

Lab Taks-3

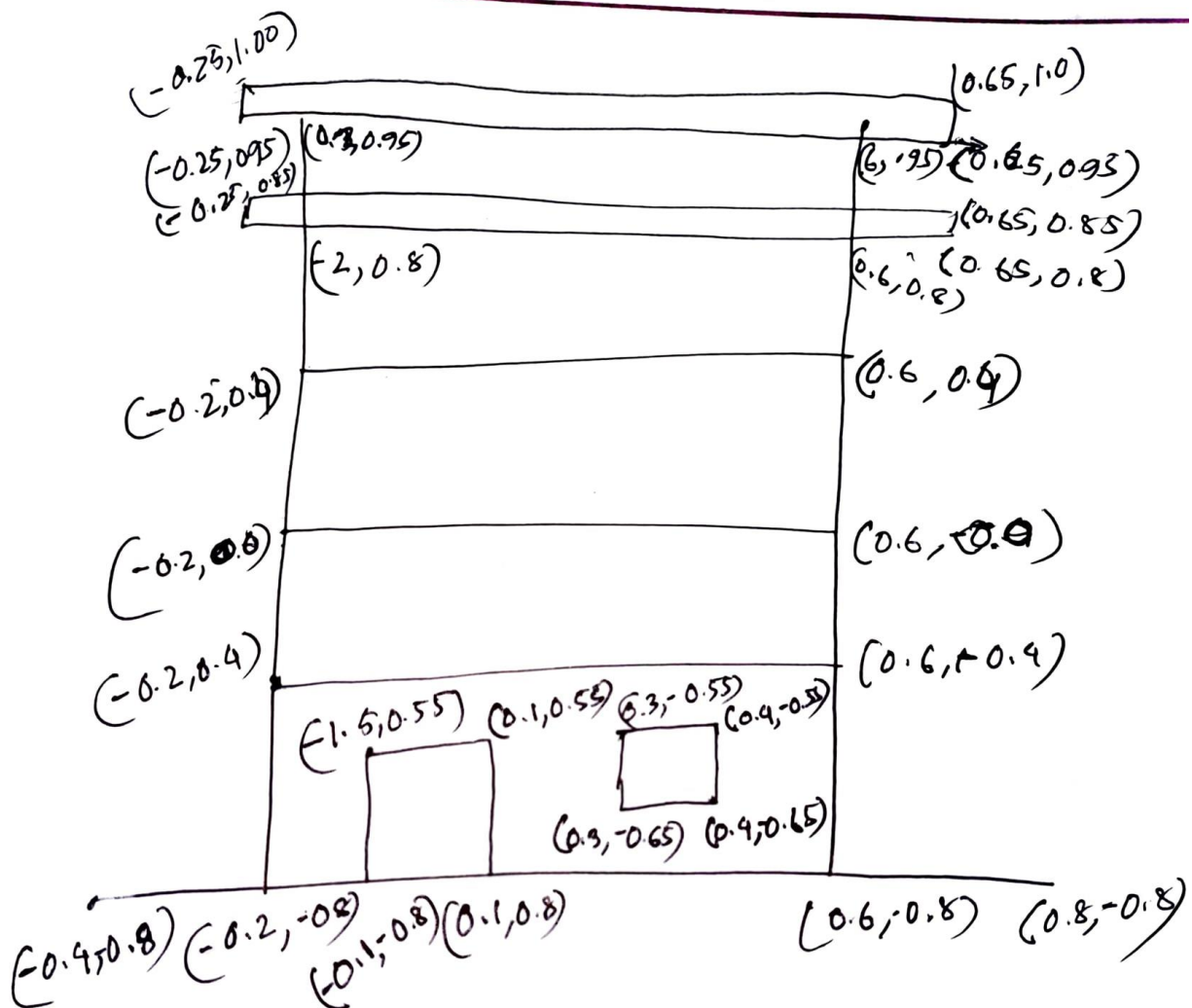
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Question- 1

