Develop a program to create texture like checkerboard using texture mapping.

```
#include <GL/glut.h>
const int textureWidth = 64;
const int textureHeight = 64;
GLuint texture;
void generateCheckerboardTexture(unsigned char* data, int width, int height)
{
 int tileSize = 8;
 for (int y = 0; y < height; y++)
{
 for (int x = 0; x < width; x++)
{
 int c = ((x / tileSize) % 2 == (y / tileSize) % 2) ? 255 : 0;
 data[(y * width + x) * 3 + 0] = (unsigned char)c;
 data[(y * width + x) * 3 + 1] = (unsigned char)c;
 data[(y * width + x) * 3 + 2] = (unsigned char)c;
 }
 }
}
void init()
{
 unsigned char data[textureWidth * textureHeight * 3];
 generateCheckerboardTexture(data, textureWidth, textureHeight);
 glGenTextures(1, &texture);
 glBindTexture(GL_TEXTURE_2D, texture);
 glTexImage2D(GL_TEXTURE_2D, 0, GL_RGB, textureWidth, textureHeight,
0, GL_RGB, GL_UNSIGNED_BYTE, data);
 glTexParameteri(GL_TEXTURE_2D, GL_TEXTURE_MIN_FILTER,
```

```
GL_NEAREST);
 glTexParameteri(GL_TEXTURE_2D, GL_TEXTURE_MAG_FILTER,
GL_NEAREST);
 glEnable(GL_TEXTURE_2D);
}
void display()
{
 glClear(GL_COLOR_BUFFER_BIT);
 glBindTexture(GL_TEXTURE_2D, texture);
 glBegin(GL_QUADS);
 glTexCoord2f(0.0f, 0.0f); glVertex2f(-0.5f, -0.5f);
 glTexCoord2f(1.0f, 0.0f); glVertex2f(0.5f, -0.5f);
 glTexCoord2f(1.0f, 1.0f); glVertex2f(0.5f, 0.5f);
 glTexCoord2f(0.0f, 1.0f); glVertex2f(-0.5f, 0.5f);
 glEnd();
 glFlush();
}
int main(int argc, char** argv) {
 glutInit(&argc, argv);
 glutInitDisplayMode(GLUT_SINGLE | GLUT_RGB);
 glutInitWindowSize(500, 500);
 glutCreateWindow("Checkerboard Texture");
 init();
 glutDisplayFunc(display);
 glutMainLoop();
 return 0;
}
```