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***119A1004 – C1***

***COMPUTER GRAPHICS***

**EXPERIMENT – 10**

**AIM:** To implement Koch Curve using Computer Graphics.

**PROGRAM:**

#include<stdio.h>

#include<graphics.h>

#include<conio.h>

#include<math.h>

void koch(int x1, int y1, int x2, int y2, int it)

{

float angle = 60\*M\_PI/180;

int x3 = (2\*x1+x2)/3;

int y3 = (2\*y1+y2)/3;

int x4 = (x1+2\*x2)/3;

int y4 = (y1+2\*y2)/3;

int x = x3 + (x4-x3)\*cos(angle)+(y4-y3)\*sin(angle);

int y = y3 - (x4-x3)\*sin(angle)+(y4-y3)\*cos(angle);

if(it > 0)

{

koch(x1, y1, x3, y3, it-1);

koch(x3, y3, x, y, it-1);

koch(x, y, x4, y4, it-1);

koch(x4, y4, x2, y2, it-1);

}

else

{

line(x1, y1, x3, y3);

line(x3, y3, x, y);

line(x, y, x4, y4);

line(x4, y4, x2, y2);

}

}

int main(void)

{

int gd = DETECT, gm;

int x1 = 100, y1 = 200, x2 = 400, y2 = 200;

initgraph(&gd, &gm, "C:\\TURBOC3\\BGI");

koch(x1, y1, x2, y2, 4);

getch();

return 0;

}

**OUTPUT:**