Draw five storied building with windows and a front door

Graph Plot (Picture)-



Code-

```
#include <windows.h>
#include <GL/glut.h>

void display() {
    glClearColor(0.7f, 0.7f, 0.7f, 1.0f);
    glClear(GL_COLOR_BUFFER_BIT);
    glLineWidth(7.5);

    glBegin(GL_LINES);
    glColor3f(0.0f, 0.0f, 0.0f);

    glVertex2f(-0.4f, -0.8f);
    glVertex2f(-0.2f, -0.8f);
    glVertex2f(-0.2f, -0.8f);
    glVertex2f(0.6f, -0.8f);
    glVertex2f(0.6f, -0.8f);
    glVertex2f(0.8f, -0.8f);

    glVertex2f(0.6f, -0.8f);
    glVertex2f(0.6f, 1.0f);
    glVertex2f(0.6f, 1.0f);
    glVertex2f(-0.2f, 1.0f);
    glVertex2f(-0.2f, 1.0f);
    glVertex2f(-0.2f, -0.8f);

    glVertex2f(-0.2f, -0.4f);
    glVertex2f(0.6f, -0.4f);
    glVertex2f(-0.2f, 0.0f);
    glVertex2f(0.6f, 0.0f);
    glVertex2f(-0.2f, 0.4f);
    glVertex2f(0.6f, 0.4f);
    glVertex2f(-0.2f, 1.2f);
    glVertex2f(0.6f, 1.2f);

    glVertex2f(-0.1f, -0.8f);
    glVertex2f(0.1f, -0.8f);
    glVertex2f(0.1f, -0.8f);
    glVertex2f(0.1f, -0.55f);
    glVertex2f(0.1f, -0.55f);
    glVertex2f(-0.1f, -0.55f);
