|  |
| --- |
| #include<iostream> |
|  | #include<GL/glut.h> |
|  | #include<stdio.h> |
|  | using namespace std; |
|  | float x1,x2,y1,y2,n; |
|  | void getdata() |
|  | { |
|  | cout<<"enter start and End points of line: "; |
|  | cin>>x1>>y1>>x2>>y2; |
|  | cout<<"enter nos interation: "; |
|  | cin>>n; |
|  | } |
|  |  |
|  | void koch(float x1,float y1,float x2,float y2,float n) |
|  | { |
|  | float ang=60;ang=ang\*3.14/180; |
|  | float x3=(2\*x1+x2)/3; |
|  | float y3=(2\*y1+y2)/3; |
|  | float x4=(x1+2\*x2)/3; |
|  | float y4=(y1+2\*y2)/3; |
|  | float x=x3+(x4-x3)\*0.5+(y4-y3)\*0.8660; |
|  | float y=y3-(x4-x3)\*0.8660+(y4-y3)\*0.5; |
|  | if(n>0) |
|  | { |
|  | koch(x1,y1,x3,y3,n-1); |
|  | koch(x3,y3,x,y,n-1); |
|  | koch(x,y,x4,y4,n-1); |
|  | koch(x4,y4,x2,y2,n-1); |
|  | } |
|  | else |
|  | { |
|  | glBegin(GL\_LINE\_STRIP); |
|  | glClearColor(1.0,1.0,1.0,0.0); |
|  | glColor3f(0.0,1.0,1.0); |
|  | glVertex2f(x1,y1); |
|  | glColor3f(0.0,1.0,1.0); |
|  | glVertex2f(x3,y3); |
|  | glColor3f(1.0,1.0,0.0); |
|  | glVertex2f(x,y); |
|  | glColor3f(1.0,0.0,1.0); |
|  | glVertex2f(x4,y4); |
|  | glColor3f(1.0,1.0,1.0); |
|  | glVertex2f(x2,y2); |
|  | glEnd(); |
|  |  |
|  | } |
|  | } |
|  | void Init() |
|  | { |
|  | glClearColor(0.0,0.0,0.0,0.0); |
|  | glColor3f(0.0,0.0,0.0); |
|  | gluOrtho2D(0.0,640.0,480.0,0.0); |
|  | } |
|  | void display() |
|  | { |
|  | glClear(GL\_COLOR\_BUFFER\_BIT); |
|  | koch(x1,y1,x2,y2,n); |
|  | glFlush(); |
|  | } |
|  | int main(int argv,char \*\*argc) |
|  | { |
|  |  |
|  | getdata(); |
|  |  |
|  | glutInit(&argv,argc); |
|  | glutInitDisplayMode(GLUT\_SINGLE | GLUT\_RGB); |
|  | glutInitWindowPosition(100,100); |
|  | glutInitWindowSize(640,480); |
|  | glutCreateWindow("KOCH"); |
|  | Init(); |
|  | glutDisplayFunc(display); |
|  | glutMainLoop(); |
|  |  |
|  | return 0; |
|  | } |