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

```
#include <graphics.h>
#include <stdlib.h>
#include <stdio.h>
#include <conio.h>
#include<math.h>
void main()
{
        int gm;
        int gd=DETECT;
        int x1,x2,x3,y1,y2,y3,nx1,nx2,nx3,ny1,ny2,ny3,c;
        int sx,sy,xt,yt,r;
        float t;
        initgraph(&gd,&gm,"c:\tc\bg:");
        printf("\t Program for basic transactions");
        printf("\n\t Enter the points of triangle");
        setcolor(1);
        scanf("%d%d%d%d%d%d",&x1,&y1,&x2,&y2,&x3,&y3);
        line(x1,y1,x2,y2);
        line(x2,y2,x3,y3);
        line(x3,y3,x1,y1);
        getch();
        printf("\n 1.Transaction\n 2.Rotation\n 3.Scalling\n 4.exit");
        printf("Enter your choice:");
        scanf("%d",&c);
        switch(c)
        {
                case 1:
                        printf("\n Enter the translation factor");
```

```
        scanf("%d%d",&xt,&yt);
        nx1=x1+xt;
        ny1=y1+yt;
        nx2=x2+xt;
        ny2=y2+yt;
        nx3=x3+xt;
        ny3=y3+yt;
        line(nx1,ny1,nx2,ny2);
        line(nx2,ny2,nx3,ny3);
        line(nx3,ny3,nx1,ny1);
        getch();

case 2:
        printf("\n Enter the angle of rotation");
        scanf("%d",&r);
        t=3.14*r/180;
        nx1=abs(x1*cos(t)-y1*sin(t));
        ny1=abs(x1*sin(t)+y1*cos(t));
        nx2=abs(x2*cos(t)-y2*sin(t));
        ny2=abs(x2*sin(t)+y2*cos(t));
        nx3=abs(x3*cos(t)-y3*sin(t));
        ny3=abs(x3*sin(t)+y3*cos(t));
        line(nx1,ny1,nx2,ny2);
        line(nx2,ny2,nx3,ny3);
        line(nx3,ny3,nx1,ny1);
        getch();

case 3:
        printf("\n Enter the scalling factor");
        scanf("%d%d",&sx,&sy);
        nx1=x1*sx;
        ny1=y2*sy;
        nx2=x2*sx;
        ny2=y2*sy;
        nx3=x3*sx;
        ny3=y3*sy;
        line(nx1,ny1,nx2,ny2);
        line(nx2,ny2,nx3,ny3);
        line(nx3,ny3,nx1,ny1);
        getch();
```

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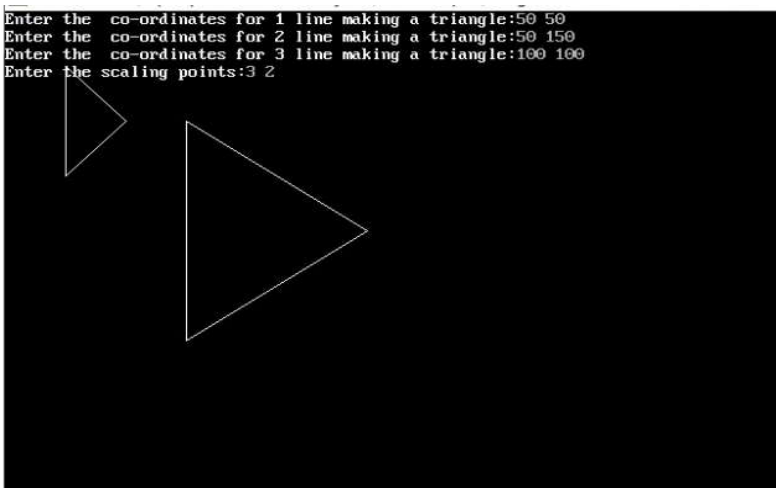
        case 4:
                break;
        default:
                printf("Enter the correct choice");
                }
                closegraph();
                }
```

OUTPUT OF SCALING:



OUTPUT OF ROTATION: