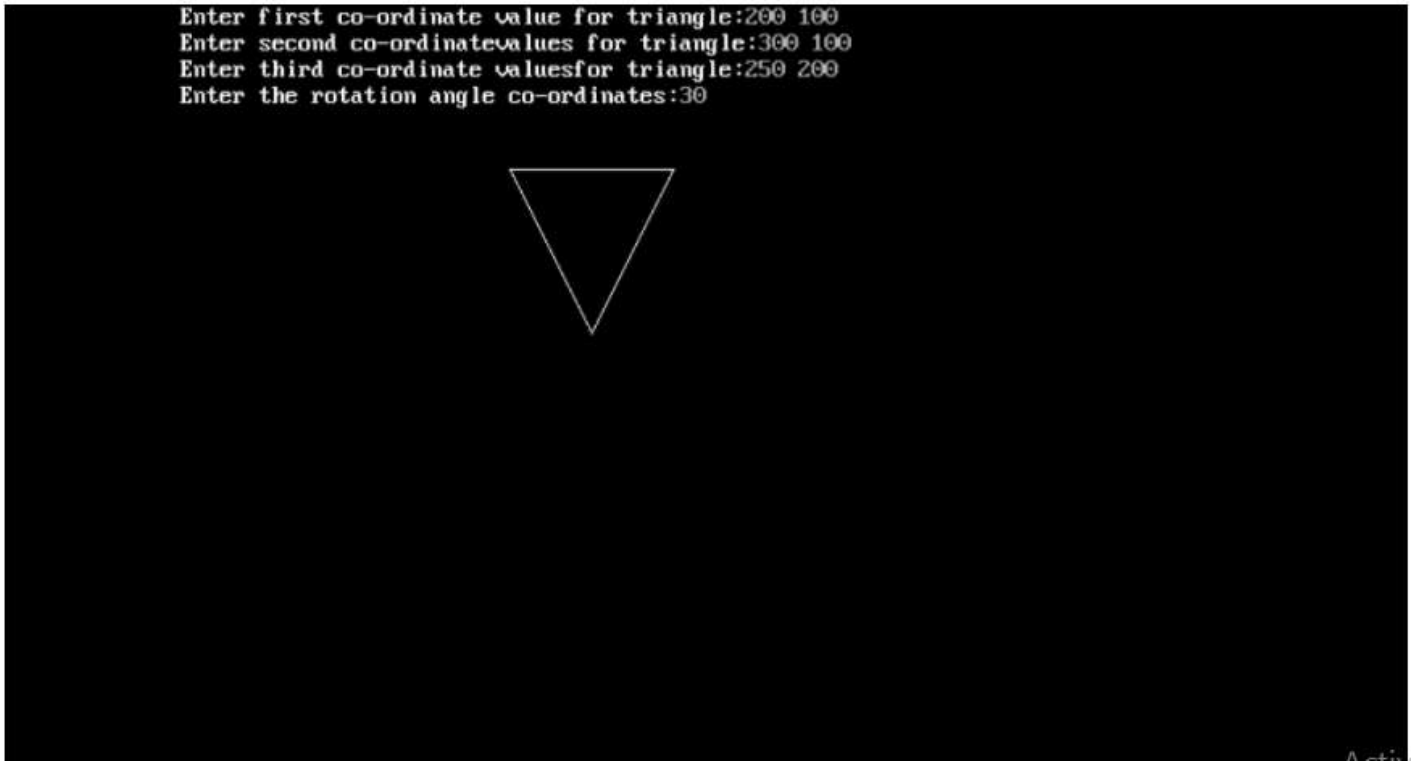
(23/11/2020)(Revision)Write a program of Translation, Rotation, and Scaling of any object.

```
#include<stdio.h>
#include<conio.h>
#include<graphics.h>
#include<math.h>
    int x1,y1,x2,y2,x3,y3,a,b;
void draw();
    void rotate();
    int main(void)  {
int gd=DETECT,gm;
initgraph(&gd,&gm,"C:\\TC\\BGI");
printf("Enter first co-ordinate value for triangle:");  scanf("%d%d",&x1,&y1);
printf("Enter second co-ordinatevalues for triangle:");
scanf("%d%d",&x2,&y2);
printf("Enter third co-ordinate valuesfor triangle:");  scanf("%d%d",&x3,&y3);
draw();
getch();
rotate();
getch();
return 0;
}

void draw()
{
 line(x1,y1,x2,y2);
 line(x2,y2,x3,y3);
 line(x3,y3,x1,y1);
}
 void rotate()
 {
    int a1,a2,a3,b1,b2,b3;
    float angle;
    printf("Enter the rotation angle co-ordinates:");
    scanf("%f",&angle);
    cleardevice();
     angle=(angle*3.14)/180;
```

```
11.      a1=a+(x1-a)*cos(angle)-(y1-b)*sin(angle);
12.      b1=b+(x1-a)*sin(angle)+(y2-b)*cos(angle);
13.      a2=a+(x2-a)*cos(angle)-(y1-b)*sin(angle);
14.      b2=b+(x2-a)*sin(angle)+(y2-b)*cos(angle);
15.      a3=a+(x3-a)*cos(angle)-(y1-b)*sin(angle);
16.      b3=b+(x3-a)*sin(angle)+(y2-b)*cos(angle);
17.      printf("ROTATION");
18.      printf("\n Changed coordinates\n");
19.      printf("%d %d\n%d %d\n%d %d",a1,b1,a2,b2,a3,b3);
20.    line(a1,b1,a2,b2);
21.    line(a2,b2,a3,b3);
22.    line(a3,b3,a1,b1);
23. }
```

Output




Enter any arbitrary point6 6
ROTATION
Changed coordinates
0 184
213 234
170 209