**Practical-14**

Computer Graphics and Multimedia

1. Write a program to implement 3 basic transformation.

#include <graphics.h>

#include <stdlib.h>

#include <stdio.h>

#include <conio.h>

#include<math.h>

void main()

{

int gm;

int gd=DETECT;

int x1,x2,x3,y1,y2,y3,nx1,nx2,nx3,ny1,ny2,ny3,c;

int sx,sy,xt,yt,r;

float t;

initgraph(&gd,&gm,"c:\\tc\\bgi");

printf("\t Program for basic transactions");

printf("\n\t Enter the points of triangle");

setcolor(1);

scanf("%d%d%d%d%d%d",&x1,&y1,&x2,&y2,&x3,&y3);

line(x1,y1,x2,y2);

line(x2,y2,x3,y3);

line(x3,y3,x1,y1);

getch();

printf("\n 1.Transaction\n 2.Rotation\n 3.Scalling\n 4.exit");

printf("Enter your choice:\n");

scanf("%d",&c);

switch(c)

{

case 1:

printf("\n Enter the translation factor");

scanf("%d%d",&xt,&yt);

nx1=x1+xt;

ny1=y1+yt;

nx2=x2+xt;

ny2=y2+yt;

nx3=x3+xt;

ny3=y3+yt;

line(nx1,ny1,nx2,ny2);

line(nx2,ny2,nx3,ny3);

line(nx3,ny3,nx1,ny1);

getch();

case 2:

printf("\n Enter the angle of rotation");

scanf("%d",&r);

t=3.14\*r/180;

nx1=abs(x1\*cos(t)-y1\*sin(t));

ny1=abs(x1\*sin(t)+y1\*cos(t));

nx2=abs(x2\*cos(t)-y2\*sin(t));

ny2=abs(x2\*sin(t)+y2\*cos(t));

nx3=abs(x3\*cos(t)-y3\*sin(t));

ny3=abs(x3\*sin(t)+y3\*cos(t));

line(nx1,ny1,nx2,ny2);

line(nx2,ny2,nx3,ny3);

line(nx3,ny3,nx1,ny1);

getch();

case 3:

printf("\n Enter the scalling factor");

scanf("%d%d",&sx,&sy);

nx1=x1\*sx;

ny1=y2\*sy;

nx2=x2\*sx;

ny2=y2\*sy;

nx3=x3\*sx;

ny3=y3\*sy;

line(nx1,ny1,nx2,ny2);

line(nx2,ny2,nx3,ny3);

line(nx3,ny3,nx1,ny1);

getch();

case 4:

break;

default:

printf("Enter the correct choice");

}

closegraph();

}

