TITLE: Fractal Graphics(Koch Curve)

```
#include<iostream>
#include<math.h>
#include<graphics.h>
using namespace std;
class kochCurve
{
       public:
       void koch(int it,int x1,int y1,int x5,int y5)
       {
               int x2,y2,x3,y3,x4,y4;
               int dx,dy;
               if(it==0)
               {
                      line(x1,y1,x5,y5);
               }
               else
               {
                      delay(10);
                      dx=(x5-x1)/3;
                      dy=(y5-y1)/3;
                      x2=x1+dx;
                      y2=y1+dy;
                      x3=(int)(0.5*(x1+x5)+sqrt(3)*(y1-y5)/6);
                      y3=(int)(0.5*(y1+y5)+sqrt(3)*(x5-x1)/6);
                      x4=2*dx+x1;
                      y4=2*dy+y1;
                      koch(it-1,x1,y1,x2,y2);
                      koch(it-1,x2,y2,x3,y3);
                      koch(it-1,x3,y3,x4,y4);
                      koch(it-1,x4,y4,x5,y5);
               }
       }
};
```

```
int main()
{
                 kochCurve k;
                 int it,len;
                 cout<<"enter number of iterations";
                 cin>>it;
                 int gd=DETECT,gm;
                 initgraph(&gd,&gm,NULL);
                 k.koch(it,20,280,280,280);
                 k.koch(it,150,20,20,280);
                 k.koch(it,280,280,150,20);
                 getch();
                 closegraph();
                 return 0;
}
bash: export: `/home/student/.bashrc': not a valid identifier student@student-OptiPlex-390:~$ g++ kotch.cpp -lgraph g++: error: kotch.cpp: No such file or directory student@student-OptiPlex-390:~$ cd /home/student/libgraph-1.0.2 student@student-OptiPlex-390:~/libgraph-1.0.2$ g++ kotch.cpp -lgraph student@student-OptiPlex-390:~/libgraph-1.0.2$ ./a.out enter number of iterations6
[xcb] Unknown sequence number while processing gueue
 [xcb] Unknown sequence number while processing queue
[xcb] Most likely this is a multi-threaded client and XInitThr
called
                                                                                                              SDL-libgraph -- Graphics on GNU/Linux
 [xcb] Aborting, sorry about that.
a.out: ../../src/xcb_io.c:274: poll_for_event: Assertion `!xcb
ence_lost' failed.
```