

```
1: // $Id: bonjour-monde.cpp,v 1.1 2016-05-04 14:14:49-07 - - $
2:
3: // Draw line from (0,0) to (1,1).
4:
5: #include <cmath>
6: #include <iostream>
7: #include <vector>
8: using namespace std;
9:
10: #include <GL/freeglut.h>
11: #include <libgen.h>
12:
13: struct {
14:     size_t width = 384;
15:     size_t height = 256;
16: } window;
17:
18: const GLubyte BLEU[] {0, 85, 164};
19: const GLubyte BLANC[] {255, 255, 255};
20: const GLubyte ROUGE[] {239, 65, 53};
21: vector<const GLubyte*> colors {BLEU, BLANC, ROUGE};
22:
23: void draw_french_flag() {
24:     for (size_t i = 0; i < 3; ++i) {
25:         glBegin (GL_POLYGON);
26:         glColor3ubv (colors[i]);
27:         glVertex2f (window.width * i / 3.0, 0);
28:         glVertex2f (window.width * (i + 1) / 3.0, 0);
29:         glVertex2f (window.width * (i + 1) / 3.0, window.height);
30:         glVertex2f (window.width * i / 3.0, window.height);
31:         glEnd();
32:     }
33: }
34:
35: void display() {
36:     glClearColor (0.0, 0.0, 0.0, 0.0);
37:     glClear (GL_COLOR_BUFFER_BIT);
38:     draw_french_flag();
39:     glutSwapBuffers();
40: }
41:
42: void reshape (int width, int height) {
43:     window.height = height;
44:     window.width = width;
45:     glutReshapeWindow (window.width, window.height);
46:     glMatrixMode (GL_PROJECTION);
47:     glLoadIdentity();
48:     gluOrtho2D (0, window.width, 0, window.height);
49:     glMatrixMode (GL_MODELVIEW);
50:     glViewport (0, 0, window.width, window.height);
51:     glutPostRedisplay();
52: }
53:
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54:
55: int main (int argc, char** argv) {
56:     glutInit (&argc, argv);
57:     glutInitWindowSize (window.width, window.height);
58:     glutInitWindowPosition (128, 128);
59:     glutCreateWindow (basename (argv[0]));
60:     glutDisplayFunc (display);
61:     glutReshapeFunc (reshape);
62:     glutMainLoop();
63:     return 0;
64: }
65:
```