

//stea

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#include <graphics.h>
#include <stdlib.h>
#include <stdio.h>
#include <conio.h>
#include <math.h>
#define pi 3.1415

float sx, sy, xrmin, yrmin, xrmax, yrmax, R=0.5, r=0.3;
int xemin=0, yemin=0, xemax, yemax;

int xe(float xr)
{ return (xemin+sx*(xr-xrmin)); }
int ye(float yr)
{ return (yemax-sy*(yr-yrmin)); }

float f1(double t)
{ return (R-r)*cos((r/R)*t)+r*cos(t-(r/R)*t); }
float f2(double t)
{ return (R-r)*sin((r/R)*t)-r*sin(t-(r/R)*t); }

double g1(double t)
{ return (R+r)*cos((r/R)*t)+r*cos(t+(r/R)*t); }
double g2(double t)
{ return (R+r)*sin((r/R)*t)-r*sin(t+(r/R)*t); }

void main(void)
{ float a=-1, b=1, c=-1, d=1;
double past, t1=-2*M_PI, t2=2*M_PI, t;
/* request auto detection */
int gdriver = DETECT, gmode, errorcode;
xrmin=a;
yrmin=c;
xrmax=b;
yrmax=d;

/* initialize graphics mode */

initgraph(&gdriver, &gmode, "c:\\tc\\bgi");
xemax=getmaxx();
yemax=getmaxy();
sx=(xemax-xemin)/(xrmax-xrmin);
sy=(yemax-yemin)/(yrmax-yrmin);

line (xe(xrmin), ye(0), xe(xrmax), ye(0));
line(xe(0), ye(yrmin), xe(0), ye(yrmax));

past=1./sx/5.;
for(t=t1; t<=5*t2; t+=past)
{ putpixel (xe(f1(t)), ye(f2(t)), t); }
getch();
gotoxy(25, 25);
getch();
closegraph();
}
```