    glVertex2f(-0.1f, -0.55f);
```

```

    glVertex2f(-0.1f, -0.8f);
    glEnd();

    glBegin(GL_QUADS);
    glColor3f(0.2f, 0.2f, 0.2f);
    glVertex2f(-0.1f, -0.8f);
    glVertex2f(0.1f, -0.8f);
    glVertex2f(0.1f, -0.55f);
    glVertex2f(-0.1f, -0.55f);
    glVertex2f(-0.1f, -0.8f);
    glVertex2f(-0.1f, -0.8f);

    glColor3f(0.0f, 0.0f, 0.0f);
    glVertex2f(-0.25f, 0.85f);
    glVertex2f(-0.25f, 0.8f);
    glVertex2f(0.65f, 0.8f);
    glVertex2f(0.65f, 0.85f);

    glVertex2f(-0.25f, 1.0f);
    glVertex2f(-0.25f, 0.95f);
    glVertex2f(0.65f, 0.95f);
    glVertex2f(0.65f, 1.0f);

    glColor3f(0.5f, 0.3f, 0.1f);
    glVertex2f(0.3f, -0.65f);
    glVertex2f(0.4f, -0.65f);
    glVertex2f(0.4f, -0.55f);
    glVertex2f(0.3f, -0.55f);

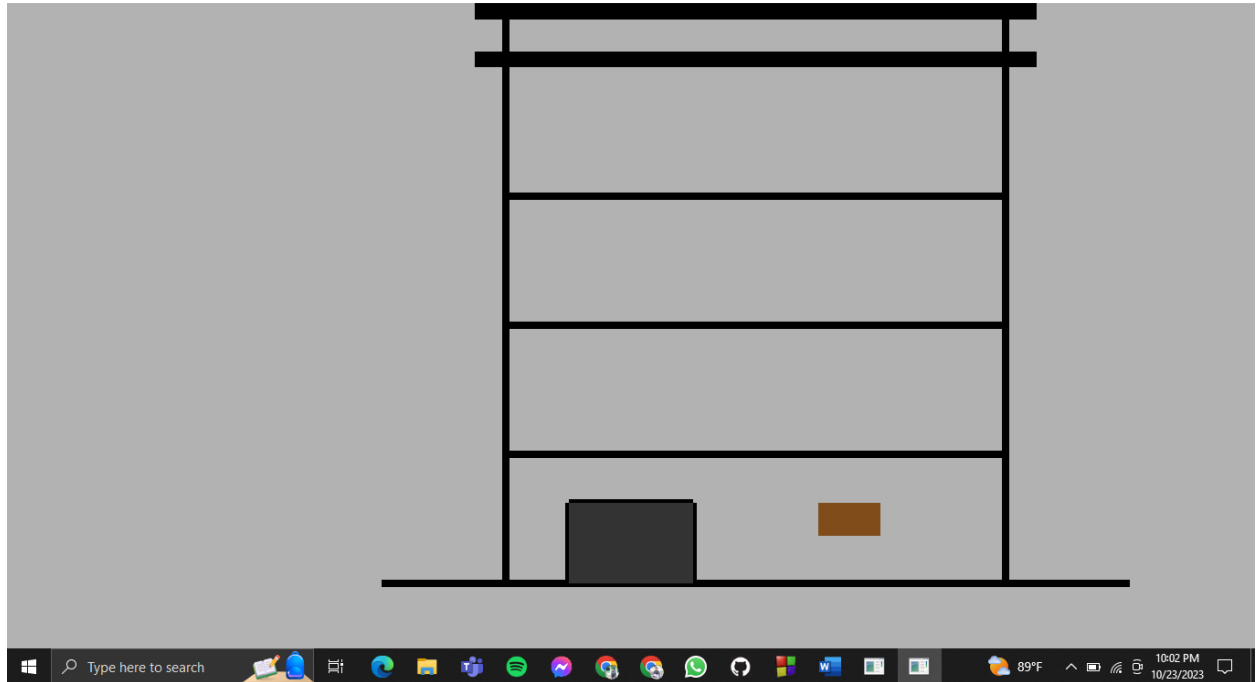
    glEnd();
    glFlush();
}

int main(int argc, char** argv) {
    glutInitWindowSize(1000, 800);
    glutInit(&argc, argv);
    glutCreateWindow("Five storied building with windows and a front door");
    glutDisplayFunc(display);
    glutMainLoop();
    return 0;
}

