QUESTION:- 2D Transformation (Scaling) of an Triangle.

Ans:-

#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();

}

OUTPUT:

