**Program: Koch Curve for Fractional Generation**

#include<stdio.h>

#include<stdlib.h>

#include<graphics.h>

#include<math.h>

#include<conio.h>

void koch(float x1,float y1,float x2,float y2,int i)

{

float x3,y3,x4,y4,x,y,theta;

theta=60\*(3.14/180);

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

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

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

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

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

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

setcolor(YELLOW);

if(i>0)

{

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

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

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

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

}

else

{

line(x1,y1,x3,y3);

line(x3,y3,x,y);

line(x,y,x4,y4);

line(x4,y4,x2,y2);

}

}

void main()

{

int gd=DETECT,gm;

int n;

float x1,x2,y1,y2;

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

printf("Enter end points of line x1 y1: ");

scanf("%f%f",&x1,&y1);

printf("Enter end points of line x2 y2: ");

scanf("%f%f",&x2,&y2);

printf("Enter number of iterations: ");

scanf("%d",&n);

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

getch();

}

**Output:**

