

// Write C++ program to generate fractal patterns by using Koch curves.

```
#include<iostream>
```

```
#include<graphics.h>
```

```
#include<math.h>
```

```
using namespace std;
```

```
void snow(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)
```

```
    { snow(x1, y1, x3, y3, it-1); snow(x3, y3, x, y, it-1); snow(x, y, x4, y4, it-1); snow(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()
```

```
{
```

```
    int gd = DETECT, gm;
```

```
    initgraph(&gd, &gm, NULL);
```

```
    int x1 = 150, y1 = 100, x2 = 350, y2 = 100;
```

```
    snow(x1, y1, x2, y2, 2);
```

```
    snow(250, 350, 150, 100, 2);
```

```
    snow (350, 100, 250, 350, 2);
```

```
    getch();
```

```
    return 0;
```

```
}
```