

PRO
RUN
PROGRAM

LBEZIER

FORMAT: 1. CALL&C0C5;(X1,Y1,X2,Y2)–(X3,Y3,X4,Y4),[<type>],[<color>]
2. CALL&C0C5;–(X2,Y2)–(X3,Y3,X4,Y4),[<type>],[<color>]

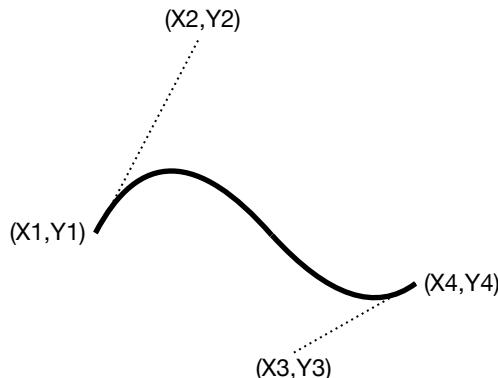
Abbreviation:

See Also: COLOR, GRAPH, LLINE, SORGN

PURPOSE: Draws a cubic Bézier curve specified by absolute coordinates on the printer.

REMARKS: In graphics mode, the LBEZIER command draws a cubic Bézier curve from the point specified by the coordinates X1,Y1 or from the current pen position if X1 and Y1 are not specified, to the point specified by the coordinates X4,Y4. X2,Y2 specify the coordinate of the control point for the start point and X3,Y3 is the coordinate for the control point for X4,Y4. X and Y must be in the range -2048 to 2047. The coordinates are absolute; that is they are relative to the point set as origin (0,0) with the current SORGN statement.

The optional <type> parameter specifies the line type in the range 0 to 9. (See LLINE command). The optional <color> parameter specifies the pen color in the range 0 to 3 (see COLOR command). If <type> and <color> are not specified, the currently set values will be used.



EXAMPLE:

Before using LBEZIER the machine program needs to be loaded:

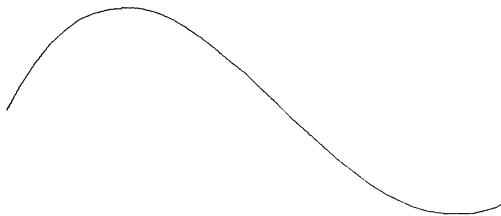
Reserve 1344 (&540) bytes memory for the BEZIER machine program with NEW"SO:",&540. This memory will start at address &C0C5.

Load the BEZIER machine program with BLOAD into the reserved memory.

```
>NEW"SO:",&540
>BLOAD"X:BEZIER.BIN"
```

To draw Bézier curves the machine has to be set to graph mode.

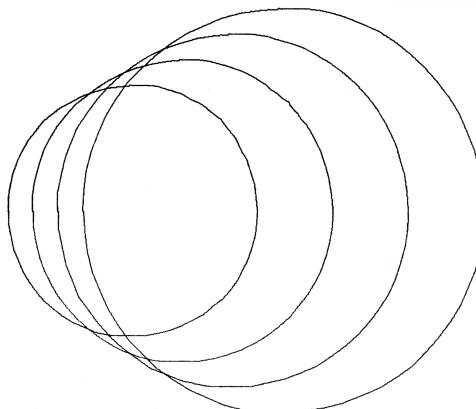
```
>GRAPH
>CALL &C0C5; (10, -150, 140, 100)-(260, -300, 410, -220)
```



Aproximate Circles With Bézier Curves

Each circle is drawn with 4 Bézier curves. We draw 4 circles with radius 100, 120, 140 and 160.

```
10: X=100: Y=-200: R=100: C=.55
30: REM BLOAD "S2: BEZIER.BIN"
40: GRAPH
50: FOR I=0TO 3
60: CALL &C0C5; (X-R, Y, X-R, Y+R*C)-(X-R*C, Y+R, X, Y+R), 0, 0
70: CALL &C0C5; -(X+R*C, Y+R)-(X+R, Y+R*C, X+R, Y)
80: CALL &C0C5; -(X+R, Y-R*C)-(X+R*C, Y-R, X, Y-R)
90: CALL &C0C5; -(X-R*C, Y-R)-(X-R, Y-R*C, X-R, Y)
100: X=X+40: R=R+20
110: NEXT I
```



- [10] X,Y define the center and R the radius of the circle. C is a factor related to R that defines the position of the control point.
- [40] Sets the machine to graph mode.
- [50] Begin of loop to draw four circles.
- [60] Draw the first quadrant of the circle with a Bézier curve with specified start point.
- [70-90] Draw the next three quadrants of the circle with Bézier curves starting at the previous end point.
- [100] Increase center and radius for the next circle.
- [110] End of loop.