ST. XAVIER’S COLLEGE

**Maitighar, Kathmandu**

**(Affiliated to Tribhuvan University)**



**Computer Graphics**

**Lab Assignment #9**

**SHEAR AN IMAGE ON X-AXIS AND Y-AXIS IN C++ BUILDER**

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**STATEMENT**

**SHEAR AN IMAGE ON X-AXIS AND Y-AXIS IN C++ BUILDER**

**ALGORITHM**

**For Reflection**

1. Get the width and height of the source image
2. Get parameters for shearing (shx and shy)
3. For each point i in width

For each point j in height

The translated point (x’, y’) is given by

x' = i + j\*shy;

y’ = j + i\*shx;

Plot the points (x’, y’) with the same color as source in destination

1. Stop

**SOURCE CODE**

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

#include <vcl\vcl.h>

#pragma hdrstop

#include "Unit1.h"

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

#pragma resource "\*.dfm"

TForm1 \*Form1;

int x, y;

/\*By aalooksth@inbox.com\*/

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

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

: TForm(Owner)

{

}

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

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

{

x = Image1->Width;

y = Image1->Height;

int shx=StrToInt(Edit1->Text);

int shy=StrToInt(Edit2->Text);

int a, b;

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

{

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

{

a=i+j\*shx;

b=j+i\*shy;

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

}

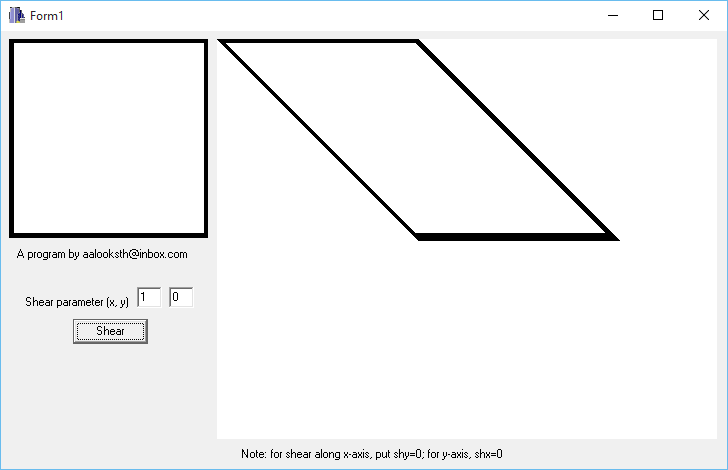
}

}

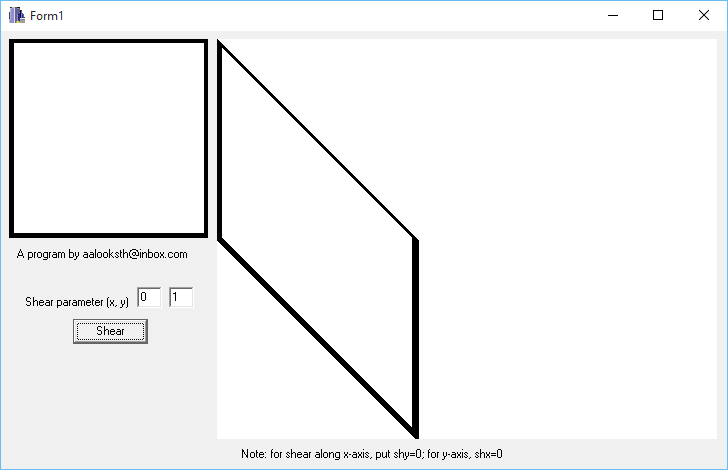
//---------------------------------------------------------------------------

**OUTPUT/s**

**Shear along x-axis (shy=0)**



**Shear on y-axis (shx=0)**



**CONCLUSION**

Hence, the shearing of the image were performed in x-axis and y-axis in C++builder.