

# Types and constants for ADA programming language

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--*****
--                                     (C) IpeSoft s.r.o. (Ltd.) ZILINA
--   PROJECT : D2000
--   FILE    : Imp_def.ads
--
--   DESCRIPTION : types and constants for import of graphic formats
--
--*****
with system; use system;

package Imp_Def is

  --*****
  -- Constants of gr.object's types
  --*****
  cLine    : constant := 0; -- Line
  cPLine   : constant := 1; -- Multiline
  cDLine   : constant := 2; -- Disjointed multiline
  cArc     : constant := 3; -- Arc
  c3Arc    : constant := 4; -- 3-point arc
  cBox     : constant := 5; -- Rectangle
  cPAngle  : constant := 6; -- Polygon
  cCircle  : constant := 7; -- Circle
  cPiArc   : constant := 8; -- Circle sector
  cEllipse : constant := 11; -- Ellipse
  cText    : constant := 12; -- Text
  cGroup   : constant := 32; -- Group of objects

  -- extra types
  cLineCombined : constant := -1; -- it combines more lines with the same attributes to one object
                                   -- either PolyLine or PolyLineDisjoint
  cPLineAdd     : constant := -2; -- it adds a set of parameters to the Polyline
                                   -- (if it has not been created, create a new one)

  cFontStyle    : constant := -3; -- it creates a text style + automatic creating
                                   -- when creating some texts - since the ver. 5.00
                                   -- (one style only can correspond with the given name)

  --*****
  -- the constants that define the permitted types for some parameters
  -----
  -- label in comments
  -- (*) - default parameter
  --*****

  --*****
  -- color definition, implicitly the colors from logical palette which is used during import
  --*****
  type TColorArr is ARRAY (0..15) OF integer; -- bright..dark

  -- color base
  CLR_BASE_WHITE   : constant := 0; W : constant := CLR_BASE_WHITE;
  CLR_BASE_YELLOW  : constant := 16; Y : constant := CLR_BASE_YELLOW;
  CLR_BASE_CYAN    : constant := 32; C : constant := CLR_BASE_CYAN;
  CLR_BASE_GREEN   : constant := 48; G : constant := CLR_BASE_GREEN;
  CLR_BASE_RED     : constant := 64; R : constant := CLR_BASE_RED;
  CLR_BASE_PINK    : constant := 80; P : constant := CLR_BASE_PINK;
  CLR_BASE_BLUE    : constant := 96; B : constant := CLR_BASE_BLUE;

  -- color index
  CLR_WHITE   : constant TColorArr := (W+0,W+1,W+2,W+3,W+4,W+5,6,W+7,W+8,W+9,W+10,W+11,W+12,W+13,W+14,W+15);
  CLR_YELLOW  : constant TColorArr := (Y+0,Y+1,Y+2,Y+3,Y+4,Y+5,6,Y+7,Y+8,Y+9,Y+10,Y+11,Y+12,Y+13,Y+14,Y+15);
  CLR_CYAN    : constant TColorArr := (C+0,C+1,C+2,C+3,C+4,C+5,6,C+7,C+8,C+9,C+10,C+11,C+12,C+13,C+14,C+15);
  CLR_GREEN   : constant TColorArr := (G+0,G+1,G+2,G+3,G+4,G+5,6,G+7,G+8,G+9,G+10,G+11,G+12,G+13,G+14,G+15);
  CLR_RED     : constant TColorArr := (W+0,W+1,W+2,W+3,W+4,W+5,6,W+7,W+8,W+9,W+10,W+11,W+12,W+13,W+14,W+15);
  CLR_PINK    : constant TColorArr := (P+0,P+1,P+2,P+3,P+4,P+5,6,P+7,P+8,P+9,P+10,P+11,P+12,P+13,P+14,P+15);
  CLR_BLUE    : constant TColorArr := (B+0,B+1,B+2,B+3,B+4,B+5,6,B+7,B+8,B+9,B+10,B+11,B+12,B+13,B+14,B+15);

  -- some colors
  i_CLR_WHITE      : constant integer := 0;
  i_CLR_PALEGRAYLIGHT : constant integer := 2;
  i_CLR_PALEGRAY    : constant integer := 4;
  i_CLR_DARKGRAY    : constant integer := 10;
  i_CLR_DARKGRAYDARK : constant integer := 12;
  i_CLR_BLACK       : constant integer := 15;
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i_CLR_YELLOW      : constant integer := 22;  i_CLR_DARKYELLOW: constant integer := 26;
i_CLR_CYAN        : constant integer := 38;  i_CLR_DARKCYAN   : constant integer := 42;
i_CLR_GREEN       : constant integer := 54;  i_CLR_DARKGREEN  : constant integer := 58;
i_CLR_RED         : constant integer := 70;  i_CLR_DARKRED    : constant integer := 74;
i_CLR_PINK        : constant integer := 86;  i_CLR_DARKPINK   : constant integer := 90;
i_CLR_BLUE        : constant integer :=102;  i_CLR_DARKBLUE   : constant integer :=106;

--*****
-- line style
-- lineStyle - type TPenStyle is (Solid, Alternate, Dash, Dot, DashDot, DashDotDot, Invisible);
--*****
tLS_Solid      : constant := 0;  -- ----- (*)
tLS_Alternate  : constant := 1;  -- . . . . . - only thin, do not use
tLS_Dash       : constant := 2;  -- - - - - -
tLS_Dot        : constant := 3;  -- . . . . .
tLS_DashDot    : constant := 4;  -- - . - . -
tLS_DashDotDot : constant := 5;  -- - . . . .
tLS_Invisible  : constant := 6;  -- unsupported

--*****
-- line end
-- lineEnd - type TLineEnd is (Flat, Square, Round);
--*****
tLE_Flat       : constant := 0;  -- flat (*)
tLE_Square     : constant := 1;  -- square
tLE_Round      : constant := 2;  -- rounded

--*****
-- line join
-- lineJoin - type TLineJoin is (Bevel, Round, Miter);
--*****
tLJ_Bevel      : constant := 0;  -- ending at the endpoint (*)
tLJ_Round      : constant := 1;  -- rounded ending behind the endpoint
tLJ_Miter      : constant := 2;  -- square ending behind the endpoint

--*****
-- the patterns in Windows
-- brushStyle - type TBrushStyle is (Solid, Hollow, BDiagonal, Cross, DiagonalCross,
--                               FDiagonal, Horizontal, Vertical);
--*****
tBS_Solid      : constant := 0;  -- solid pattern
tBS_Hollow     : constant := 1;  -- hollow pattern (*)
tBS_BDiagonal  : constant := 2;
tBS_Cross      : constant := 3;
tBS_DiagonalCross : constant := 4;
tBS_FDiagonal  : constant := 5;
tBS_CHorizontal : constant := 6;
tBS_Vertical   : constant := 7;

--*****
-- a text position
-- cTextPos - type tTextPos is (tpAtPos, tpInBox, tpIntoBox);
--*****
tTP_ATPOS      : constant := 0;  -- defined position of the text (*)
tTP_INBLOCK    : constant := 1;  -- text placed in a rectangle
tTP_INTOBLOCK  : constant := 2;  -- text fills the rectangle

--*****
-- horizontal alignment of text in rectangle
-- cTextCenterH - horizontal center
--*****
tTHC_LEFT      : constant := 0;  -- left
tTHC_MIDDLE    : constant := 1;  -- center (*)
tTHC_RIGHT     : constant := 2;  -- right

--*****
-- vertical alignment of text in rectangle
-- cTextCenterV - vertical center
--*****
tTVC_TOP       : constant := 0;  -- top
tTVC_MIDDLE    : constant := 1;  -- middle (*)
tTVC_BOTTOM    : constant := 2;  -- bottom

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--*****
-- parameters of graphic objects - param's type constants
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-- comments for the implementation
-- 1. the parameters must be placed in such procedures as they are mentioned in the comment behind the
parameter,
-- this ensures the parameters will be accepted
-- 2. some of the parameters will not be executed
-- 3. you can set maximum 1000 position points, however version V4.5 accepts at the most first 1+30
-- if there are more points for polyline, more objects of this type are generated
-- 4. a color index for import index to the default color palette
-- 5. RGB color - from the version V5.0, the colors fill the table with 128 elements; the object Palette will
be created from this table,
-- the colors in object will be saved in the form of indexes into this table
--*****

-----
-- positions and sizes
-----
cPosXY          : constant :=1;  -- 2 * int/float - point position
cPosDXy         : constant :=2;  -- 2 * int/float - a distance from the previous point

-----
-- line params
-----
cLineColorRGB   : constant :=10;  -- int - RGB color of object - from the version V5.0
cLineColorIdx   : constant :=11;  -- int - color index in the local palette
cLineStyle      : constant :=12;  -- int - line style - lineStyles
cLineWidth      : constant :=13;  -- int - line width 1..
cLineEnd        : constant :=14;  -- int - end of thick line - lineEnd
cLineJoin       : constant :=15;  -- int - polyline join - lineJoin

-----
-- fill params
-----
cFillColorRGB   : constant :=30;  -- int - RGB color of object - from the version V5.0
cFillColorIdx   : constant :=31;  -- int - color index in the local palette
cFillPattern     : constant :=32;  -- int - line style - brushStyle

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-- circles
-----
cCircleRadial   : constant :=50;  -- int/float - radius
--
cCircleAngleDegStart : constant :=56;  -- int/float - degree
cCircleAngleDegEnd   : constant :=57;  -- int/float - degree
cCircleAngleDegSize  : constant :=58;  -- int/float - degree
--
cCircleAngleRadStart : constant :=59;  -- int/float - radiant
cCircleAngleRadEnd   : constant :=60;  -- int/float - radiant
cCircleAngleRadSize  : constant :=61;  -- int/float - degree

-----
-- text params
-----
cTextText       : constant :=70;  -- text
cTextColorRGB   : constant :=71;  -- int - RGB color of object - from the version V5.0
cTextColorIdx   : constant :=72;  -- int - color index in the local palette
--
cTextPos        : constant :=73;  -- int - position in a rectangle, tTP_ATPOS,..
cTextCenterH    : constant :=76;  -- int - horizontal alignment in rectangle
cTextCenterV    : constant :=77;  -- int - vertical alignment in rectangle

--*****
-- creating of the text style
-- text style is an object with parameter CFont or when creating a text, there are these conditions
-- * font will not be created unless all the parameters are set
-- * if cFontStyleName style exists, the new one will not be created, the existing one will be used
-- * if the text style is developed when creating the text, it will be used
-- * if cFontStyleName is set when creating the text, the text will be drawn by this style (if it exists)
--*****
cFontStyleName   : constant :=200;  -- string - font style name
cFontName        : constant :=201;  -- string - font name
cFontSize        : constant :=202;  -- Integer - font size
cFontBold        : constant :=203;  -- Boolean - attribute for bold
cFontItalic      : constant :=204;  -- Boolean - attribute for italic
cFontUnderline   : constant :=205;  -- Boolean - attribute for underline
cFontStrikeOut   : constant :=206;  -- Boolean - attribute for strikeouts
cFontCharSet     : constant :=207;  -- Integer - character set (Western, Central European)

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--*****
-- types of obj. actions
--*****
type tObjAction is (closeFigure, -- close polyline, a change to polygon
                    closeObject, -- close object
                    closeGroup,  -- close object and group
                    closeAll);   -- close object and all groups
                                -- called internal, after ending the import

--*****
-- access to functions - definitions
--*****

type tCreateObj   is access procedure (objType : integer);
type tObjAction   is access procedure (action  : tObjAction := closeObject);

type tset_string  is access procedure (param   : integer; val :string);
type tset_boolean is access procedure (param   : integer; val :boolean);
type tset_integer is access procedure (param   : integer; val :integer);
type tset_float   is access procedure (param   : integer; val :long_float);
type tset_integer2 is access procedure (param   : integer; val1,val2 : integer);
type tset_float2  is access procedure (param   : integer; val1,val2 : long_float);

-- info text that occurs during import
type tShowInfo    is access procedure (text : string);

--*****
-- access to functions
--*****
createObj   : tCreateObj   := null;
objAction   : tObjAction   := null;

set_string  : tset_string  := null;
set_boolean : tset_boolean := null;
set_integer : tset_integer := null;
set_float   : tset_float   := null;
set_integer2 : tset_integer2 := null;
set_float2  : tset_float2  := null;

-- info text that occurs during import
ShowInfo    : tShowInfo    := null;

--*****
-- access to import functions
--*****

pShowInfo    : constant := 0;
pcreateObj   : constant := 1;
pobjAction    : constant := 2;
pset_string  : constant := 3;
pset_boolean : constant := 4;
pset_integer : constant := 5;
pset_float   : constant := 6;
pset_integer2 : constant := 7;
pset_float2  : constant := 8;

-- pointer to 1.char of null terminating string
maxResStr    : constant := 10000;

-- import name and file type
type tGetFileType is access procedure (description,extension: out address);

-- initialization of call-back procedures
type tImportConnect is access procedure (procType:integer; procAddr : address);

-- load autocad dxf file
type tImportFile is access procedure (FileName:address;x,y:INTEGER;resStr:address);

end Imp_Def;
--*****

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-- Revisions History --
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-- 0.00      28.02.01 - creating of module
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**Related pages:**

[Import of vector formats into pictures of D2000 System](#)