm.txt
440_DLL_Tutor.txt
440_DLL_Tutor2.txt
440_XML_Tutor.txt
440_XML_Tutor2.txt
441_make_app.txt
442_arduino_rgb_led.txt
443_webserver_arduino_rgb_light.txt
443_webserver_arduino_rgb_light4.txt
444_webserver_arduino3ibz_rgb_led_basta.txt
445_datagrid.txt
445_datagrid2.txt
445_datagrid_android_arduino.txt
446_arduino_timer.txt
447_patternFrm_mx3.txt
448_Synapse.txt
448_Synapse2.txt
449_dweb_start_tester.txt
450_Synapse_HTTPS.txt
450_Synapse_Mime.txt
450_Synapse_ScanPing.txt
451_ocx_player.txt
451_OCX_WinPlayer2.txt
452_dbtreeview.txt
452_dbtreeview2.txt
453_stdfuncs.txt
454_fileStream.txt
455_functionfun.txt
455_functionfun2.txt
455_functionfun2_test.txt
457_ressource_grid.txt
458_atomimageX.txt
459_cindyfunc.txt
459_cindyfunc2.txt
460_TopTenFunctions.txt
461_sqlform_calwin.txt
462_caesarcipher.txt
463_global_exception.txt
464_function_procedure.txt
464_function_procedure2.txt
464_function_procedure3.txt
465_U_HexView.txt
466_moon.txt
466_moon_inputquery.txt
4671_cardmagic.txt
467_helmholtz_graphic.txt
468_URLMon.txt
468_URLMon2.txt
469_formarrow.txt
469_formarrow_datepicker.txt
469_formarrow_datepicker_ibz_result.txt
469_ibzresult.txt
470_DFFUtils_compiled.txt
470_DFFUtils_ScrollingLED.txt
470_Oscilloscope.txt
470_Oscilloscope_code.txt
471_cardmagic.txt
471_cardmagic2.txt
472_allcards.TXT
473_comboset.txt
474_wakeonlan.txt
474_wakeonlan2.txt
476_getscripttest.txt
477_filenameonly.txt
480_regex_pathfinder.txt
481_processList.txt
482 processPipeGCC.txt
484_filefinder3.txt
486_VideoGrabber.txt
488_asyncTerminal.txt
490_webCamproc.txt
492_snowflake2.txt
495_fourierfreq.txt
497_LED.txt
499_mulu42.txt

```
23360: 500_diceoflifes.txt                          501_firebird_datasnap_tests.txt
23361: 502_findalldocs.txt                          503_led_switch.txt
23362: 504_fileclass.txt                            505_debug.txt
23363: 506_colormatrix.txt                          507_derutils.txt
23364: 508_simplecomportmorse.txt                   509_GEOMap2.txt
23365: 509_509_GEOMap2_SReverse.TXT                 510_510_bonn_gpsdata_mX4.pas
23366: 511_LEDLabel.txt                             512_LED_moon.txt
23367: 513_StreamIntegration.txt                    514_LED_moon2.txt
23368: 515_ledclock3.txt                            516_mapview.txt
23369: 517_animation7.txt                           518_sensors_meter.txt
23370: 519_powtils.txt                              520_run_bytecode.txt
23371: 521_iputils2.txt                             522_getgeocode.txt
23372: 523_NMEA.txt                                 524_NAV_Utils.txt
23373: 525_GEO84s.txt                              526_Compass_meter.txt
23374: 527_GPSDemo.txt                             528_linescount.txt
23375: 529_profilertest.txt                         530_3DLab.txt
23376: 531_profilertest.txt                         532_mcicommand.txt
23377: 533_syncasync_demo.txt                       534_arduino_cockpit.TXT
23378: 535_Battleship3.pas                         536_ressource_grid2.txt
23379: 537_iniplus.TXT                             538_shellbatch.txt
23380:
23381:
23382: Web Script Examples:
23383:
23384: http://www.softwareschule.ch/examples/performer.txt';
23385: http://www.softwareschule.ch/examples/turtle.txt';
23386: http://www.softwareschule.ch/examples/SQLExport.txt';
23387: http://www.softwareschule.ch/examples/Richter.txt';
23388: http://www.softwareschule.ch/examples/checker.txt';
23389: http://www.softwareschule.ch/examples/demoscript.txt';
23390: http://www.softwareschule.ch/examples/ibzresult.txt';
23391: http://www.softwareschule.ch/examples/performindex.txt
23392: http://www.softwareschule.ch/examples/processlist.txt
23393: http://www.softwareschule.ch/examples/game.txt
23394: http://www.softwareschule.ch/examples/GEOGPS.txt
23395: http://www.softwareschule.ch/examples/turtle2.txt
23396: http://www.softwareschule.ch/examples/asyncterminal.txt
23397:
23398:
23399:
23400: Delphi Basics Run Time Library listing
23401: ********************************************************************************
23402: A
23403: Compiler Directive $A Determines whether data is aligned or packed
23404: Compiler Directive $Align Determines whether data is aligned or packed
23405: Compiler Directive $AppType Determines the application type : GUI or Console
23406: Procedure SysUtils Abort Aborts the current processing with a silent exception
23407: Function System Abs Gives the absolute value of a number (-ve sign is removed)
23408: Directive Abstract Defines a class method only implemented in subclasses
23409: Variable System AbstractErrorProc Defines a proc called when an abstract method is called
23410: Function System Addr Gives the address of a variable, function or procedure
23411: Keyword And Boolean and or bitwise and of two arguments
23412: Type System AnsiChar A character type guaranteed to be 8 bits in size
23413: Function SysUtils AnsiCompareStr Compare two strings for equality
23414: Function SysUtils AnsiCompareText Compare two strings for equality, ignoring case
23415: Function StrUtils AnsiContainsStr Returns true if a string contains a substring
23416: Function StrUtils AnsiEndsStr Returns true if a string ends with a substring
23417: Function StrUtils AnsiIndexStr Compares a string with a list of strings - returns match index
23418: Function StrUtils AnsiLeftStr Extracts characters from the left of a string
23419: Function SysUtils AnsiLowerCase Change upper case characters in a string to lower case
23420: Function StrUtils AnsiMatchStr Returns true if a string exactly matches one of a list of strings
23421: Function StrUtils AnsiMidStr Returns a substring from the middle characters of a string
23422: Function StrUtils AnsiPos Find the position of one string in another
23423: Function StrUtils AnsiReplaceStr Replaces a part of one string with another
23424: Function StrUtils AnsiReverseString Reverses the sequence of letters in a string
23425: Function StrUtils AnsiRightStr Extracts characters from the right of a string
23426: Function StrUtils AnsiStartsStr Returns true if a string starts with a substring
23427: Type System AnsiString A data type that holds a string of AnsiChars
23428: Function SysUtils AnsiUpperCase Change lower case characters in a string to upper case
23429: Procedure System Append Open a text file to allow appending of text to the end
23430: Procedure SysUtils AppendStr Concatenate one string onto the end of another
23431: Function Math ArcCos The Arc Cosine of a number, returned in radians
23432: Function Math ArcSin The Arc Sine of a number, returned in radians
23433: Function System ArcTan The Arc Tangent of a number, returned in radians
23434: Keyword Array A data type holding indexable collections of data
23435: Keyword As Used for casting object references
23436: Procedure System Assign Assigns a file handle to a binary or text file
23437: Function System Assigned Returns true if a reference is not nil
23438: Procedure System AssignFile Assigns a file handle to a binary or text file
23439: Procedure Printers AssignPrn Treats the printer as a text file - an easy way of printing text
23440:
23441: B
23442: Compiler Directive $B Whether to short cut and and or operations
23443: Compiler Directive $BoolEval Whether to short cut and and or operations
23444: Procedure SysUtils Beep Make a beep sound
23445: Keyword Begin Keyword that starts a statement block
23446: Function System BeginThread Begins a separate thread of code execution
23447: Procedure System BlockRead Reads a block of data records from an untyped binary file
23448: Procedure System BlockWrite Writes a block of data records to an untyped binary file
```

```
23449: Type System Boolean Allows just True and False values
23450: Function Classes Bounds Create a TRect value from top left and size values
23451: Procedure System Break Forces a jump out of a single loop
23452: Type System Byte An integer type supporting values 0 to 255
23453:
23454: C
23455: Type System Cardinal The basic unsigned integer type
23456: Keyword Case A mechanism for acting upon different values of an Ordinal
23457: Function StdConvs CelsiusToFahrenheit Convert a celsius temperature into fahrenheit
23458: Function SysUtils ChangeFileExt Change the extension part of a file name
23459: Type System Char Variable type holding a single character
23460: Procedure System ChDir Change the working drive plus path for a specified drive
23461: Function System Chr Convert an integer into a character
23462: Keyword Class Starts the declaration of a type of object class
23463: Procedure System Close Closes an open file
23464: Procedure System CloseFile Closes an open file
23465: Variable System CmdLine Holds the execution text used to start the current program
23466: Type System Comp A 64 bit signed integer
23467: Function SysUtils CompareStr Compare two strings to see which is greater than the other
23468: Function SysUtils CompareText Compare two strings for equality, ignoring case
23469: Function Math CompareValue Compare numeric values with a tolerance
23470: Function System Concat Concatenates one or more strings into one string
23471: Keyword Const Starts the definition of fixed data values
23472: Keyword Constructor Defines the method used to create an object from a class
23473: Procedure System Continue Forces a jump to the next iteration of a loop
23474: Function ConvUtils Convert Convert one measurement value to another
23475: Function System Copy Create a copy of part of a string or an array
23476: Function System Cos The Cosine of a number
23477: Function SysUtils CreateDir Create a directory
23478: Type System Currency A floating point type with 4 decimals used for financial values
23479: Variable SysUtils CurrencyDecimals Defines decimal digit count in the Format function
23480: Variable SysUtils CurrencyFormat Defines currency string placement in curr display functions
23481: Variable SysUtils CurrencyString The currency string used in currency display functions
23482: Function SysUtils CurrToStr Convert a currency value to a string
23483: Function SysUtils CurrToStrF Convert a currency value to a string with formatting
23484:
23485: D
23486: Compiler Directive $D Determines whether application debug information is built
23487: Compiler Directive $DebugInfo Determines whether application debug information is built
23488: Compiler Directive $Define Defines a compiler directive symbol - as used by IfDef
23489: Compiler Directive $DefinitionInfo Determines whether application symbol information is built
23490: Function SysUtils Date Gives the current date
23491: Variable SysUtils DateSeparator The character used to separate display date fields
23492: Function SysUtils DateTimeToFileDate Convert a TDateTime value to a File date/time format
23493: Function SysUtils DateTimeToStr Converts TDateTime date and time values to a string
23494: Procedure SysUtils DateTimeToString Rich formatting of a TDateTime variable into a string
23495: Function SysUtils DateToStr Converts a TDateTime date value to a string
23496: Function DateUtils DayOfTheMonth Gives day of month index for a TDateTime value (ISO 8601)
23497: Function DateUtils DayOfTheWeek Gives day of week index for a TDateTime value (ISO 8601)
23498: Function DateUtils DayOfTheYear Gives the day of the year for a TDateTime value (ISO 8601)
23499: Function SysUtils DayOfWeek Gives day of week index for a TDateTime value
23500: Function DateUtils DaysBetween Gives the whole number of days between 2 dates
23501: Function DateUtils DaysInAMonth Gives the number of days in a month
23502: Function DateUtils DaysInAYear Gives the number of days in a year
23503: Function DateUtils DaySpan Gives the fractional number of days between 2 dates
23504: Procedure System Dec Decrement an ordinal variable
23505: Variable SysUtils DecimalSeparator The character used to display the decimal point
23506: Procedure SysUtils DecodeDate Extracts the year, month, day values from a TDateTime var.
23507: Procedure DateUtils DecodeDateTime Breaks a TDateTime variable into its date/time parts
23508: Procedure SysUtils DecodeTime Break a TDateTime value into individual time values
23509: Directive Default Defines default processing for a property
23510: Function Math DegToRad Convert a degrees value to radians
23511: Procedure System Delete Delete a section of characters from a string
23512: Function SysUtils DeleteFile Delete a file specified by its file name
23513: Keyword Destructor Defines the method used to destroy an object
23514: Function SysUtils DirectoryExists Returns true if the given directory exists
23515: Function SysUtils DiskFree Gives the number of free bytes on a specified drive
23516: Function SysUtils DiskSize Gives the size in bytes of a specified drive
23517: Procedure System Dispose Dispose of storage used by a pointer type variable
23518: Keyword Div Performs integer division, discarding the remainder
23519: Keyword Do Defines the start of some controlled action
23520: Type System Double A floating point type supporting about 15 digits of precision
23521: Keyword DownTo Prefixes an decremental for loop target value
23522: Function StrUtils DupeString Creates a string containing copies of a substring
23523: Directive Dynamic Allows a class method to be overriden in derived classes
23524:
23525: E
23526: Compiler Directive $Else Starts the alternate section of an IfDef or IfNDef
23527: Compiler Directive $EndIf Terminates conditional code compilation
23528: Compiler Directive $ExtendedSyntax Controls some Pascal extension handling
23529: Keyword Else Starts false section of if, case and try statements
23530: Function SysUtils EncodeDate Build a TDateTime value from year, month and day values
23531: Function DateUtils EncodeDateTime Build a TDateTime value from day and time values
23532: Function SysUtils EncodeTime Build a TDateTime value from hour, min, sec and msec values
23533: Keyword End Keyword that terminates statement blocks
23534: Function DateUtils EndOfADay Generate a TDateTime value set to the very end of a day
23535: Function DateUtils EndOfAMonth Generate a TDateTime value set to the very end of a month
23536: Procedure System EndThread Terminates a thread with an exit code
23537: Function System Eof Returns true if a file opened with Reset is at the end
```

```
23538: Function System Eoln Returns true if the current text file is pointing at a line end
23539: Procedure System Erase Erase a file
23540: Variable System ErrorAddr Sets the error address when an application terminates
23541: Keyword Except Starts the error trapping clause of a Try statement
23542: Procedure System Exclude Exclude a value in a set variable
23543: Procedure System Exit Exit abruptly from a function or procedure
23544: Variable System ExitCode Sets the return code when an application terminates
23545: Function System Exp Gives the exponent of a number
23546: Directive System Export Makes a function or procedure in a DLL externally available
23547: Type System Extended The floating point type with the highest capacity and precision
23548: Function SysUtils ExtractFileDir Extracts the dir part of a full file name
23549: Function SysUtils ExtractFileDrive Extracts the drive part of a full file name
23550: Function SysUtils ExtractFileExt Extracts the extension part of a full file name
23551: Function SysUtils ExtractFileName Extracts the name part of a full file name
23552: Function SysUtils ExtractFilePath Extracts the path part of a full file name
23553:
23554: F
23555: Function StdConvs FahrenheitToCelsius Convert a fahrenheit temperature into celsius
23556: Keyword File Defines a typed or untyped file
23557: Function SysUtils FileAge Get the last modified date/time of a file without opening it
23558: Function SysUtils FileDateToDateTime Converts a file date/time format to a TDateTime value
23559: Function SysUtils FileExists Returns true if the given file exists
23560: Function SysUtils FileGetAttr Gets the attributes of a file
23561: Variable System FileMode Defines how Reset opens a binary file
23562: Function System FilePos Gives the file position in a binary or text file
23563: Function SysUtils FileSearch Search for a file in one or more directories
23564: Function SysUtils FileSetAttr Sets the attributes of a file
23565: Function SysUtils FileSetDate Set the last modified date and time of a file
23566: Function System FileSize Gives the size in records of an open file
23567: Procedure System FillChar Fills out a section of storage with a fill character or byte value
23568: Keyword Finally Starts the unconditional code section of a Try statement
23569: Function SysUtils FindClose Closes a successful FindFirst file search
23570: Function SysUtils FindCmdLineSwitch Determine whether a certain parameter switch was passed
23571: Function SysUtils FindFirst Finds all files matching a file mask and attributes
23572: Function SysUtils FindNext Find the next file after a successful FindFirst
23573: Function SysUtils FloatToStr Convert a floating point value to a string
23574: Function SysUtils FloatToStrF Convert a floating point value to a string with formatting
23575: Procedure System Flush Flushes buffered text file data to the file
23576: Keyword For Starts a loop that executes a finite number of times
23577: Function SysUtils ForceDirectories Create a new path of directories
23578: Function SysUtils Format Rich formatting of numbers and text into a string
23579: Function SysUtils FormatCurr Rich formatting of a currency value into a string
23580: Function SysUtils FormatDateTime Rich formatting of a TDateTime variable into a string
23581: Function SysUtils FormatFloat Rich formatting of a floating point number into a string
23582: Function System Frac The fractional part of a floating point number
23583: Procedure SysUtils FreeAndNil Free memory for an object and set it to nil
23584: Procedure System FreeMem Free memory storage used by a variable
23585: Keyword System Function Defines a subroutine that returns a value
23586:
23587: G
23588: Function SysUtils GetCurrentDir Get the current directory (drive plus directory)
23589: Procedure System GetDir Get the default directory (drive plus path) for a specified drive
23590: Function System GetLastError Gives the error code of the last failing Windows API call
23591: Procedure SysUtils GetLocaleFormatSettings Gets locale values for thread-safe functions
23592: Function System GetMem Get a specified number of storage bytes
23593: Keyword Goto Forces a jump to a label, regardless of nesting
23594:
23595: H
23596: Compiler Directive $H Treat string types as AnsiString or ShortString
23597: Compiler Directive $Hints Determines whether Delphi shows compilation hints
23598: Procedure System Halt Terminates the program with an optional dialog
23599: Function System Hi Returns the hi-order byte of a (2 byte) Integer
23600: Function System High Returns the highest value of a type or variable
23601:
23602: I
23603: Compiler Directive $I Allows code in an include file to be incorporated into a Unit
23604: Compiler Directive $IfDef Executes code if a conditional symbol has been defined
23605: Compiler Directive $IfNDef Executes code if a conditional symbol has not been defined
23606: Compiler Directive $IfOpt Tests for the state of a Compiler directive
23607: Compiler Directive $Include Allows code in an include file to be incorporated into a Unit
23608: Compiler Directive $IOChecks When on, an IO operation error throws an exception
23609: Keyword If Starts a conditional expression to determine what to do next
23610: Keyword Implementation Starts the implementation (code) section of a Unit
23611: Keyword In Used to test if a value is a member of a set
23612: Procedure System Inc Increment an ordinal variable
23613: Function DateUtils IncDay Increments a TDateTime variable by + or - number of days
23614: Procedure System Include Include a value in a set variable
23615: Function DateUtils IncMillisecond Increments a TDateTime variable by + or - number of milliseconds
23616: Function DateUtils IncMinute Increments a TDateTime variable by + or - number of minutes
23617: Function SysUtils IncMonth Increments a TDateTime variable by a number of months
23618: Function DateUtils IncSecond Increments a TDateTime variable by + or - number of seconds
23619: Function DateUtils IncYear Increments a TDateTime variable by a number of years
23620: Directive Index Principally defines indexed class data properties
23621: Constant Math Infinity Floating point value of infinite size
23622: Keyword Inherited Used to call the parent class constructor or destructor method
23623: Variable System Input Defines the standard input text file
23624: Function Dialogs InputBox Display a dialog that asks for user text input, with default
23625: Function Dialogs InputQuery Display a dialog that asks for user text input
23626: Procedure System Insert Insert a string into another string
```

```
23627: Function System Int The integer part of a floating point number as a float
23628: Type System Int64 A 64 bit sized integer - the largest in Delphi
23629: Type System Integer The basic Integer type
23630: Keyword System Interface Used for Unit external definitions, and as a Class skeleton
23631: Function SysUtils IntToHex Convert an Integer into a hexadecimal string
23632: Function SysUtils IntToStr Convert an integer into a string
23633: Function System IOResult Holds the return code of the last I/O operation
23634: Keyword Is Tests whether an object is a certain class or ascendant
23635: Function Math IsInfinite Checks whether a floating point number is infinite
23636: Function SysUtils IsLeapYear Returns true if a given calendar year is a leap year
23637: Function System IsMultiThread Returns true if the code is running multiple threads
23638: Function Math IsNaN Checks to see if a floating point number holds a real number
23639:
23640: L
23641: Compiler Directive $L Determines what application debug information is built
23642: Compiler Directive $LocalSymbols Determines what application debug information is built
23643: Compiler Directive $LongStrings Treat string types as AnsiString or ShortString
23644: Function SysUtils LastDelimiter Find the last position of selected characters in a string
23645: Function System Length Return the number of elements in an array or string
23646: Function System Ln Gives the natural logarithm of a number
23647: Function System Lo Returns the low-order byte of a (2 byte) Integer
23648: Function Math Log10 Gives the log to base 10 of a number
23649: Variable SysUtils LongDateFormat Long version of the date to string format
23650: Variable SysUtils LongDayNames An array of days of the week names, starting 1 = Sunday
23651: Type System LongInt An Integer whose size is guaranteed to be 32 bits
23652: Variable SysUtils LongMonthNames An array of days of the month names, starting 1 = January
23653: Variable SysUtils LongTimeFormat Long version of the time to string format
23654: Type System LongWord A 32 bit unsigned integer
23655: Function System Low Returns the lowest value of a type or variable
23656: Function SysUtils LowerCase Change upper case characters in a string to lower case
23657:
23658: M
23659: Compiler Directive $MinEnumSize Sets the minimum storage used to hold enumerated types
23660: Function Math Max Gives the maximum of two integer values
23661: Constant System MaxInt The maximum value an Integer can have
23662: Constant System MaxLongInt The maximum value an LongInt can have
23663: Function Math Mean Gives the average for a set of numbers
