

## Компьютер графикийн үндэс ICSI262

## Лаборатори №2

```
1  #include<windows.h>
2  #include<GL/freeglut.h>
3  #include<math.h>
4
5  void resize(int width, int height)
6  {
7      glViewport(0, 0, width, height);
8      glMatrixMode(GL_PROJECTION);
9      glLoadIdentity();
10     gluOrtho2D(-1.0, 1.0, -1.0, 1.0);
11
12     glMatrixMode(GL_MODELVIEW);
13     glLoadIdentity();
14 }
15
16 float r = 0.0, g = 1.0, b = 0.0;
17 int n = 3;
18
19 void colorize(unsigned char key, int x, int y){
20     switch(key){
21         case 'r': case 'R':
22             r = 1.0; g = 0.0; b = 0.0;
23             break;
24         case 'g': case 'G':
25             r = 0.0; g = 1.0; b = 0.0;
26             break;
27         case 'b': case 'B':
28             r = 0.0; g = 0.0; b = 1.0;
29             break;
30         default:
31             return;
32     }
33     glutPostRedisplay();
34 }
35
36 void add_vertex(int key, int x, int y) {
37     switch (key) {
38         case GLUT_KEY_UP:
39             n++;
40             if (n > 72) n = 72;
41             break;
42         case GLUT_KEY_DOWN:
43             n--;
44             if (n < 3) n = 3;
45             break;
46         default:
47             return;
48     }
49     glutPostRedisplay();
50 }
51
52 void circle(void)
53 {
54     glClear(GL_COLOR_BUFFER_BIT);
55     glColor3f(r, g, b);
56
57     glPointSize(5.0);
58     glBegin(GL_TRIANGLE_FAN);
59     for(int i = 0; i < n; i++){
60         float a = 2.0 * 3.14 * float(i) / float(n);
61         float x = cosf(a);
62         float y = sinf(a);
```

```

63         glVertex2f(x, y);
64     }
65     glEnd();
66     glFlush();
67 }
68
69 int main(int argc, char *argv[]){
70     glutInit(&argc, argv);
71     glutInitDisplayMode(GLUT_RGB | GLUT_SINGLE);
72
73     glutCreateWindow("n shape");
74
75     glutDisplayFunc(circle);
76     glutReshapeFunc(resize);
77
78     glutKeyboardFunc(colorize);
79     glutSpecialFunc(add_vertex);
80
81     glClearColor(1, 1, 1, 1);
82     glutMainLoop();
83
84     return EXIT_SUCCESS;
85 }
86

```

Үр дүн:



