# ****TRANSFORMATIONS****

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# PROGRAM

#include <iostream>

#include <graphics.h>

#include <math.h>

#include <conio.h>

using namespace std;

int main()

{

int x1=200,y1=200,x2=250,y2=250,x3=180,y3=270,option;

initwindow(400,400,"transformations");

matrix(int x, int y)

{

if(y==m)

{

for(i=0;i<x;i++)

{

for(j=0;j<n;j++)

{

c[i][j]=0;

for(int k=0;k<m;k++)

{

c[i][j]=c[i][j]+a[i][k]\*b[k][j];

}

}

}

cout<<"\n-----------------------------------------------------------\n";

cout<<"\n\nMultiplication of Matrix A and Matrix B :\n\n";

for(i=0;i<x;i++)

{

for(j=0;j<n;j++)

{

cout<<"\t"<<c[i][j];

}

cout<<"\n\n";

}

}

else

{

cout<<"\n\nMultiplication is not possible";

}

}

do

{

gotoxy(1,1);

line(x1,y1,x2,y2);

line(x2,y2,x3,y3);

line(x3,y3,x1,y1);

cout<<"\n1.Translation 2.Scaling 3.Rotation 4.Exit\nEnter your choice:";

cin>>option;

switch(option){

case 1:

float tx,ty;

cout<<"Enter tx & ty: ";

cin>>tx>>ty;

matrix(tx,ty);

//x1+=tx;x2+=tx;x3+=tx;

//y1+=ty;y2+=ty;y3+=ty;

break;

case 2:

float sx,sy;

cout<<"Enter sx & sy: ";

cin>>sx>>sy;

matrix(sx,sy);

//x1\*=sx;x2\*=sx;x3\*=sx;

//y1\*=sy;y2\*=sy;y3\*=sy;

break;

case 3:

float deg;

cout<<"Enter angle: ";

cin>>deg;

deg = deg\*3.14/180;

int x,y;

matrix(x,y);

/\*x=x1;y=y1;

x1 = x\*cos(deg)-y\*sin(deg);

y1 = x\*sin(deg)+y\*cos(deg);

x=x2;y=y2;

x2 = x\*cos(deg)-y\*sin(deg);

y2 = x\*sin(deg)+y\*cos(deg);

x=x3;y=y3;

x3 = x\*cos(deg)-y\*sin(deg);

y3 = x\*sin(deg)+y\*cos(deg);\*/

break;

default:

cout<<"Invalid choice";

}

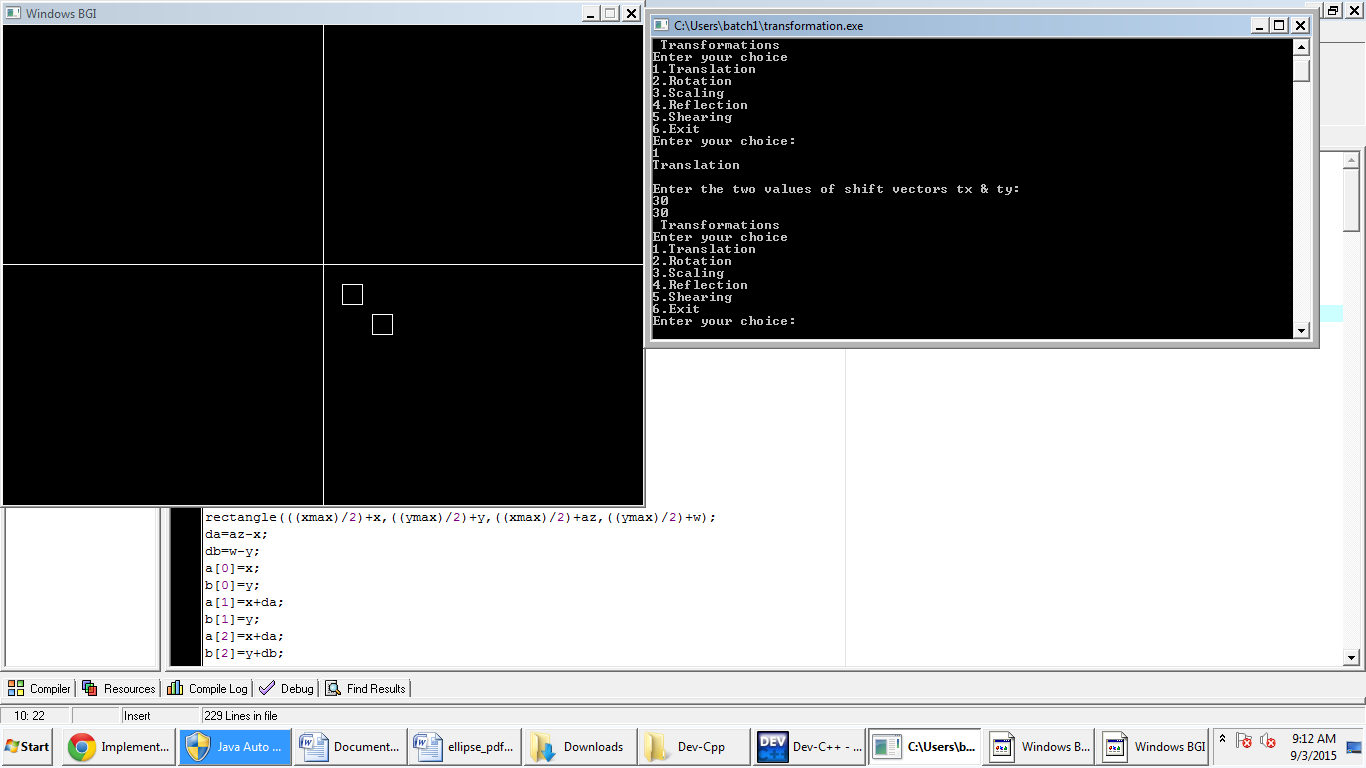
}while(option <= 4);

