//2D-tranformation Rotation

#include<graphics.h>

#include<stdio.h>

#include<conio.h>

#include<math.h>

void main()

{

int gd=DETECT,gm;

int pivot\_x,pivot\_y,x,y;

double degree,radian;

int rotated\_point\_x,rotated\_point\_y;

initgraph(&gd,&gm,"C://TURBOC3//BGI");

cleardevice();

printf("\t\t\*\*\*\*\*\*\*\*\*\*\* ROTATION \*\*\*\*\*\*\*\*\*\*\* \n");

printf("\n Enter an initial coordinates of the line = ");

scanf("%d %d",&pivot\_x,&pivot\_y);

printf("\n Enter a final coordinates of the line = ");

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

line(pivot\_x,pivot\_y,x,y);

printf("\n\n Now, Enter a degree = ");

scanf("%lf",&degree);

radian=degree\*0.01745;

rotated\_point\_x=(int)(pivot\_x +((x-pivot\_x)\*cos(radian)-(y-pivot\_y)\*sin(radian)));

rotated\_point\_y=(int)(pivot\_y +((x-pivot\_x)\*sin(radian)+(y-pivot\_y)\*cos(radian)));

setcolor(RED);

line(pivot\_x,pivot\_y,rotated\_point\_x,rotated\_point\_y);

getch();

closegraph();

}

OUTPUT:-

