ST. XAVIER’S COLLEGE

**Maitighar,Kathmandu**

**(Affiliated to Tribhuvan University)**

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**Computer graphics**

**Lab Assignment #7**

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**Submitted On**

September 8, 2015

Source codes :

//---------------------------------------------------------------------------

#include <vcl\vcl.h>

#pragma hdrstop

#include <math.h>

#include "tranrotate.h"

//---------------------------------------------------------------------------

#pragma resource "\*.dfm"

TForm1 \*Form1; int i,j;

//---------------------------------------------------------------------------

\_\_fastcall TForm1::TForm1(TComponent\* Owner)

: TForm(Owner)

{

}

//---------------------------------------------------------------------------

void \_\_fastcall TForm1::Button1Click(TObject \*Sender)

{

int Tx=StrToInt(Edit1->Text);

int Ty=StrToInt(Edit2->Text);

int x = Image1->Height;

int y = Image1->Width;

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

{

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

{

int a = i + Tx;

int b = j + Ty;

Image2->Canvas->Pixels[a][b] = Image1->Canvas->Pixels[i][j];

}

}

}

//---------------------------------------------------------------------------

void \_\_fastcall TForm1::Button2Click(TObject \*Sender)

{

int Sx = StrToInt(Edit3->Text);

int Sy = StrToInt(Edit4->Text);

int x = Image1->Height;

int y = Image1->Width;

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

{

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

{

int a = i \* Sx;

int b = j \* Sy;

Image2->Canvas->Pixels[a][b] = Image1->Canvas->Pixels[i][j];

}

}

}

//---------------------------------------------------------------------------

void \_\_fastcall TForm1::Button3Click(TObject \*Sender)

{

int theta =StrToInt(Edit5->Text);

int x = Image1->Height;

int y = Image1->Width;

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

{

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

{

int a = i\*cos(theta)-j\*sin(theta);

int b = j\*cos(theta)+i\*sin(theta);

Image2->Canvas->Pixels[a][b] = Image1->Canvas->Pixels[i][j];

}

}

}

//---------------------------------------------------------------------------

Output screens :

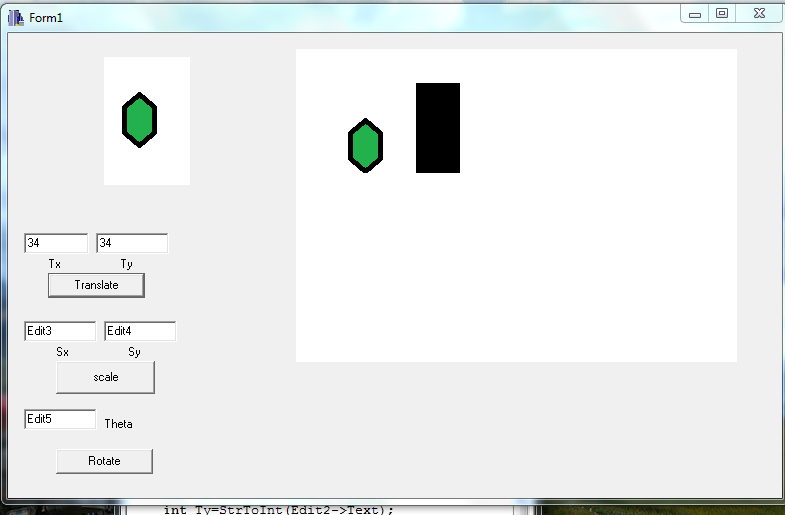


Fig : translation

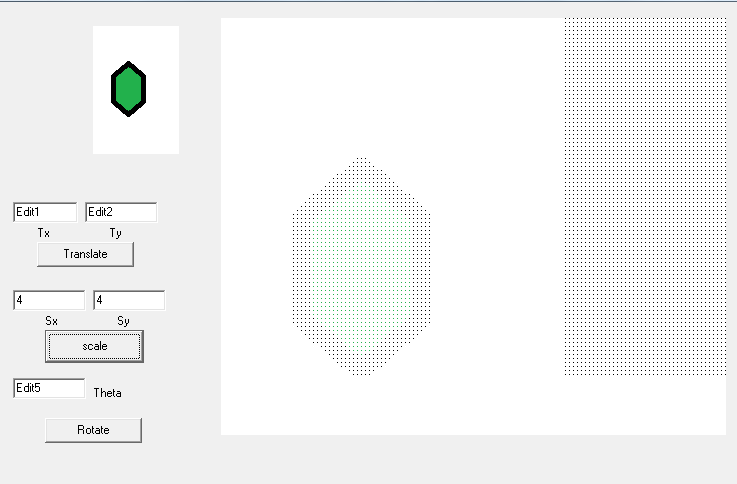


Fig :scaling

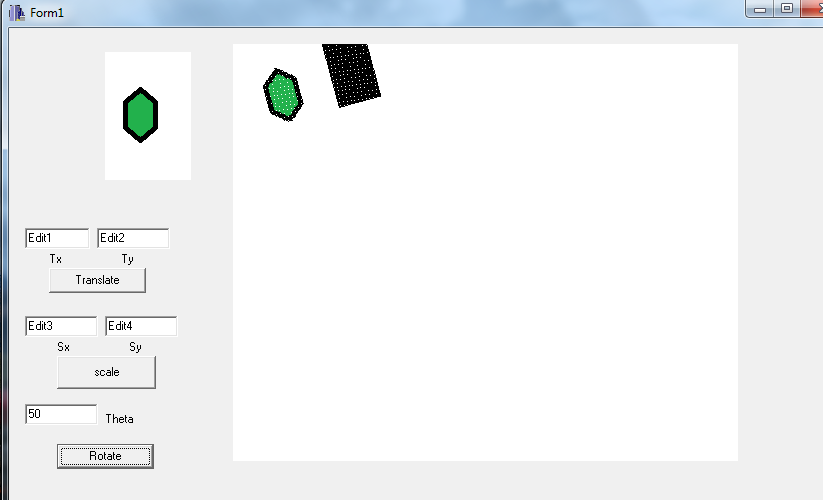


Fig : roatation