
Subject: Re: Looking for symbols library (psym=8)
Posted by [Jack Saba](#) on Thu, 22 Jan 1998 08:00:00 GMT
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Brian D. Schieber wrote:

>
> Does anyone know where I could get a pre-made set of IDL symbol
> defns to extend the sym= keyword for plots? Basically I'm looking
> for a predefined set of symbols for the psym=8 (USERSYM) option in PLOT.

This may not be exactly what you asked for, but I wrote this routine to generate equal-sided polygons for use with PSYM=8. NSides=16 makes a pretty good circle.

Jack Saba (jack@magus.stx.com)

```
FUNCTION MakePoly, NSides, CENTER=Center, POINTDOWN=PointDown, $
    SIZE=Size, HELP=Help
;+
; NAME:    MakePoly
;
; FUNCTION: Define a polygon as a vector of (x,y) coordinates, in a form
;           suitable for use by the USERSYM function.
;
; USAGE:   Polygon = MakePoly ( NSides, CENTER=Center, $
;                               POINTDOWN=PointDown, SIZE=Size, $
;                               HELP=Help )
;
; INPUT ARGUMENTS:
;   NSides: Number of sides.
;
; INPUT/OUTPUT ARGUMENTS: None.
;
; OUTPUT ARGUMENTS:
;   Polygon: 2xN array of vertex locations.
;
; OPTIONAL ARGUMENTS: None.
;
; KEYWORD ARGUMENTS:
;   Center: 2-element vector with location of center of polygon.
;           Default=(0,0)
;   PointDown: If 0 or not present, one side of the polygon will be
;             horizontal. Otherwise, one vertex will be the lowest
;             point and will be located directly beneath the center.
;   Size: Length of the line from the center to the vertices.
;         Units are the same as used by IDL for plot symbols.
```

; Help: If present, accesses module help and returns.

; REQUIRED MODULES: None.

; SIDE EFFECTS: None.

; NOTES:

```
;-----  
  
IF ( KEYWORD_SET ( HELP ) ) THEN BEGIN  
  PRINT, 'MakePoly: Define 2xN array of polygon vertices'  
  PRINT, 'USAGE: MakePoly, NSides, Polygon, CENTER=Center, $'  
  PRINT, '          POINTDOWN=PointDown, SIZE=Size,  
HELP=Help'  
  PRINT, 'NSides (I) = Number of sides Polygon (O) = 2xN array'  
  PRINT, 'Center = Location of center, default (0,0)'  
  PRINT, 'PointDown = 0 ==> flat side down = 1 ==> vertex down'  
  PRINT, 'Size = distance from center to vertex. Default = 1'  
  PRINT, '    Units are the same as used by IDL for plot symbols'  
  Polygon = 0  
  GOTO, AllDone  
ENDIF
```

```
IF ( NOT ( KEYWORD_SET ( Center ) ) ) THEN Center = [ 0., 0. ]  
IF ( NOT ( KEYWORD_SET ( Size ) ) ) THEN Size = 1.0
```

```
DTheta = 2.D0 * !DPI / DOUBLE ( NSides )
```

```
Theta = DINDGEN ( NSides ) * DTheta
```

```
IF ( ( NSides MOD 2 ) EQ 1 ) THEN BEGIN  
  IF ( NOT ( KEYWORD_SET ( PointDown ) ) ) $  
  THEN Theta = Theta + 0.5 * Theta  
ENDIF ELSE IF ( KEYWORD_SET ( PointDown ) ) THEN BEGIN  
  Theta = Theta + 0.5 * Theta  
ENDIF
```

```
X = Center(0) + Size * COS ( Theta )  
Y = Center(1) + Size * SIN ( Theta )
```

```
Polygon = TRANSPOSE ( [ [X], [Y] ] )
```

```
AllDone:
```

```
RETURN, Polygon
```

```
END
```
