Aim: Write a program to perform Two-dimensional transformations (Scaling) on a Triangle.

#include<stdio.h>

#include<conio.h>

#include<graphics.h>

#include<process.h>

#include<math.h>

int x1,y1,x2,y2,x3,y3,mx,my;

void draw();

void scale();

void main()

{

int gd=DETECT,gm;

int c;

initgraph(&gd,&gm,"..\\bgi");

printf("Enter the 1st point for the triangle:");

scanf("%d%d",&x1,&y1);

printf("Enter the 2nd point for the triangle:");

scanf("%d%d",&x2,&y2);

printf("Enter the 3rd point for the triangle:");

scanf("%d%d",&x3,&y3);

draw();

scale();

}

void draw()

{

line(x1,y1,x2,y2);

line(x2,y2,x3,y3);

line(x3,y3,x1,y1);

}

void scale()

{

int x,y,a1,a2,a3,b1,b2,b3;

int mx,my;

printf("Enter the scalling coordinates");

scanf("%d%d",&x,&y);

mx=(x1+x2+x3)/3;

my=(y1+y2+y3)/3;

cleardevice();

a1=mx+(x1-mx)\*x;

b1=my+(y1-my)\*y;

a2=mx+(x2-mx)\*x;

b2=my+(y2-my)\*y;

a3=mx+(x3-mx)\*x;

b3=my+(y3-my)\*y;

line(a1,b1,a2,b2);

line(a2,b2,a3,b3);

line(a3,b3,a1,b1);

draw();

getch();

}

