**ST.XAVIER’S COLLEGE**

MAITIGHAR, KATHMANDU

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**Computer Graphics**

Assignment #8

Submitted By:

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Submitted to:

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**Statement:**

**PERFORM TRANSFORMATION IN THE IMAGE BY REFLECTION.**

1. **REFLECTION:**

**Algorithm:**

1. Get the width and height of the source image
2. Get parameter for reflection axis (1 for x-axis, 2 for y-axis)
3. For each point i in width

For each point j in height

If parameter==1

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

x' = i

y’ = - j

If parameter==2

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

x' = - i

y’ = j

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

1. Stop

**Source Code:**

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

#include <vcl\vcl.h>

#pragma hdrstop

#include "work.h"

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

#pragma resource "\*.dfm"

TForm1 \*Form1;

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

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

: TForm(Owner)

{

}

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

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

{

int x, y, xout,i,j, yout;

x=Input->Height;

y=Input->Width;

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

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

Output->Canvas->Pixels[i][x-j]=Input->Canvas->Pixels[i][j];

}

}

}

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

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

{

int x, y, i,j;

x=Input->Height;

y=Input->Width;

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

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

OutputY->Canvas->Pixels[y-i][j]=Input->Canvas->Pixels[i][j];

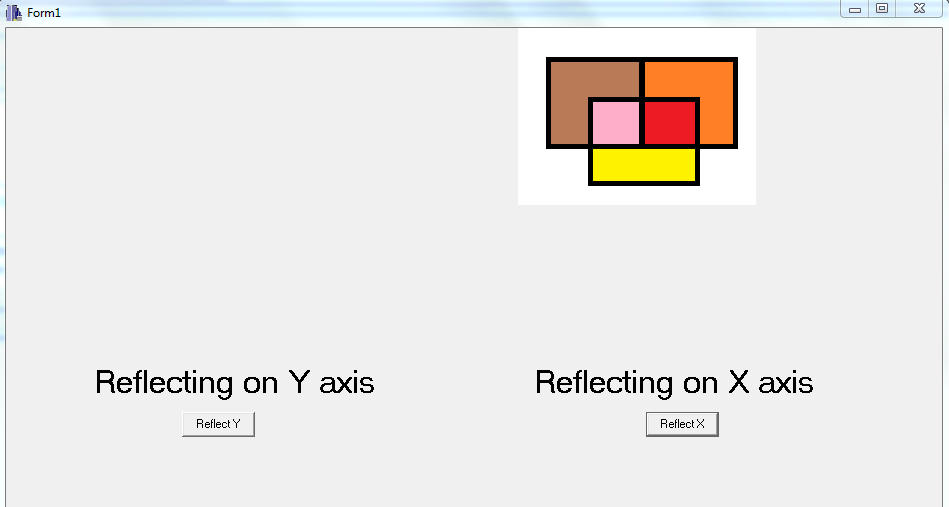
}

}

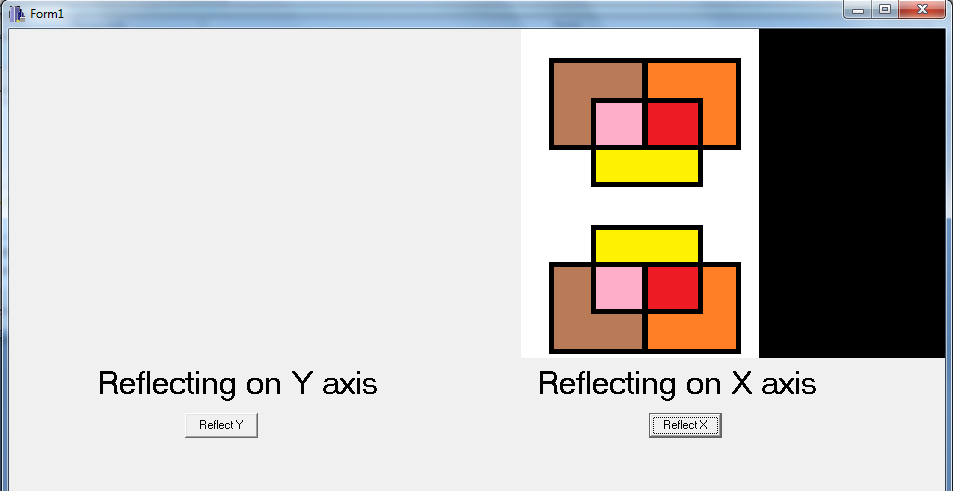
}

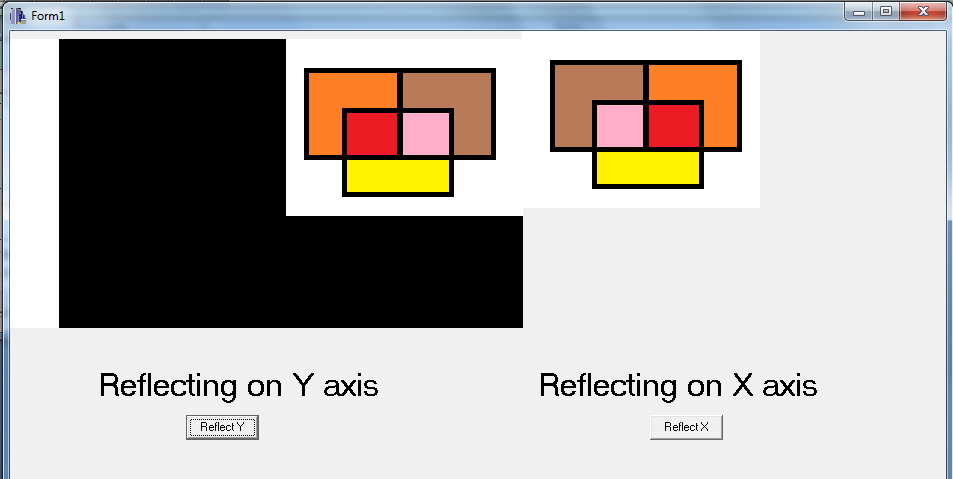
//---------------------------------------------------------------------------

**Output:**

**

Object

**** Reflected along X axis



Reflecting on Y axis

**Conclusion:**

Hence, reflection of object was performed using C++ Builder.