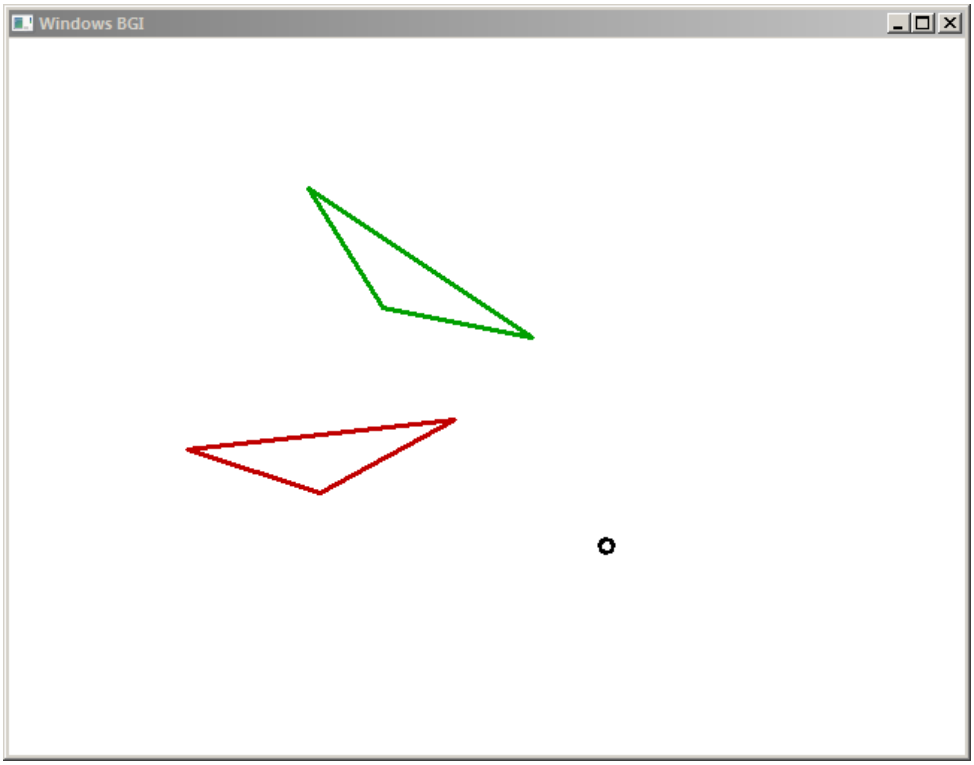
```
#include <graphics.h>
#include <stdio.h>
#include <stdlib.h>
#include <math.h>

void rotate( int *, int, double, int, int);
void rotate( int figure[], int vertex, double angle, int cx, int cy )
{
        double x, y;
        int i;
        angle = -1 * (angle * 3.14/180);
        double cos_a = cos(angle);
        double sin_a = sin(angle);

        for(i=0; i<vertex; i++)
        {
                x = figure[2*i] - cx;
                y = figure[2*i+1] - cy;
                figure[2*i] = ceil( (x * cos_a) - (y * sin_a) + cx );
                figure[2*i+1] = ceil( (x * sin_a)+(y * cos_a) + cy );
        }
}

int main()
{
        int figure[20], vertex, i;
        double angle;
        int cx=0, cy=0, max_y;

        initwindow(640,480,"rotation");
        max_y = 640;

        printf( "Number of vertex: " );
        scanf( "%d", &vertex );

        for(i=0; i<vertex; i++)
        {
                printf( "Enter vertex (x%d,y%d) : ", i , i );
                scanf( "%d %d", &figure[2*i], &figure[2*i+1] );
        }

        figure[2*i] = figure[0];
        figure[2*i+1] = figure[1];
        vertex += 1;

        printf( "Enter angle of rotation in degrees: ");
        scanf( "%lf", &angle);
        printf( "Enter the centre of rotation: ");
        scanf( "%d %d", &cx, &cy);

        cy = max_y - cy;

        setbkcolor(WHITE);
        setcolor(GREEN);

        setlinestyle(SOLID_LINE, 0, 3);
        drawpoly(vertex, figure);

        for(i=0; i < vertex; i++)
                figure[2*i+1] = max_y - figure[2*i+1];

        rotate(figure,vertex,angle,cx,cy);

        for(int i=0; i < vertex; i++)
                figure[2*i+1] = max_y - figure[2*i+1];

        setcolor(RED);
        setlinestyle(SOLID_LINE, 0, 3);
        drawpoly( vertex, figure );

        while( !kbhit() );

        return EXIT_SUCCESS;
}
```




```
Number of edges: 3
Enter edge (x0,y0) : 200 100
Enter edge (x1,y1) : 350 200
Enter edge (x2,y2) : 250 100
Enter angle of rotation in degrees: -40
Enter the centre of rotation: 400 300
```