```

Output Screenshot (Full Screen)-

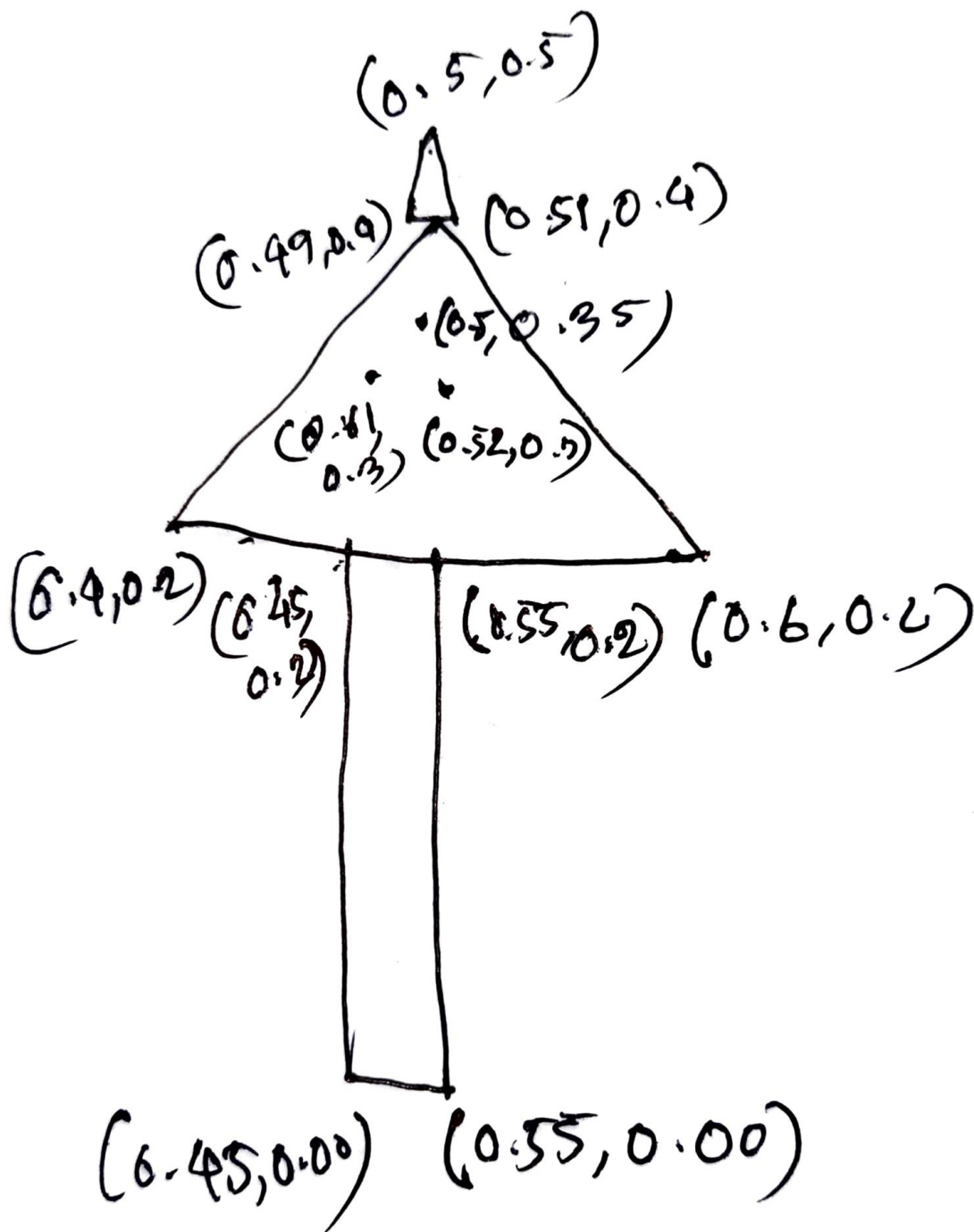
Five storied building with windows and a front door



Question- 2

Draw a tree

Graph Plot (Picture)-



Code-

```
#include<windows.h>
```

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

void display()
{
    glClearColor(0.0f, 0.0f, 0.0f, 1.0f);
    glClear(GL_COLOR_BUFFER_BIT);
    glLineWidth(7.5);

    glColor3f(0.4f, 0.2f, 0.0f);
    glBegin(GL_QUADS);
    glVertex2f(0.45f, 0.0f);
    glVertex2f(0.55f, 0.0f);
    glVertex2f(0.55f, 0.2f);
    glVertex2f(0.45f, 0.2f);
    glEnd();

    glColor3f(0.0f, 0.5f, 0.0f);
    glBegin(GL_TRIANGLES);
    glVertex2f(0.4f, 0.2f);
    glVertex2f(0.6f, 0.2f);
    glVertex2f(0.5f, 0.4f);
    glEnd();

    glColor3f(0.0f, 0.0f, 1.0f);
    glPointSize(5.0f);
    glBegin(GL_POINTS);
    glVertex2f(0.48f, 0.3f);
    glVertex2f(0.52f, 0.3f);
    glVertex2f(0.5f, 0.35f);
    glEnd();

