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

void init(void) {
   glClearColor(1.0, 1.0, 1.0, 0.0);
   glMatrixMode(GL_PROJECTION);
   glLoadIdentity();
   gluOrtho2D(0.0, 100.0, 0.0, 100.0);
}

void circle(GLfloat rx, GLfloat ry, GLfloat cx, GLfloat cy) {
   glBegin(GL_TRIANGLE_FAN);
   glVertex2f(cx, cy);
   for (int i = 0; i <= 100; i++) {
      float angle = 2.0f * 3.1416f * i / 100;
      float x = rx * cosf(angle);
      float y = ry * sinf(angle);
      glVertex2f((x + cx), (y + cy));
   }
   glEnd();
}

void circle2(GLfloat rx, GLfloat ry, GLfloat cx, GLfloat cy) {
   glBegin(GL_TRIANGLE_FAN);
   glVertex2f(cx, cy);
   for (int i = 0; i <= 50; i++) {
      float angle = 2.0f * 3.1416f * i / 100;
```

```
        float x = rx * cosf(angle);
        float y = ry * sinf(angle);
        glVertex2f((x + cx), (y + cy));
    }
    glEnd();
}

void Draw() {
    glClear(GL_COLOR_BUFFER_BIT);
    glColor3f(1.0, 0.6, 0.1);
    circle(15, 15, 20, 40);
    glColor3f(1.0, 1.0, 1.0);//
    circle(12, 12, 20, 40);
    glColor3f(0.0, 0.0, 0.0);
    circle(2, 2, 20, 40);
    glColor3f(0.0, 0.0, 0.0);
    glBegin(GL_LINES);
    glVertex2f(20, 28);
    glVertex2f(20, 40);
    glEnd();
    glBegin(GL_LINES);
    glVertex2f(20, 40);
    glVertex2f(20, 52);
    glEnd();
    glBegin(GL_LINES);
    glVertex2f(20, 40);
    glVertex2f(32, 40);
    glEnd();
    glBegin(GL_LINES);
```

```
glVertex2f(20, 40);
glVertex2f(8, 40);
glEnd();

glColor3f(1.0, 0.6, 0.1);
circle(15, 15, 80, 40);
glColor3f(1.0, 1.0, 1.0);
circle(12, 12, 80, 40);
glColor3f(0.0, 0.0, 0.0);
circle(2, 2, 80, 40);
glBegin(GL_LINES);
glVertex2f(80, 52);
glVertex2f(80, 40);
glEnd();
glBegin(GL_LINES);
glVertex2f(80, 40);
glVertex2f(80, 28);
glEnd();
glBegin(GL_LINES);
glVertex2f(80, 40);
glVertex2f(92, 40);
glEnd();
glBegin(GL_LINES);
glVertex2f(80, 40);
glVertex2f(68, 40);
glEnd();
glColor3f(1.0, 1.0, 0.0);
glBegin(GL_POLYGON);
glVertex2f(35, 30);
```

```
glVertex2f(80, 60);
glVertex2f(35, 60);
glEnd();
glColor3f(1.0, 1.0, 1.0);
glBegin(GL_POLYGON);
glVertex2f(38, 35);
glVertex2f(70, 57);
glVertex2f(38, 57);
glEnd();
glColor3f(0.0, 0.6, 0.1);
circle(5, 5, 35, 30);
glColor3f(0.0, 0.0, 0.0);
glBegin(GL_POLYGON);
glVertex2f(35, 30);
glVertex2f(37, 30);
glVertex2f(37, 35);
glVertex2f(35, 35);
glEnd();
glColor3f(0.0, 0.0, 0.0);
glBegin(GL_POLYGON);
glVertex2f(30, 35);
glVertex2f(37, 35);
glVertex2f(37, 38);
glVertex2f(30, 38);
glEnd();
glColor3f(0.0, 0.0, 0.0);
glBegin(GL_POLYGON);
glVertex2f(35, 27);
glVertex2f(40, 27);
```

```
glVertex2f(40, 30);
glVertex2f(35, 30);
glEnd();



glColor3f(1.0, 1.0, 0.0);
glBegin(GL_POLYGON);
glVertex2f(20, 44);
glVertex2f(35, 60);
glVertex2f(32, 60);
glVertex2f(20, 40);
glEnd();
glColor3f(1.0, 1.0, 0.0);
glBegin(GL_POLYGON);
glVertex2f(80, 40);
glVertex2f(80, 69);
glVertex2f(75, 69);
glVertex2f(83, 40);
glEnd();
glColor3f(1.0, 1.0, 0.0);
glBegin(GL_POLYGON);
glVertex2f(35, 60);
glVertex2f(35, 70);
glVertex2f(30, 70);
glVertex2f(30, 60);
glEnd();

glColor3f(1.0, 0.6, 0.1);
```

```
    circle2(8, 4, 78, 69);
    glColor3f(0.0, 0.0, 0.0);///////////////
    circle2(8, 4, 35, 69);
    glColor3f(1.0, 1.0, 1.0);
    circle2(6, 2, 78, 69);
    glutSwapBuffers();
}

int main(int argc, char** argv) {
    glutInit(&argc, argv);
    glutInitDisplayMode(GLUT_RGB | GLUT_DOUBLE);
    glutInitWindowPosition(0, 0);
    glutInitWindowSize(500, 500);
    glutCreateWindow("Cycle Flag");
    init();
    glutDisplayFunc(Draw);
    glutMainLoop();
    return 0;
}
```