Daffodil International University

Project Report

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Project Title: "Design a logo with OpenGL tools"
Group Number: 2.
Course Code: CSE 422.
Course Title: Computer Graphics Lab.
Section: E.
Department of Computer Science and Engineering.

Logo of Super Human

In this project, we have made the logo of super human using OpenGL tools. We made three logos. They are:

(1) Logo of Thor

(2) Logo of Batman

(3) Logo of Superman

The code and output figure of each logo are given below:

Code of Thor Logo

```
#include<stdio.h>

#include<GL/gl.h>

#include<GL/glut.h>


void display(void)

{

   glClear(GL_COLOR_BUFFER_BIT);


   //1

   glBegin(GL_POLYGON);

   glColor3f(0.0, 0.0, 0.0);

   glVertex2f(290.0,340.0);

   glVertex2f(790.0,340.0);

   glVertex2f(790.0,580.0);

   glVertex2f(290.0,580.0);

   glEnd();
```

```
glFlush ();

//2
glBegin(GL_POLYGON);
glColor3f(0.0, 0.0, 0.0);
glVertex2f(456.0,580.0);
glVertex2f(623.0,580.0);
glVertex2f(593.0,630.0);
glVertex2f(486.0,630.0);
glEnd();
glFlush ();

//3
glBegin(GL_POLYGON);
glColor3f(0.0, 0.0, 0.0);
glVertex2f(250.0,370.0);
glVertex2f(280.0,345.0);
glVertex2f(280.0,575.0);
glVertex2f(250.0,550.0);
glEnd();
glFlush ();

//4
glBegin(GL_POLYGON);
glColor3f(0.0, 0.0, 0.0);
glVertex2f(800.0,345.0);
glVertex2f(830.0,370.0);
```

```
glVertex2f(830.0,550.0);
glVertex2f(800.0,575.0);
glEnd();
glFlush ();

//5
glBegin(GL_POLYGON);
glColor3f(0.0, 0.0, 0.0);
glVertex2f(510.0,340.0);
glVertex2f(510.0,330.0);
glVertex2f(570.0,310.0);
glVertex2f(570.0,340.0);
glEnd();
glFlush ();

//6
glBegin(GL_POLYGON);
glColor3f(0.0, 0.0, 0.0);
glVertex2f(510.0,320.0);
glVertex2f(510.0,290.0);
glVertex2f(570.0,270.0);
glVertex2f(570.0,300.0);
glEnd();
glFlush ();

//7
glBegin(GL_POLYGON);
```

```
glColor3f(0.0, 0.0, 0.0);
glVertex2f(510.0,280.0);
glVertex2f(510.0,250.0);
glVertex2f(570.0,230.0);
glVertex2f(570.0,260.0);
glEnd();
glFlush ();

//8
glBegin(GL_POLYGON);
glColor3f(0.0, 0.0, 0.0);
glVertex2f(510.0,240.0);
glVertex2f(510.0,210.0);
glVertex2f(570.0,190.0);
glVertex2f(570.0,220.0);
glEnd();
glFlush ();

//9
glBegin(GL_POLYGON);
glColor3f(0.0, 0.0, 0.0);
glVertex2f(510.0,200.0);
glVertex2f(510.0,170.0);
glVertex2f(570.0,150.0);
glVertex2f(570.0,180.0);
glEnd();
glFlush ();
```

```
    //10
    glBegin(GL_POLYGON);
    glColor3f(0.0, 0.0, 0.0);
    glVertex2f(510.0,160.0);
    glVertex2f(510.0,130.0);
    glVertex2f(570.0,110.0);
    glVertex2f(570.0,140.0);
    glEnd();
    glFlush ();

    //11
    glBegin(GL_POLYGON);
    glColor3f(0.0, 0.0, 0.0);
    glVertex2f(510.0,120.0);
    glVertex2f(510.0,90.0);
    glVertex2f(570.0,90.0);
    glVertex2f(570.0,100.0);
    glEnd();
    glFlush ();
}

void init (void)
{
    glClearColor(0.0,0.5,0.5,0.0);
    glMatrixMode(GL_PROJECTION);
    glLoadIdentity();
```

```
    gluOrtho2D(0.0,1100.0,0.0,700.0);
}

int main(int argc, char** argv)
{
    glutInit(&argc, argv);
    glutInitDisplayMode(GLUT_SINGLE | GLUT_RGB);
    glutInitWindowSize(1100, 700);
    glutInitWindowPosition(250, 0);
    glutCreateWindow("Thor Logo");
    glutDisplayFunc(display);
    init();
    glutMainLoop();
    return 0;
}
```

Output Figure of Thor Logo

Code of Batman Logo

```
#include<stdio.h>

#include<GL/gl.h>

#include<GL/glut.h>

#include<cmath>

using namespace std;


int m=0;


void draw_line(int x, int y, int sizes, int num)
```

```
{
   for(int a=x, b=y, c=0; c<num; c++, a+=sizes)
   {
      glBegin(GL_POLYGON);
      glVertex2i(a,b);
      glVertex2i(a+sizes,b);
      glVertex2i(a+sizes,b+sizes);
      glVertex2i(a,b+sizes);
      glEnd();
   }
}

void vertical_line(int x, int y, int sizes, int num)
{
   for(int a=x, b=y, c=0; c<num; c++, b+=sizes)
   {
      glBegin(GL_POLYGON);
      glVertex2i(a,b);
      glVertex2i(a+sizes,b);
      glVertex2i(a+sizes,b+sizes);
      glVertex2i(a,b+sizes);
      glEnd();
   }
}

void temp(void)
{
```

```
glClear(GL_COLOR_BUFFER_BIT);
glPointSize(5);

int sizes=25, blocks=17;
int x=9*sizes, y=3*sizes;

glColor3ub(0, 0, 0);
draw_line(x, y, sizes, blocks);

x=9*sizes, y=4*sizes;
//blocks;

for(int a=0; a<=5; a++)
{
   glColor3ub(250, 250, 0);
   draw_line(x, y, sizes, blocks);

   glColor3ub(0, 0, 0);
   draw_line(x-sizes, y, sizes, 1);

   draw_line(x+(blocks*sizes), y, sizes, 1);

   x = x-sizes;
   y = y+sizes;
   blocks+=2;
}
```

```
x=3*sizes, y=10*sizes;

for(int a=0; a<7; a++)
{
   glColor3ub(250, 250, 0);
   draw_line(x, y, sizes, 29);

   glColor3ub(0, 0, 0);
   draw_line(x-sizes, y, sizes, 1);

   glColor3ub(0, 0, 0);
   draw_line(x+(29*sizes), y, sizes, 1);

   y+=sizes;
}

x=4*sizes, y=17*sizes, blocks=27;

for(int a=0; a<=5; a++)
{
   glColor3ub(250, 250, 0);
   draw_line(x, y, sizes, blocks);

   glColor3ub(0, 0, 0);
   draw_line(x-sizes, y, sizes, 1);

   draw_line(x+(blocks*sizes), y, sizes, 1);
```

```
    y+=sizes;
    x+=sizes;
    blocks-=2;
}

x=9*sizes;

glColor3ub(0, 0, 0);
draw_line(x, y, sizes, blocks+2);

x=4*sizes, y=11*sizes;
blocks=5;

for(int a=0; a<6; a++)
{
    vertical_line(x, y, sizes, blocks);
    x+=sizes;
    y-=sizes;
    blocks+=2;
}

blocks-=2;
y+=sizes;
vertical_line(x, y, sizes, blocks);

y-=sizes;
```

```
x+=sizes;

blocks=12;
vertical_line(x, y, sizes, blocks);

y=20*sizes;
vertical_line(x, y, sizes, 1);
x+=sizes;
y=7*sizes;
blocks=9;

for(int a=0; a<2; a++)
{
   vertical_line(x, y, sizes, blocks);
   x+=sizes;
   y+=sizes;
   blocks--;
}


blocks++;
vertical_line(x, y, sizes, blocks);

x+=sizes;
y-=sizes;
blocks=14;
vertical_line(x, y, sizes, blocks);
```

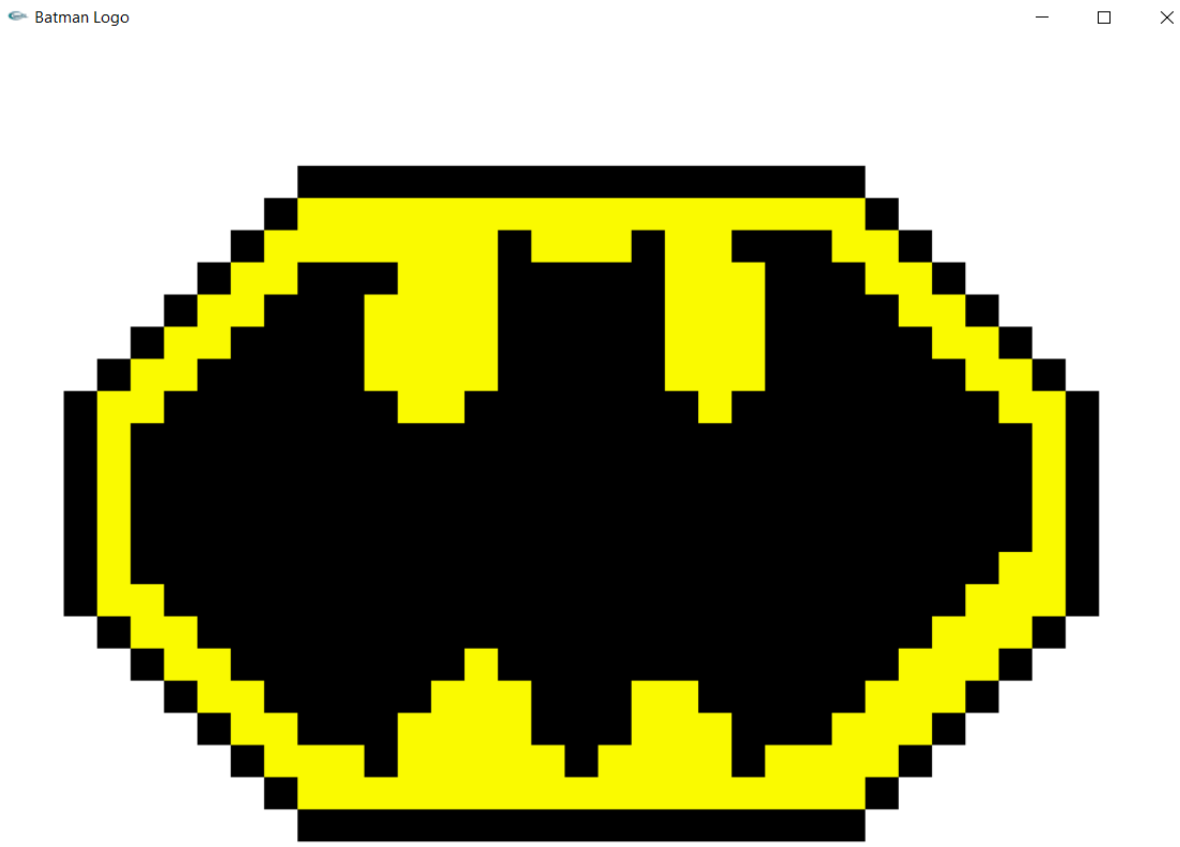
```
x+=sizes;
y-=(2*sizes);
blocks=15;
vertical_line(x, y, sizes, blocks);

x+=sizes;
y-=(sizes);
blocks=16;
vertical_line(x, y, sizes, blocks);

x+=sizes;
y+=(sizes);
blocks=15;
vertical_line(x, y, sizes, blocks);

x+=sizes;
y+=(2*sizes);
blocks=14;
vertical_line(x, y, sizes, blocks);

y=6*sizes;
x=24*sizes;
blocks=16;

for (int a=0; a<=6; a++)
{
```

```
    vertical_line(x, y, sizes, blocks);
    x+=sizes;
    y+=sizes;
    blocks-=2;
}

y=6*sizes;
x=23*sizes;
blocks=16;
vertical_line(x, y, sizes, blocks);

y=5*sizes;
x=22*sizes;
blocks=12;
vertical_line(x, y, sizes, blocks);

y=21*sizes;
vertical_line(x, y, sizes, 1);

x-=sizes;
y-=(14*sizes);
vertical_line(x, y, sizes, 9);

x-=sizes;
y+=sizes;
vertical_line(x, y, sizes, 9);
glFlush();
```

```
}

void display(void)
{
   glClear(GL_COLOR_BUFFER_BIT);
   glPointSize(5.0);
   glFlush ();
}

void init (void)
{
   glClearColor(1.0, 1.0, 1.0, 0.0);
   glMatrixMode(GL_MODELVIEW);
   glLoadIdentity();
   gluOrtho2D(0.0,900.0,0.0,700.0);
}

int main(int argc, char** argv)
{
   glutInit(&argc, argv);
   glutInitDisplayMode(GLUT_SINGLE | GLUT_RGB);
   glutInitWindowSize(900, 700);
   glutInitWindowPosition(250, 150);
   glutCreateWindow("Batman Logo");
   glutDisplayFunc(display);
   glutDisplayFunc(temp);
   init();
```

```
    glutMainLoop();
    return 0;
}
```