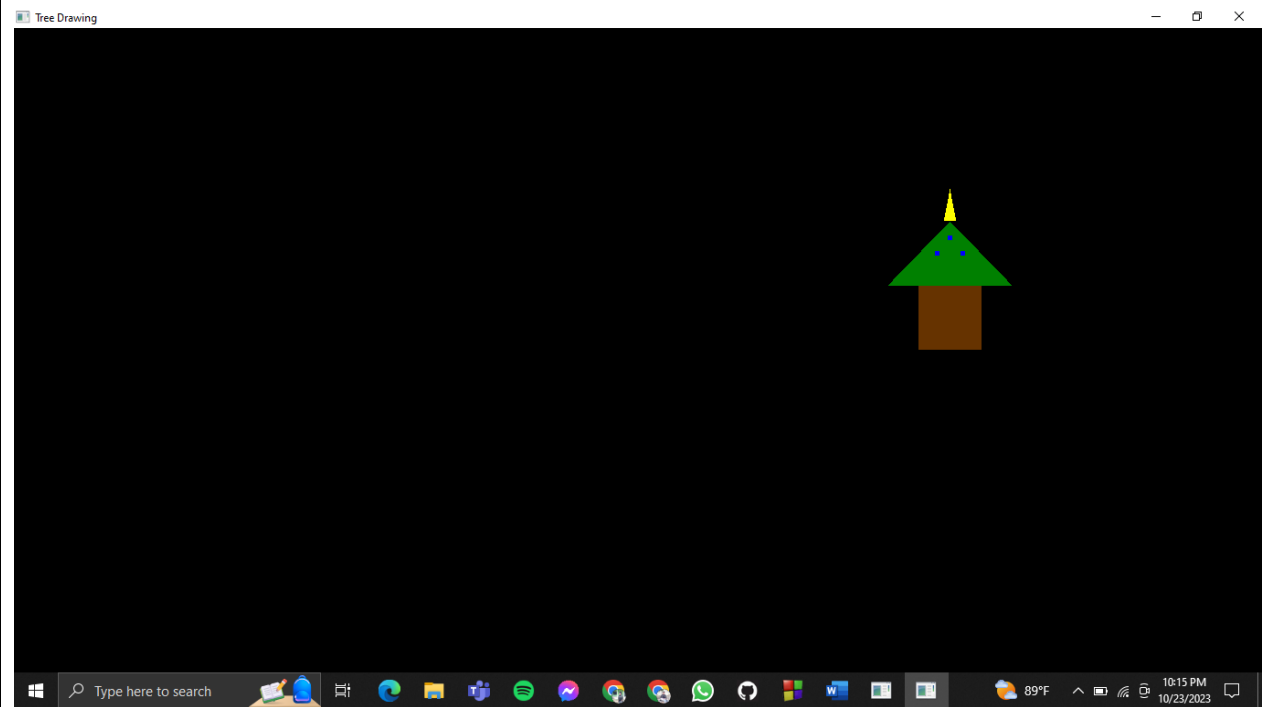
    glColor3f(1.0f, 1.0f, 0.0f);
    glBegin(GL_TRIANGLES);
    glVertex2f(0.49f, 0.4f);
    glVertex2f(0.5f, 0.5f);
    glVertex2f(0.51f, 0.4f);
    glEnd();

    glFlush();
}

int main(int argc, char** argv) {
    glutInitWindowSize(600, 600);
    glutInit(&argc, argv);
```

