**ST. XAVIER’S COLLEGE**

**(Affiliated to Tribhuvan University)**

**Maitighar, Kathmandu**

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**COMPUTER GRAPHICS**

**LAB ASSIGNMENT#6**

**Submitted by:**

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**Submitted to:**

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SOURCE CODE:

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

#include <vcl\vcl.h>

#pragma hdrstop

#include "Unit1.h"

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

#pragma resource "\*.dfm"

TForm1 \*Form1;

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

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

: TForm(Owner)

{

}

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

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

{

int xc,yc,rx,ry;

xc = StrToInt(Edit1->Text);

yc = StrToInt(Edit2->Text);

rx = StrToInt(Edit3->Text);

ry = StrToInt(Edit4->Text);

int x, y, p;

x=0;

y=ry;

p=(ry\*ry)-(rx\*rx\*ry)+((rx\*rx)/4);

while((2\*x\*ry\*ry)<(2\*y\*rx\*rx))

{

Image1->Canvas->Pixels[xc+x][yc-y]=RGB(255,0,0);

Image1->Canvas->Pixels[xc-x][yc+y]=RGB(0,255,0);

Image1->Canvas->Pixels[xc+x][yc+y]=RGB(0,0,255);

Image1->Canvas->Pixels[xc-x][yc-y]=RGB(2055,155,0);

if(p<0)

{

x=x+1;

p+=(2\*ry\*ry\*x)+(ry\*ry);

}

else

{

x=x+1;

y=y-1;

p+=(2\*ry\*ry\*x+ry\*ry)-(2\*rx\*rx\*y);

}

}

p=((float)x+0.5)\*((float)x+0.5)\*ry\*ry+(y-1)\*(y-1)\*rx\*rx-rx\*rx\*ry\*ry;

while(y>=0)

{

Image1->Canvas->Pixels[xc+x][yc-y]=RGB(255,120,255);

Image1->Canvas->Pixels[xc-x][yc+y]=RGB(100,255,130);

Image1->Canvas->Pixels[xc+x][yc+y]=RGB(110,155,255);

Image1->Canvas->Pixels[xc-x][yc-y]=RGB(123,145,185);

if(p>0)

{

y=y-1;

p-=(2\*rx\*rx\*y)+(rx\*rx);

}

else

{

y=y-1;

x=x+1;

p+=(2\*ry\*ry\*x)-(2\*rx\*rx\*y)-(rx\*rx);

}

}

}

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

OUTPUT:

