**ST. XAVIER’S COLLEGE**

**(Affiliated to Tribhuvan University)**

Maitighar, Kathmandu



**COMPUTER GRAPHICS**

**LAB ASSIGNMENT #08**

**Submitted by:**

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**Submitted to:**

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# STATEMENT: Write a program to reflect image in X-axis and Y-axis

# SOURCE CODE:

#include <vcl\vcl.h>

#pragma hdrstop

#include "refl.h"

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

#pragma resource "\*.dfm"

TForm1 \*Form1;

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

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

: TForm(Owner)

{

}

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

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

{

int h,w,i,j,a,b,c,d;

int mx,my;

h=outPanel->Height;

w=outPanel->Width;

mx=w/2;

my=h/2;

for(i=0;i<=w;i++){

for(j=0;j<=h;j++){

a = -(i-mx)+mx;

b = j;

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

}

}

//Drawing Y axis

outPanel->Canvas->MoveTo((outPanel->Width)/2,0);

outPanel->Canvas->LineTo((outPanel->Width)/2,outPanel->Height);

//Drawing X axis

outPanel->Canvas->MoveTo(0,outPanel->Height/2);

outPanel->Canvas->LineTo(outPanel->Width,outPanel->Height/2);

}

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

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

{

int h,w,i,j,a,b,c,d;

int mx,my;

h=outPanel->Height;

w=outPanel->Width;

mx=w/2;

my=h/2;

for(i=0;i<=w;i++){

for(j=0;j<=h;j++){

a = i;

b = -(j-my)+my;

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

}

}

//Drawing Y axis

outPanel->Canvas->MoveTo((outPanel->Width)/2,0);

outPanel->Canvas->LineTo((outPanel->Width)/2,outPanel->Height);

//Drawing X axis

outPanel->Canvas->MoveTo(0,outPanel->Height/2);

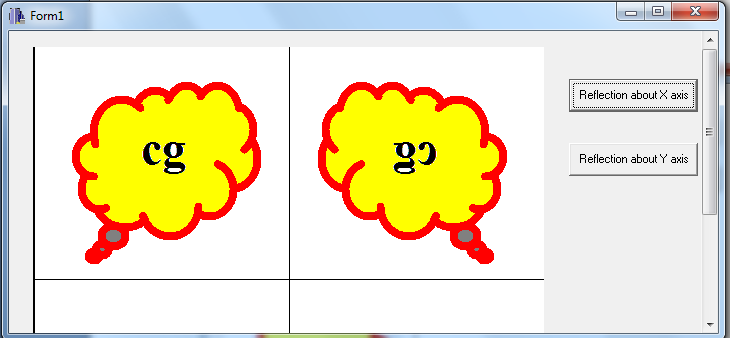
outPanel->Canvas->LineTo(outPanel->Width,outPanel->Height/2);

}

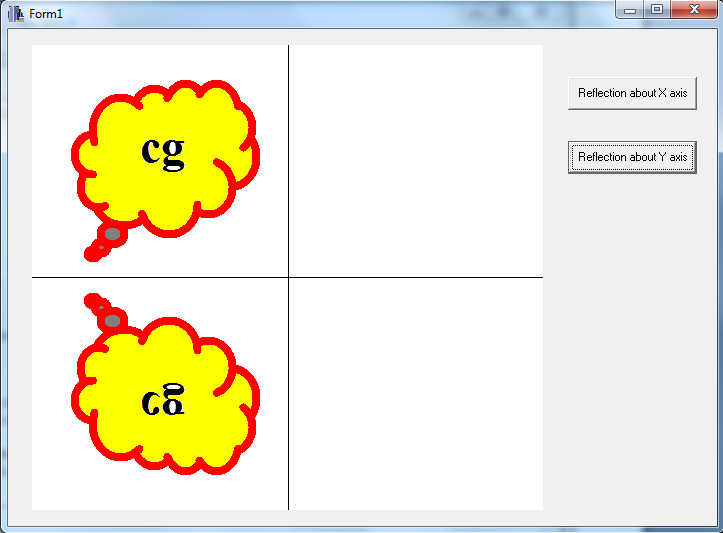
//---------------------------------------------------------------------------

**OUTPUT:**

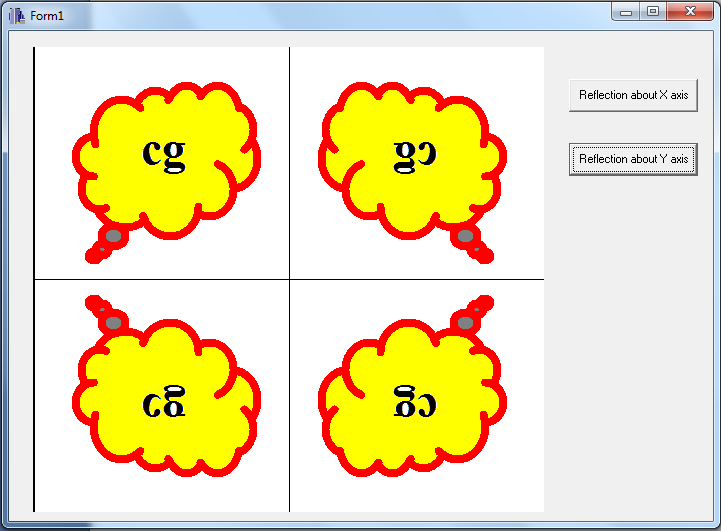
1. **Reflection Along X-axis:**

****

1. **Reflection Along Y-axis:**

****

1. **Both:**

****

# CONCLUSION:

Hence, the given image was reflected along X-axis and Y-axis using C++ builder.