



**Daffodil**  
*International*  
**University**

## LAB REPORT

Course Code: CSE422

Course Title: Computer Graphics Lab

Experiment No: 01

Experiment Name: Drawing a <sup>start</sup>triangle using  
two reverse triangles in  
OpenGL

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Title : Drawing a star using two reverse triangles in OpenGL.

Introduction: In this project, I have drawn a 2D star shape using OpenGL. The star is created by combining two reverse triangles one pointing upward and other downward. The program uses GLUT for window creation and rendering. The triangles are drawn in wireframe mode, giving the shape a neat star-like outline.

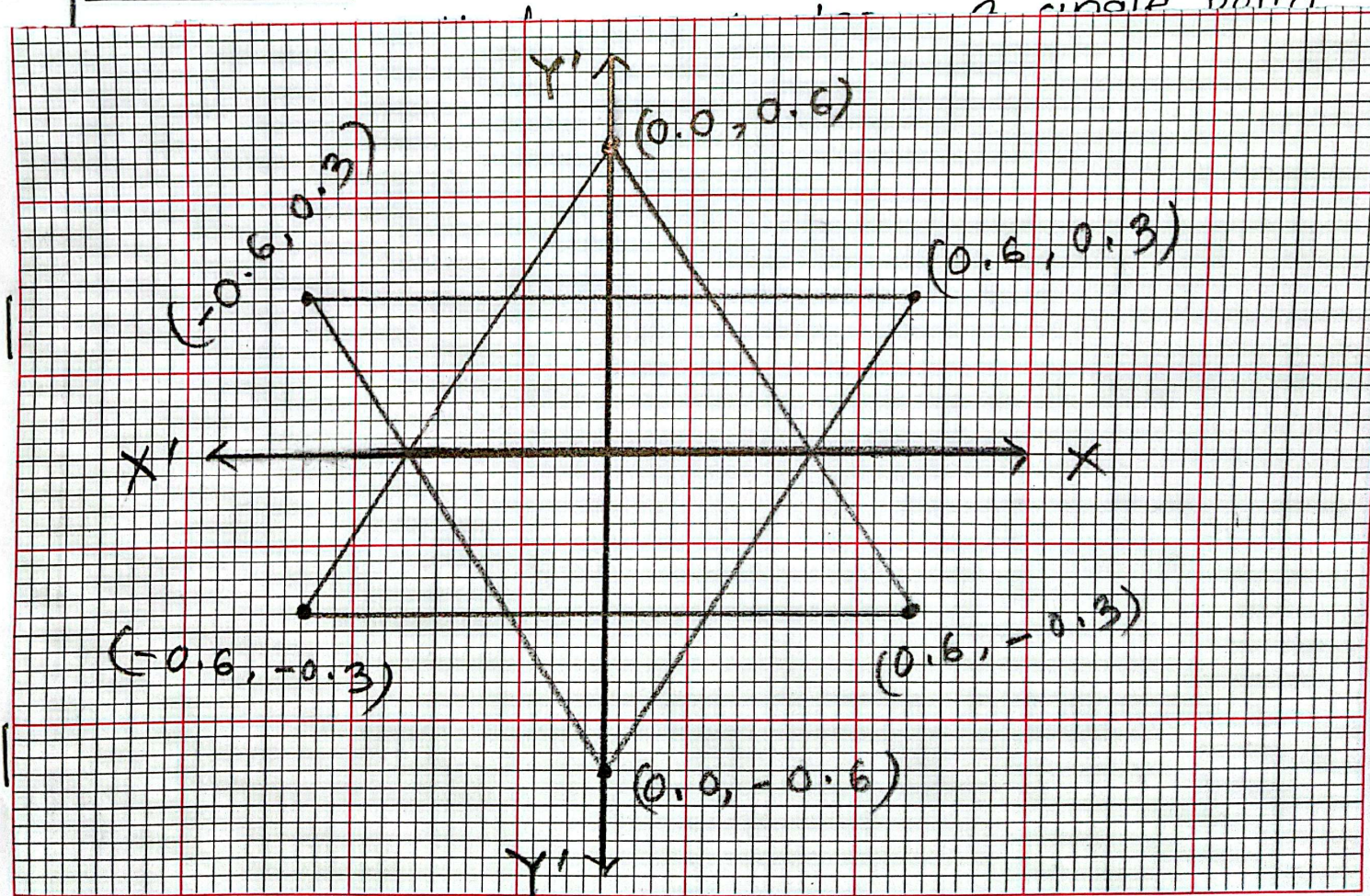
Contents : In this project, I used the following OpenGL functions and concepts:

- `glBegin(GL_TRIANGLES)`: Starts drawing triangles. Each set of three vertices form one triangle.
- `glVertex2f(x, y)`: Defines the  $(x, y)$  coordinates of each vertex.
- `glColor4f(r, g, b, a)`: Sets the color with red, green, blue, and alpha values.



- `glPolygonMode(GL_FRONT_AND_BACK, GL_LINE)`  
Draws only the edges of the triangles instead of filling them.
- Shape Used: One triangle faces upward, and the other downward. When combined, they form a six-pointed star shape.

Graph: In both X and Y axis,





Code:

```
void display() {  
    glClear(GL_COLOR_BUFFER_BIT);  
    glColor4f(0.5f, 0.5f, 0.5f, 0.5f);  
    glPolygonMode(GL_FRONT_AND_BACK,  
                  GL_LINE);  
  
    glBegin(GL_TRIANGLES);  
    glVertex2f(0.0f, 0.6f);  
    glVertex2f(-0.6f, -0.3f);  
    glVertex2f(0.6f, -0.3f);  
  
    glVertex2f(0.0f, -0.6f);  
    glVertex2f(-0.6f, 0.3f);  
    glVertex2f(0.6f, 0.3f);  
    glEnd();  
    glFlush();  
}
```

Discussion: In this task, I made a star shape using two opposite triangles in OpenGL. One triangle points up and the other down. I used `glPolygonMode` to show only the outlines and `glColor4f` to set a gray color. This project helped me learn how to use simple shapes to make a star and draw it using OpenGL.