Output Figure of Batman Logo



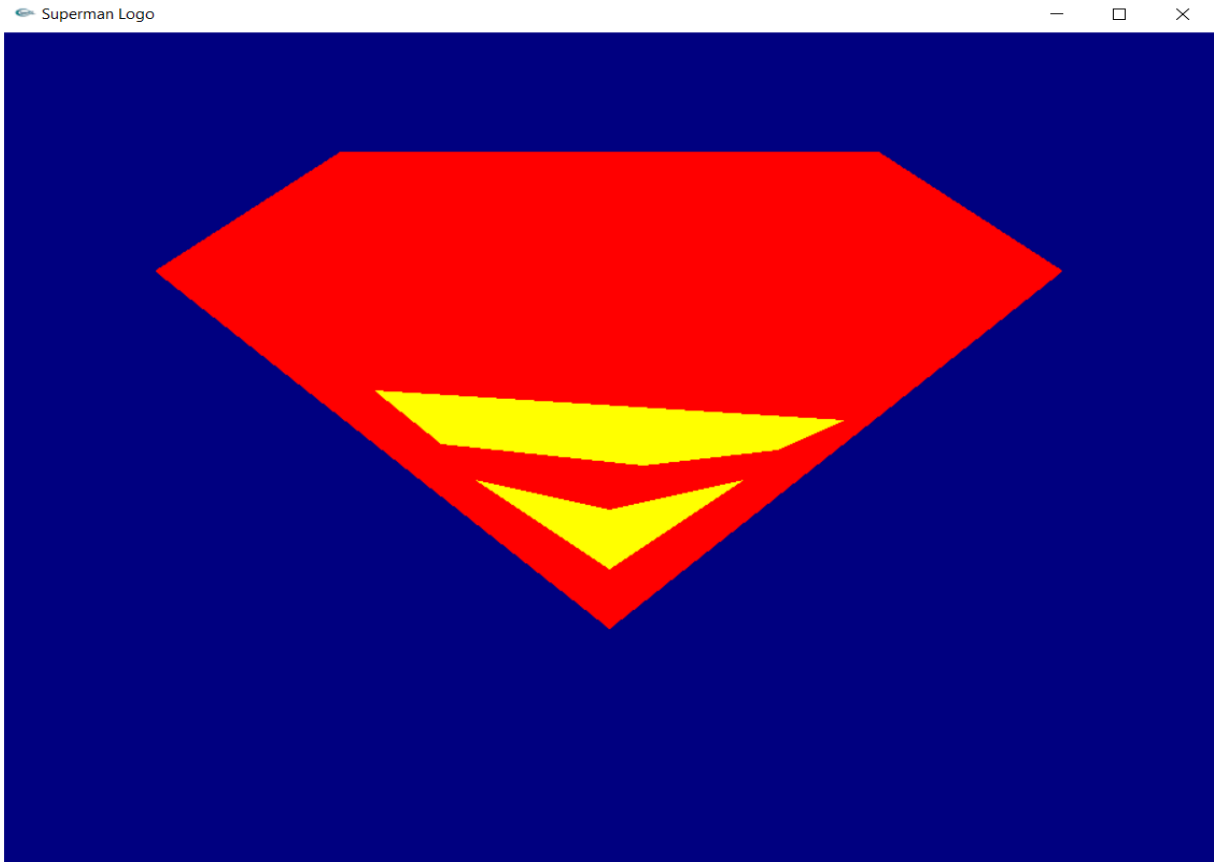
Code of Superman Logo

```
#include<stdio.h>
#include<GL/gl.h>
#include<GL/glut.h>

void display(void)
{
   glClear(GL_COLOR_BUFFER_BIT);
   glPointSize(4);

   //To design red part of logo
   glBegin(GL_POLYGON);
   glColor3f(1, 0, 0);
   glVertex2i(450, 200);
   glVertex2i(112.5, 500);
   glVertex2i(250, 600);
   glVertex2i(650, 600);
   glVertex2i(787.5, 500);
   glEnd();

   //To design yellow part of logo
   glBegin(GL_POLYGON);
   glColor3f(1, 1, 0);
   glVertex2i(450, 250);
   glVertex2i(350, 325);
   glVertex2i(450, 300);
```

```
    glVertex2i(550, 325);
    glEnd();

     //To design yellow part of logo
    glBegin(GL_POLYGON);
    glColor3f(1, 1, 0);
    glVertex2i(325, 355);
    glVertex2i(275, 400);
    glVertex2i(625, 375);
    glVertex2i(575, 350);
    glVertex2i(475, 337.5);
    glVertex2i(420, 375);
    glEnd();

    glFlush ();

}

void init (void)
{
    glClearColor(0.0,0.0,0.5,0.0);      //Dark Blue
    glColor3f(0,0,0);
    glPointSize(4);
    glMatrixMode(GL_PROJECTION);
    glLoadIdentity();
    gluOrtho2D(0.0,900.0,0.0,700.0);
}
```

```
int main(int argc, char** argv)
{
    glutInit(&argc, argv);
    glutInitDisplayMode(GLUT_SINGLE | GLUT_RGB);
    glutInitWindowSize(900, 700);
    glutInitWindowPosition(250, 0);
    glutCreateWindow("Superman Logo");
    glutDisplayFunc(display);
    init();
    glutMainLoop();
    return 0;
}
```

Output Figure of Superman Logo



END