```
glutCreateWindow("Tree Drawing");  
glutDisplayFunc(display);  
glutMainLoop();  
return 0;  
}
```

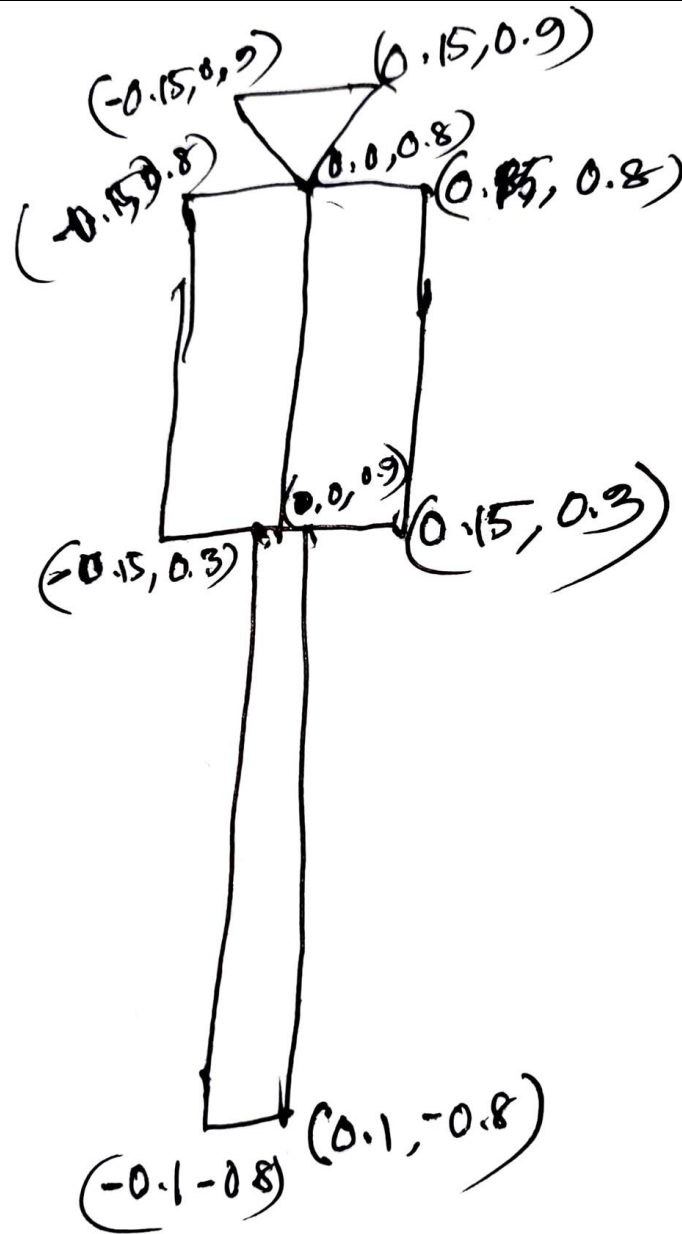
Output Screenshot (Full Screen)-



Question- 3

Draw a lamppost with black background

Graph Plot (Picture)-



Code-

```
#include<windows.h>
#include<GL/glut.h>
```

```
void display()
```



```
{
    glClearColor(0.0f, 0.0f, 0.0f, 1.0f);
    glClear(GL_COLOR_BUFFER_BIT);
    glLineWidth(5.0);

    glColor3f(0.3f, 0.15f, 0.0f);
    glBegin(GL_QUADS);
    glVertex2f(-0.05f, -0.8f);
    glVertex2f(0.05f, -0.8f);
    glVertex2f(0.05f, 0.3f);
    glVertex2f(-0.05f, 0.3f);
    glEnd();

    glColor3f(1.0f, 1.0f, 1.0f);
    glBegin(GL_QUADS);
    glVertex2f(0.15f, 0.3f);
    glVertex2f(0.15f, 0.8f);
    glVertex2f(-0.15f, 0.8f);
    glVertex2f(-0.15f, 0.3f);
    glEnd();

    glColor3f(1.0f, 1.0f, 0.0f);
    glBegin(GL_TRIANGLES);
    glVertex2f(0.0f, 0.8f);
    glVertex2f(0.15f, 0.9f);
    glVertex2f(-0.15f, 0.9f);
    glEnd();

    glColor3f(0.1f, 0.1f, 0.1f);
    glBegin(GL_LINES);
    // Lines for lamp head
    glVertex2f(0.0f, 0.8f);
    glVertex2f(0.15f, 0.9f);
    glVertex2f(0.0f, 0.8f);
    glVertex2f(-0.15f, 0.9f);

    // Lines for the lampshade
    glVertex2f(0.15f, 0.3f);
    glVertex2f(0.15f, 0.8f);
    glVertex2f(0.0f, 0.3f);
    glVertex2f(0.0f, 0.8f);
    glVertex2f(-0.15f, 0.3f);
    glVertex2f(-0.15f, 0.8f);
}
```

```
// Lines for the pole
glVertex2f(0.05f, 0.3f);
glVertex2f(0.05f, -0.8f);
glVertex2f(-0.05f, 0.3f);
glVertex2f(-0.05f, -0.8f);

glEnd();

glFlush();
}

int main(int argc, char** argv) {
    glutInitWindowSize(500, 800);
    glutInit(&argc, argv);
    glutCreateWindow("Lamp Post");
    glutDisplayFunc(display);
    glutMainLoop();
    return 0;
}
```

Output Screenshot (Full Screen)-