return 0;

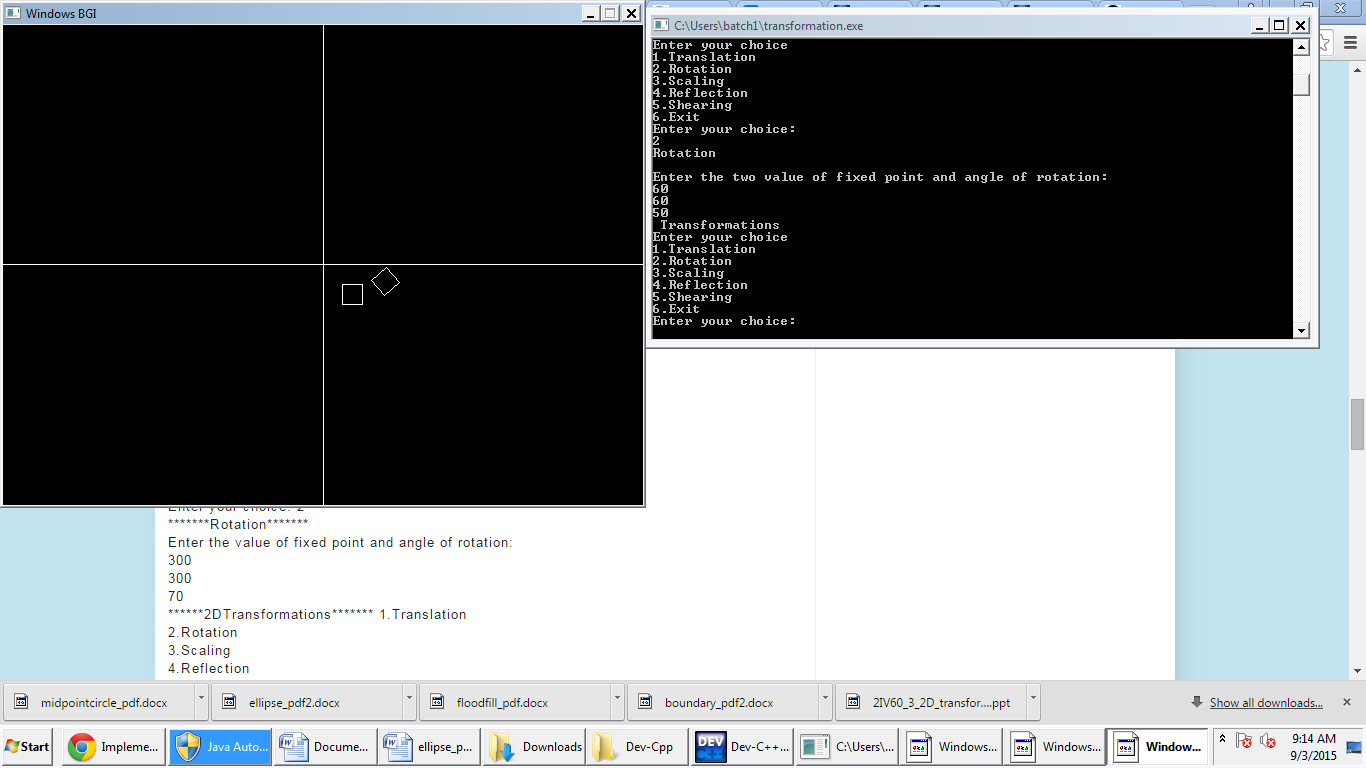
}

# OUTPUT SCREEN

1.Translation Output:-



2.Rotation Output:-

  
3.Scaling Output:-

