

Plotting.

```
C>TYPE GOBLET.BAS
10 REM GOBLET -- BY DANIEL FREEMAN (A 3D GRAPHICS PROGRAM.)
20 PUT 12
30 FOR Q=1 TO 9
40 READ X(Q),Y(Q)
50 NEXT Q
60 FOR B=2 TO 100
70 CALL"RESOLUTION",0,0
80 CALL"OFFSET",-160,-50
90 FOR C=1 TO 9
100 LET A$="PLOT"
110 FOR D=0 TO 7.854 STEP 6.283/B
120 CALLA$,X(C)*COS(D),Y(C)+X(C)*0.2*SIN(D),1
130 LET A$="LINE"
140 IF C=1 THEN NEXT D,C
150 CALL"PLOT",X(C-1)*COS(D),Y(C-1)+X(C-1)*0.2*SIN(D),1
160 CALL"LINE",X(C)*COS(D),Y(C)+X(C)*0.2*SIN(D),1
170 NEXT D
180 NEXT C
190 NEXT B
200 DATA 50,0,50,10,5,10,5,40,40,40,75,100,65,100,30,45,0,45
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C>TYPE GOBLET2.BAS
10 REM GOBLET2 -- BY DANIEL FREEMAN (A 3D GRAPHICS PROGRAM.)
20 PUT 12
30 FOR Q=1 TO 9
40 READ X(Q),Y(Q)
50 NEXT Q
60 INPUT"NUMBER OF SIDES";B
70 CALL"RESOLUTION",0,0
80 CALL"OFFSET",-160,-50
90 FOR G=0 TO 6.2 STEP 0.1
100 CALL"DISPLAY",0,G*10
110 CALL"UPDATE",0,G*10-1
120 CALL"FILL",-76,-20,75,120,0
130 FOR C=1 TO 9
140 LET A$="PLOT"
150 FOR D=0 TO 7.854 STEP 6.283/B
160 CALLA$,X(C)*COS(D+G),Y(C)+X(C)*0.2*SIN(D+G),1
170 LET A$="LINE"
180 IF C=1 THEN NEXT D,C
190 CALL"PLOT",X(C-1)*COS(D+G),Y(C-1)+X(C-1)*0.2*SIN(D+G),1
200 CALL"LINE",X(C)*COS(D+G),Y(C)+X(C)*0.2*SIN(D+G),1
210 NEXT D
220 NEXT C
230 NEXT G
240 GOTO 90
250 DATA 50,0,50,10,5,10,5,40,40,40,75,100,65,100,30,45,0,45
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C>
TYPE GOBLETS.BAS
10 REM GOBLETS -- BY DANIEL FREEMAN (A 3D GRAPHICS PROGRAM.)
20 PUT 12
30 FOR Q=1 TO 9
40 READ X(Q),Y(Q)
50 NEXT Q
60 INPUT"STEPPING BY";B
70 CALL"RESOLUTION",0,0
80 CALL"OFFSET",-160,-50
90 FOR G=0 TO 6.2 STEP B
100 FOR C=1 TO 9
110 LET A$="PLOT"
```

Plotting

A suite of four programs by Daniel Freeman of Ramsgate, Kent plots the same object in a variety of different ways.

Goblet draws a flat goblet and then continues to add more sides. Goblet 2 allows you to enter the number of sides that the goblet has and then continues to draw it again, rotated by a small angle. Goblet 4 produces a rapidly rotating goblet — but give it time. The programs run on 380Z.

```
120 FOR D=0 TO 7.854 STEP 6.283
130 CALLA$,X(C)*COS(D+G),Y(C)+X(C)*0.2*SIN(D+G),1
140 LET A$="LINE"
150 IF C=1 THEN NEXT D,C
160 CALL"PLOT",X(C-1)*COS(D+G),Y(C-1)+X(C-1)*0.2*SIN(D+G),1
170 CALL"LINE",X(C)*COS(D+G),Y(C)+X(C)*0.2*SIN(D+G),1
180 NEXT D
190 NEXT C
200 NEXT G
210 DATA 50,0,50,10,5,10,5,40,40,40,75,100,65,100,30,45,0,45
```

```
C>TYPE GOBLET4.BAS
10 REM GOBLETS -- BY DANIEL FREEMAN (A 3D GRAPHICS PROGRAM.)
20 PUT 12
30 FOR Q=1 TO 9
40 READ X(Q),Y(Q)
50 NEXT Q
60 LET I=1
70 CALL"RESOLUTION",0,2
80 CALL"OFFSET",-160,-50
90 FOR G=0 TO 6.2 STEP .1
100 FOR C=1 TO 9
110 LET A$="PLOT"
120 FOR D=0 TO 7.854 STEP 6.283
130 CALLA$,X(C)*COS(D+G),Y(C)+X(C)*0.2*SIN(D+G),I
140 LET A$="LINE"
150 IF C=1 THEN NEXT D,C
160 CALL"PLOT",X(C-1)*COS(D+G),Y(C-1)+X(C-1)*0.2*SIN(D+G),I
170 CALL"LINE",X(C)*COS(D+G),Y(C)+X(C)*0.2*SIN(D+G),I
180 NEXT D
190 NEXT C
192 LET I=I+1
194 IF I=4 THEN LET I=1
200 NEXT G
210 DATA 50,0,50,10,5,10,5,40,40,40,75,100,65,100,30,45,0,45
220 FOR A=1 TO 3
230 CALL"COLOUR",A,255
240 LET A$=GET$(10)
250 CALL"COLOUR",A,0
260 NEXT A
270 GOTO 220
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C>