```cpp
#include "gwm.h"

int gWidth = 0;
int gHeight = 0;

void main (void)
{
    // declarations
    void keyboardFunc(unsigned int);
    void displayFunc(void);
    void reshapeFunc(int, int);

    // code
    gwmKeyboardCallback(keyboardFunc);
    gwmDisplayCallback(displayFunc);
    gwmReshapeCallback(reshapeFunc);

    gwmCreateWindow("Viewports", 100, 100, 800, 600);
    gwmEventLoop();
}

void keyboardFunc(unsigned int key)
{
    switch(key)
    {
        // VK_ESCAPE
        case 0x1B:
            gwmExitEventLoop();
            break;

        case '0':
        case VK_NUMPAD0:
            glViewport(0, 0, gWidth, gHeight);
            break;

        case '1':
        case VK_NUMPAD1:
            glViewport(0, 0, gWidth / 2.0f, gHeight / 2.0f);
            break;

        case '2':
        case VK_NUMPAD2:
            glViewport(gWidth / 2, 0, gWidth / 2.0f, gHeight / 2.0f);
            break;

        case '3':
        case VK_NUMPAD3:
            glViewport(gWidth / 2, gHeight / 2, gWidth / 2.0f, gHeight / 2.0f);
            break;

        case '4':
        case VK_NUMPAD4:
```

```
53              glViewport(0, gHeight / 2, gWidth / 2.0f, gHeight / 2.0f);
54              break;
55
56          case '5':
57          case VK_NUMPAD5:
58              glViewport(0, 0, gWidth / 2.0f, gHeight);
59              break;
60
61          case '6':
62          case VK_NUMPAD6:
63              glViewport(gWidth / 2, 0.0f, gWidth / 2.0f, gHeight);
64              break;
65
66          case '7':
67          case VK_NUMPAD7:
68              glViewport(0, gHeight / 2, gWidth, gHeight / 2.0f);
69              break;
70
71          case '8':
72          case VK_NUMPAD8:
73              glViewport(0, 0, gWidth, gHeight / 2.0f);
74              break;
75
76          case '9':
77          case VK_NUMPAD9:
78              glViewport(gWidth / 4, gHeight / 4, gWidth / 2.0f, gHeight / 2.0f);
79              break;
80      }
81  }
82
83  void reshapeFunc(int width, int height)
84  {
85      glMatrixMode(GL_PROJECTION);
86      glLoadIdentity();
87
88      gWidth = width;
89      gHeight = height;
90
91      glViewport(0, 0, gWidth, gHeight);
92      gluPerspective(45.0, (float)width / (float)height, 0.1f, 100.0f);
93  }
94
95  void displayFunc(void)
96  {
97      // code
98      glClear(GL_COLOR_BUFFER_BIT | GL_DEPTH_BUFFER_BIT);
99
100     glMatrixMode(GL_MODELVIEW);
101     glLoadIdentity();
102     glTranslatef(0.0f, 0.0f, -3.0f);
103
104     glBegin(GL_TRIANGLES);
```

```
105
106     glColor3f(1.0f, 0.0f, 0.0f);
107     glVertex2f(0.0f, 1.0f);
108     glColor3f(0.0f, 1.0f, 0.0f);
109     glVertex2f(-1.0f, -1.0f);
110     glColor3f(0.0f, 0.0f, 1.0f);
111     glVertex2f(1.0f, -1.0f);
112
113     glEnd();
114
115     gwmSwapBuffers();
116 }
117
118
```