23664: Function Dialogs MessageDlg Displays a message, symbol, and selectable buttons
23665: Function Dialogs MessageDlgPos Displays a message plus buttons at a given screen position
23666: Function Math Min Gives the minimum of two integer values
23667: Constant SysUtils MinsPerDay Gives the number of minutes in a day
23668: Procedure System MkDir Make a directory
23669: Keyword Mod Performs integer division, returning the remainder
23670: Constant SysUtils MonthDays Gives the number of days in a month
23671: Function DateUtils MonthOfTheYear Gives the month of the year for a TDateTime value
23672: Procedure System Move Copy bytes of data from a source to a destination
23673:
23674: N
23675: Constant Math NaN Not a real number
23676: Variable SysUtils NegCurrFormat Defines negative amount formatting in currency displays
23677: Procedure System New Create a new pointer type variable
23678: Constant System Nil A pointer value that is defined as undetermined
23679: Keyword Not Boolean Not or bitwise not of one arguments
23680: Function SysUtils Now Gives the current date and time
23681: Variable Variants Null A variable that has no value
23682:
23683: O
23684: Compiler Directive $O Determines whether Delphi optimises code when compiling
23685: Compiler Directive $Optimization Determines whether Delphi optimises code when compiling
23686: Compiler Directive $OverFlowChecks Determines whether Delphi checks integer and enum bounds
23687: Keyword System Object Allows a subroutine data type to refer to an object method
23688: Function System Odd Tests whether an integer has an odd value
23689: Keyword Of Linking keyword used in many places
23690: Keyword On Defines exception handling in a Try Except clause
23691: Keyword Or Boolean or or bitwise or of two arguments
23692: Function System Ord Provides the Ordinal value of an integer, character or enum
23693: Directive Out Identifies a routine parameter for output only
23694: Variable System Output Defines the standard output text file
23695: Directive Overload Allows 2 or more routines to have the same name
23696: Directive Override Defines a method that replaces a virtual parent class method
23697:
23698: P
23699: Keyword Packed Compacts complex data types into minimal storage
23700: Type System PAnsiChar A pointer to an AnsiChar value
23701: Type System PAnsiString Pointer to an AnsiString value
23702: Function System ParamCount Gives the number of parameters passed to the current program
23703: Function System ParamStr Returns one of the parameters used to run the current program
23704: Type System PChar A pointer to an Char value
23705: Type System PCurrency Pointer to a Currency value
23706: Type System PDateTime Pointer to a TDateTime value
23707: Type System PExtended Pointer to a Extended floating point value
23708: Function System Pi The mathematical constant
23709: Type System PInt64 Pointer to an Int64 value
23710: Function Classes Point Generates a TPoint value from X and Y values
23711: Type System Pointer Defines a general use Pointer to any memory based data
23712: Function Classes PointsEqual Compares two TPoint values for equality
23713: Function System Pos Find the position of one string in another
23714: Function System Pred Decrement an ordinal variable
23715: Function Printers Printer Returns a reference to the global Printer object
```

```
23716: Directive Private Starts the section of private data and methods in a class
23717: Keyword System Procedure Defines a subroutine that does not return a value
23718: Procedure FileCtrl ProcessPath Split a drive/path/filename string into its constituent parts
23719: Keyword System Program Defines the start of an application
23720: Function Dialogs PromptForFileName Shows a dialog allowing the user to select a file
23721: Keyword System Property Defines controlled access to class fields
23722: Directive Protected Starts a section of class private data accesible to sub-classes
23723: Type System PShortString A pointer to an ShortString value
23724: Type System PString Pointer to a String value
23725: Function Types PtInRect Tests to see if a point lies within a rectangle
23726: Directive Public Starts an externally accessible section of a class
23727: Directive Published Starts a published externally accessible section of a class
23728: Type System PVariant Pointer to a Variant value
23729: Type System PWideChar Pointer to a WideChar
23730: Type System PWideString Pointer to a WideString value
23731:
23732: Q
23733: Compiler Directive $Q Determines whether Delphi checks integer and enum bounds
23734:
23735: R
23736: Compiler Directive $R Determines whether Delphi checks array bounds
23737: Compiler Directive $RangeChecks Determines whether Delphi checks array bounds
23738: Compiler Directive $ReferenceInfo Determines whether symbol reference information is built
23739: Compiler Directive $Resource Defines a resource file to be included in the application linking
23740: Function Math RadToDeg Converts a radian value to degrees
23741: Keyword Raise Raise an exception
23742: Function System Random Generate a random floating point or integer number
23743: Procedure System Randomize Reposition the Random number generator next value
23744: Function Math RandomRange Generate a random integer number within a supplied range
23745: Variable System RandSeed Reposition the Random number generator next value
23746: Procedure System Read Read data from a binary or text file
23747: Procedure System ReadLn Read a complete line of data from a text file
23748: Type System Real A floating point type supporting about 15 digits of precision
23749: Type System Real48 The floating point type with the highest capacity and precision
23750: Procedure System ReallocMem Reallocate an existing block of storage
23751: Function DateUtils RecodeDate Change only the date part of a TDateTime variable
23752: Function DateUtils RecodeTime Change only the time part of a TDateTime variable
23753: Keyword Record A structured data type - holding fields of data
23754: Function Classes Rect Create a TRect value from 2 points or 4 coordinates
23755: Function SysUtils RemoveDir Remove a directory
23756: Procedure System Rename Rename a file
23757: Function SysUtils RenameFile Rename a file or directory
23758: Keyword Repeat Repeat statements until a ternmination condition is met
23759: Procedure SysUtils ReplaceDate Change only the date part of a TDateTime variable
23760: Procedure SysUtils ReplaceTime Change only the time part of a TDateTime variable
23761: Procedure System Reset Open a text file for reading, or binary file for read/write
23762: Variable System Result A variable used to hold the return value from a function
23763: Procedure System ReWrite Open a text or binary file for write access
23764: Procedure System RmDir Remove a directory
23765: Function System Round Rounds a floating point number to an integer
23766: Procedure System RunError Terminates the program with an error dialog
23767:
23768: S
23769: Constant SysUtils SecsPerDay Gives the number of seconds in a day
23770: Procedure System Seek Move the pointer in a binary file to a new record position
23771: Function System SeekEof Skip to the end of the current line or file
23772: Function System SeekEoln Skip to the end of the current line or file
23773: Function FileCtrl SelectDirectory Display a dialog to allow user selection of a directory
23774: Variable System Self Hidden parameter to a method - refers to the containing object
23775: Keyword Set Defines a set of up to 255 distinct values
23776: Function SysUtils SetCurrentDir Change the current directory
23777: Procedure System SetLength Changes the size of a string, or the size(s) of an array
23778: Procedure System SetString Copies characters from a buffer into a string
23779: Keyword Shl Shift an integer value left by a number of bits
23780: Variable SysUtils ShortDateFormat Compact version of the date to string format
23781: Variable SysUtils ShortDayNames An array of days of the week names, starting 1 = Sunday
23782: Type System ShortInt An integer type supporting values -128 to 127
23783: Variable SysUtils ShortMonthNames An array of days of the month names, starting 1 = Jan
23784: Type System ShortString Defines a string of up to 255 characters
23785: Variable SysUtils ShortTimeFormat Short version of the time to string format
23786: Procedure Dialogs ShowMessage Display a string in a simple dialog with an OK button
23787: Procedure Dialogs ShowMessageFmt Display formatted data in a simple dialog with an OK button
23788: Procedure Dialogs ShowMessagePos Display a string in a simple dialog at a given screen position
23789: Keyword Shr Shift an integer value right by a number of bits
23790: Function System Sin The Sine of a number
23791: Type System Single The smallest capacity and precision floating point type
23792: Function System SizeOf Gives the storage byte size of a type or variable
23793: Function System Slice Creates a slice of an array as an Open Array parameter
23794: Type System SmallInt An Integer type supporting values from -32768 to 32767
23795: Function System Sqr Gives the square of a number
23796: Function System Sqrt Gives the square root of a number
23797: Procedure System Str Converts an integer or floating point number to a string
23798: Type System String A data type that holds a string of characters
23799: Function System StringOfChar Creates a string with one character repeated many times
23800: Function SysUtils StringReplace Replace one or more substrings found within a string
23801: Function System StringToWideChar Converts a normal string into a WideChar 0 terminated buffer
23802: Function SysUtils StrScan Searches for a specific character in a constant string
23803: Function SysUtils StrToCurr Convert a number string into a currency value
23804: Function SysUtils StrToDate Converts a date string into a TDateTime value
```

```
23805: Function SysUtils StrToDateTime Converts a date+time string into a TDateTime value
23806: Function SysUtils StrToFloat Convert a number string into a floating point value
23807: Function SysUtils StrToInt Convert an integer string into an Integer value
23808: Function SysUtils StrToInt64 Convert an integer string into an Int64 value
23809: Function SysUtils StrToInt64Def Convert a string into an Int64 value with default
23810: Function SysUtils StrToIntDef Convert a string into an Integer value with default
23811: Function SysUtils StrToTime Converts a time string into a TDateTime value
23812: Function StrUtils StuffString Replaces a part of one string with another
23813: Function System Succ Increment an ordinal variable
23814: Function Math Sum Return the sum of an array of floating point values
23815:
23816: T
23817: Function Math Tan The Tangent of a number
23818: Type Classes TBits An object that can hold an infinite number of Boolean values
23819: Variable ConvUtils TConvFamily Defines a family of measurement types as used by Convert
23820: Type ConvUtils TConvType Defines a measurement type as used by Convert
23821: Type System TDateTime Data type holding a date and time value
23822: Type System Text Defines a file as a text file
23823: Type System TextFile Declares a file type for storing lines of text
23824: Type SysUtils TFloatFormat Formats for use in floating point number display functions
23825: Type SysUtils TFormatSettings A record for holding locale values for thread-safe functions
23826: Keyword Then Part of an if statement - starts the true clause
23827: Variable SysUtils ThousandSeparator The character used to display the thousands separator
23828: Keyword ThreadVar Defines variables that are given separate instances per thread
23829: Function SysUtils Time Gives the current time
23830: Variable SysUtils TimeAMString Determines AM value in DateTimeToString procedure
23831: Variable SysUtils TimePMString Determines PM value in DateTimeToString procedure
23832: Variable SysUtils TimeSeparator The character used to separate display time fields
23833: Function SysUtils TimeToStr Converts a TDateTime time value to a string
23834: Type Classes TList General purpose container of a list of objects
23835: Keyword To Prefixes an incremental for loop target value
23836: Type System TObject The base class type that is ancestor to all other classes
23837: Function DateUtils Tomorrow Gives the date tomorrow
23838: Type Dialogs TOpenDialog Displays a file selection dialog
23839: Type Types TPoint Holds X and Y integer values
23840: Type Dialogs TPrintDialog Class that creates a printer selection and control dialog
23841: Type Types TRect Holds rectangle coordinate values
23842: Type SysUtils TReplaceFlags Defines options for the StringReplace routine
23843: Function SysUtils Trim Removes leading and trailing blanks from a string
23844: Function SysUtils TrimLeft Removes leading blanks from a string
23845: Function SysUtils TrimRight Removes trailing blanks from a string
23846: Function System Trunc The integer part of a floating point number
23847: Procedure System Truncate Truncates a file size - removes all data after the current position
23848: Keyword Try Starts code that has error trapping
23849: Type Dialogs TSaveDialog Displays a dialog for selecting a save file name
23850: Type SysUtils TSearchRec Record used to hold data for FindFirst and FindNext
23851: Type Classes TStringList Holds a variable length list of strings
23852: Type SysUtils TSysCharSet Characters used by supplied string parsing functions
23853: Type System TThreadFunc Defines the function to be called by BeginThread
23854: Variable SysUtils TwoDigitYearCenturyWindow Sets the century threshold for 2 digit year string conversions
23855: Keyword Type Defines a new category of variable or process
23856:
23857:
23858: U
23859: Compiler Directive $UnDef Undefines a compiler directive symbol - as used by IfDef
23860: Keyword Unit Defines the start of a unit file - a Delphi module
23861: Keyword Until Ends a Repeat control loop
23862: Function System UpCase Convert a Char value to upper case
23863: Function SysUtils UpperCase Change lower case characters in a string to upper case
23864: Keyword Uses Declares a list of Units to be imported
23865:
23866: V
23867: Procedure System Val Converts number strings to integer and floating point values
23868: Keyword Var Starts the definition of a section of data variables
23869: Type System Variant A variable type that can hold changing data types
23870: Function Variants VarType Gives the current type of a Variant variable
23871: Constant Variants VarTypeMask Mask for the meta-type part of a Variant variable
23872: Directive Virtual Allows a class method to be overriden in derived classes
23873:
23874: W
23875: Compiler Directive $Warnings Determines whether Delphi shows compilation warnings
23876: Keyword While Repeat statements whilst a continuation condition is met
23877: Type System WideChar Variable type holding a single International character
23878: Function System WideCharToString Copies a null terminated WideChar string to a normal string
23879: Type System WideString A data type that holds a string of WideChars
23880: Keyword With A means of simplifying references to structured variables
23881: Type System Word An integer type supporting values 0 to 65535
23882: Function SysUtils WrapText Add line feeds into a string to simulate word wrap
23883: Procedure System Write Write data to a binary or text file
23884: Procedure System WriteLn Write a complete line of data to a text file
23885:
23886: X
23887: Compiler Directive $X Controls some Pascal extension handling
23888: Keyword Xor Boolean Xor or bitwise Xor of two arguments
23889:
23890: Y
23891: Compiler Directive $Y Determines whether application symbol information is built
23892: Function DateUtils Yesterday Gives the date yesterday
23893:
```

```
23894: Z
23895: Compiler Directive $Z Sets the minimum storage used to hold enumerated types
23896:
23897: ------------------------------------------------------------------------------
23898: mapX:
23899:  if GetMAPX('html',ExePath+'cologne2mapX.html','cathedral cologne') then
23900:     writeln('cologne map found');
23901:     GetGeoMAP('html',ExePath+AFILENAME2,'dom cologne')
23902:     writeln(GetMapXGeoReverse('XML','47.0397826','7.62914761277888'))
23903:     OpenMapX('church trier');
23904:     GetGeoCode(C_form,apath: string; const data: string; sfile: boolean): string;
23905:     writeln(GetGeoCode('xml',ExePath+'outputmap_2cologne.xml','cathedral cologne',false));}
23906:     >>>     //latitude: '50.94133705'  longitude: '6.95812076100766'
23907:     // type TPos = (tLat, tLon);TShowFmt = (sfNautical, sfStatute, sfMetric);
23908:     CoordinateStr(Idx: Integer; PosInSec: Double; PosLn: TPos): string;
23909:     Function SendInput( cInputs : UINT; var pInputs : TInput; cbSize : Integer) : UINT');
23910:     Function GetLastInputInfo( var plii : TLastInputInfo) : BOOL');
23911:
23912:
23913: maXbox Ref:
23914: Signature:
23915: SHA1:  maXbox3.exe C47713EE2CFFD66F569249E63A16D10874B484B1
23916: CRC32: maXbox3.exe 2242B697
23917:
23918: Ref:
23919:     1. writeln(SHA1(Exepath+'\maxbox3.exe'))
23920:     2. shdig: TSHA1Digest;
23921:        shdig:= GetSHA1OfFile(false,exepath+'\maxbox3.exe');
23922:                for i:= 0 to 19 do write(BytetoHex(shdig[i]));
23923:
23924:     3. writeln(IntToHex(CRC32OfFile(exepath+'\maxbox3.exe'),4));
23925:
23926:
23927: https://www.virustotal.com/en/file/...../
23928: https://www.virustotal.
       com/en/file/020e0485cd08545008c9c77fa7717487be0d3cb9b191e568518dade91bd0b652/analysis/1416248264/
23929:
23930: SHA256:  020e0485cd08545008c9c77fa7717487be0d3cb9b191e568518dade91bd0b652
23931: File name:  maXbox3.exe
23932: Detection ratio:  0 / 55
23933: Analysis date:  2014-11-17 18:17:44 UTC ( 2 minutes ago )
23934:
23935: MD5 f9f10c1de575f118734eb21dd9b19e7c
23936: SHA1 c47713ee2cffd66f569249e63a16d10874b484b1
23937: SHA256 020e0485cd08545008c9c77fa7717487be0d3cb9b191e568518dade91bd0b652
23938: ssdeep 393216:mz2rRsJpWndjT7poHKIj1QmcEuxwagXH79H:mYRs0jnpMKaiquFC
23939: authentihash e20d66ff66a269b8f5419df2aa8734409e377b8ee034a258416fe95ddc572133
23940:
23941: File size 22.4 MB ( 23488000 bytes )
23942: File type Win32 EXE
23943: Magic literal
23944: PE32 executable for MS Windows (GUI) Intel 80386 32-bit
23945:
23946: TrID  Windows ActiveX control (36.4%)
23947: Inno Setup installer (34.3%)
23948: InstallShield setup (13.4%)
23949: Win32 EXE PECompact compressed (generic) (13.0%)
23950: Win32 Executable (generic) (1.4%)
23951:
23952: VirusTotal metadata
23953: First submission 2014-11-11 19:54:57 UTC ( 1 hour, 17 minutes ago )
23954: Last submission 2014-11-11 19:54:57 UTC ( 1 hour, 17 minutes ago )
23955: File names  Sunprise mX4
23956: maXbox3.exe
23957: maxbox3_9.exe
23958:
23959: Copyright
23960: Free Pascal Script
23961:
23962: Publisher kleiner kommunikation
23963: Product maXbox
23964: Original name maxbox3_9.exe
23965: Internal name Sunprise mX4
23966: File version 3.9.9.110
23967: Description maXbox Delphi VM
23968: Comments reduce to the max
23969: PE header basic information
23970: Target machine Intel 386 or later processors and compatible processors
23971: Compilation timestamp 2014-11-11 08:43:11
23972: Link date 9:43 AM 11/11/2014
23973: Entry Point 0x01193B40
23974: Number of sections 10
23975:
23976: PE sections
23977: Name Virtual address Virtual size Raw size Entropy MD5
23978: .text 4096 18377428 18377728 6.60 7fcbb075619f85b8bcdfcc01aebddb2b
23979: .itext 18382848 48260 48640 6.56 694c0bf3411bf55c042c650dac422964
23980: .data 18432000 263164 263168 5.59 3b790d4e4320c55a99663e585f43597a
23981: .bss 18698240 381088 0 0.00 d41d8cd98f00b204e9800998ecf8427e
```

```
23982: .idata 19083264 54746 54784 5.61 fc5a36781bcd63066dfe83daa9199c4e
23983: .edata 19140608 77 512 0.90 736b5ecd4c2bd458fa157b854b8805c7
23984: .tls 19144704 208 0 0.00 d41d8cd98f00b204e9800998ecf8427e
23985: .rdata 19148800 24 512 0.27 c22743327266e08536cef128d2df70d3
23986: .reloc 19152896 1170488 1170944 6.76 631ad91f6f1d49bd24dcea8078ccb214
23987: .rsrc 20324352 3527168 3527168 5.27 9ae70c75f67a9e3adc86918197ae8267
23988:
23989: PE exports CreateIncome
23990:
23991:  Number of PE resources by type
23992: RT_BITMAP 810
23993: RT_STRING 304
23994: RT_RCDATA 156
23995: RT_ICON 49
23996: RT_GROUP_ICON 43
23997: RT_CURSOR 31
23998: RT_GROUP_CURSOR 26
23999: WAVE 9
24000: RT_DIALOG 2
24001: RT_HTML 2
24002: RT_MESSAGETABLE 1
24003: RT_MANIFEST 1
24004: RT_VERSION 1
24005:
24006:
24007:  ExifTool file metadata
24008:  ------------------------
24009:
24010: SpecialBuild mX4
24011: CodeSize 18426368
24012: SubsystemVersion 4.0
24013: Comments reduce to the max
24014: LinkerVersion 2.25
24015: ImageVersion 0.0
24016: FileSubtype 0
24017: FileVersionNumber 3.9.9.110
24018: LanguageCode German (Swiss)
24019: FileFlagsMask 0x003f
24020: FileDescription maXbox Delphi VM
24021: CharacterSet Windows, Latin1
24022: InitializedDataSize 5017088
24023: FileOS Win32
24024: TimeStamp 2014:11:11 09:43:11+01:00
24025: MIMEType application/octet-stream
24026: LegalCopyright Free Pascal Script
24027: FileVersion 3.9.9.110
24028: SpeziellesBuild mX4 Compiler Engine
24029: FileType Win32 EXE
24030: PEType PE32
24031: InternalName Sunprise mX4
24032: FileAccessDate 2014:11:11 20:55:15+01:00
24033: ProductVersion 3.9 Solar mX4
24034: UninitializedDataSize 0
24035: OSVersion 4.0
24036: FileCreateDate 2014:11:11 20:55:15+01:00
24037: OriginalFilename maxbox3_9.exe
24038: Subsystem Windows GUI
24039: MachineType Intel 386 or later, and compatibles
24040: CompanyName kleiner kommunikation
24041: LegalTrademarks maXbox
24042: ProductName maXbox
24043: ProductVersionNumber 3.9.9.110
24044: EntryPoint 0x1193b40
24045: ObjectFileType Executable application
24046:
24047:  PE imports
24048: [+] AVICAP32.DLL  [+] AVICAP32.dll [+] GLU32.dll
24049: [+] IMAGEHLP.DLL  [+] MSVCRT.DLL   [+] MSVFW32.DLL
24050: [+] OpenGL32.dll  [+] SHFolder.dll [+] URLMON.DLL
24051: [+] advapi32.dll  [+] comctl32.dll [+] comdlg32.dll
24052: [+] gdi32.dll     [+] imagehlp.dll [+] imm32.dll
24053: [+] iphlpapi.dll  [+] kernel32.dll [+] mpr.dll
24054: [+] msacm32.dll   [+] ole32.dll    [+] oleacc.dll
24055: [+] oleaut32.dll  [+] oledlg.dll   [+] opengl32.dll
24056: [+] shell32.dll   [+] shlwapi.dll  [+] user32.dll
24057: [+] usp10.dll     [+] version.dll  [+] winhttp.dll
24058: [+] wininet.dll   [+] winmm.dll    [+] winspool.drv
24059: [+] ws2_32.dll    [+] wsock32.dll
24060:
24061:
24062: old
       https://www.virustotal.com/en/file/1041756d32ce33dbe71c1b4ca6e6077790c188cf7061a9bef5132ab87a0d3533/analysis/1415
24063: new
       https://www.virustotal.com/en/file/020e0485cd08545008c9c77fa7717487be0d3cb9b191e568518dade91bd0b652/analysis/1416
24064:   ---- bigbitbox code_cleared_checked----
```