**Practical No: 9**

**Practical Title: Program for Two Dimensional Transformations (Shearing)**

**Roll no: Batch: Date of performance:**

#include<stdio.h>

#include<graphics.h>

#include<conio.h>

void main()

{

int gd=DETECT,gm;

char choice;

float x1=100,y1=100,x2=200,y2=100,x3=200,y3=200,x4=100,y4=200,shear\_f,shear\_f\_y; clrscr();

initgraph (&gd,&gm,"C:\\TC\\BGI");

setbkcolor (15); setcolor(8);

line(x1,y1,x2,y2);

line(x2,y2,x3,y3);

line(x3,y3,x4,y4);

line(x4,y4,x1,y1);

printf("\n\n");

outtextxy (5,5,"Enter x for x shear , y for y shear");

scanf("%c",&choice);

switch(choice)

{ case 'x':

case 'X':

printf("\n");

outtextxy(10,20,"Please enter Shearing factor x = ");

scanf("%f",&shear\_f);

setcolor(RED);

x1=x1+y1\*shear\_f;x2=x2+y2\*shear\_f;

**Output:**



x3=x3+y3\*shear\_f;x4=x4+y4\*shear\_f;

line(x1,y1,x2,y2);line(x2,y2,x3,y3);

line(x3,y3,x4,y4);line(x4,y4,x1,y1);

break;

case 'y':

case 'Y':

setcolor(8);

outtextxy(10,30,"Please enter Shearing factor y = ");

scanf("%f",&shear\_f\_y);

setcolor(RED);

y1=y1+x1\*shear\_f\_y;y2=y2+x2\*shear\_f\_y;

y3=y3+x3\*shear\_f\_y;y4=y4+x4\*shear\_f\_y;

line(x1,y1,x2,y2);line(x2,y2,x3,y3);

line(x3,y3,x4,y4);line(x4,y4,x1,y1);

break;

default:outtextxy(10,20,"Invalid choice");

break; }

getch();

closegraph(); }