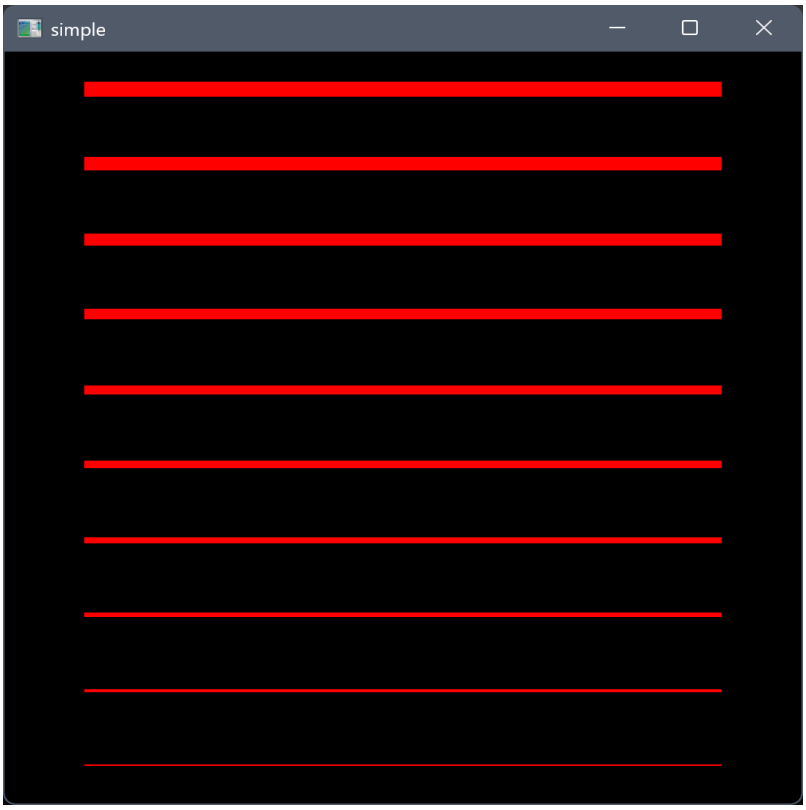
2025-04-19_CG_16_선그리기_02_넓어지는 연속 가로선

📁 예제 설명:

📝 목표 출력



📁 해결 코드

📝 핵심 코드

```
glGetFloatv(GL_LINE_WIDTH_RANGE, sizes);
curSize = sizes[0];
for (y = -90.0f; y <= 90.0f; y += 20.0f) {
    glLineWidth(curSize);
    glBegin(GL_LINES);
    glVertex2f(-80.0f, y);
    glVertex2f(80.0f, y);
    glEnd();
    curSize += 1.0f;
}
```

📝 전체 코드

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

#define GL_PI 3.1415f

void RenderScene(void) {

    GLfloat x, y;
    GLfloat sizes[2];
    GLfloat curSize = 0.0f;

    glClear(GL_COLOR_BUFFER_BIT);
    glColor3f(1.0f, 0.0f, 0.0f);
    glPushMatrix();

    glGetFloatv(GL_LINE_WIDTH_RANGE, sizes);
    curSize = sizes[0];

    for (y = -90.0f; y <= 90.0f; y += 20.0f) {
        glLineWidth(curSize);
        glBegin(GL_LINES);
        glVertex2f(-80.0f, y);
        glVertex2f(80.0f, y);
        glEnd();
        curSize += 1.0f;
    }

    glPopMatrix();

    glFlush();
}

void ChangeSize(GLsizei w, GLsizei h) {

    GLint wSize = 100.0f;
    GLfloat aspectRatio;

    if (h == 0) h = 1;

    glViewport(0, 0, w, h);

    glMatrixMode(GL_PROJECTION);
    glLoadIdentity();

    aspectRatio = (GLfloat)w / (GLfloat)h;
    if (aspectRatio >= 1.0f) {
        glOrtho(-wSize*aspectRatio, wSize*aspectRatio, -wSize, wSize, -wSize, wSize);
    }
```

```
    else {
        glOrtho(-wSize, wSize, -wSize/aspectRatio, wSize/aspectRatio, -wSize, wSize);
    }

    glMatrixMode(GL_MODELVIEW);
    glLoadIdentity();
}

void SetupRC(void) {
    glClearColor(0.0f, 0.0f, 0.0f, 1.0f);
}

int main(int argc, char** argv) {

    glutInit(&argc, argv);
    glutInitDisplayMode(GLUT_SINGLE ¦ GLUT_RGB);
    glutInitWindowSize(500, 500);
    glutInitWindowPosition(100, 100);

    glutCreateWindow("simple");

    SetupRC();

    glutDisplayFunc(RenderScene);
    glutReshapeFunc(ChangeSize);

    glutMainLoop();
}
```
