# 3d Cube Creation

Code:

```c
#include <math.h>

#include <GL/glut.h>


void display();
void specialKeys();


double rotate_y = 30;
double rotate_x = 30;


void display() {

  glClear(GL_COLOR_BUFFER_BIT | GL_DEPTH_BUFFER_BIT);

  glLoadIdentity();
```

```
glRotatef(rotate_x, 1.0, 0.0, 0.0);

glRotatef(rotate_y, 0.0, 1.0, 0.0);


glBegin(GL_POLYGON);

glColor3f(1.0, 0.0, 0.0);    glVertex3f(0.5, -0.5, -0.5);
// P1 is red

glColor3f(0.0, 1.0, 0.0);    glVertex3f(0.5, 0.5, -0.5);
// P2 is green

glColor3f(0.0, 0.0, 1.0);    glVertex3f(-0.5, 0.5, -0.5);
// P3 is blue

glColor3f(1.0, 0.0, 1.0);    glVertex3f(-0.5, -0.5, -0.5);
// P4 is purple

glEnd();

// White side - BACK
glBegin(GL_POLYGON);
```

```
glColor3f(1.0, 1.0, 1.0);

glVertex3f(0.5, -0.5, 0.5);

glVertex3f(0.5, 0.5, 0.5);

glVertex3f(-0.5, 0.5, 0.5);

glVertex3f(-0.5, -0.5, 0.5);

glEnd();


// Purple side - RIGHT

glBegin(GL_POLYGON);

glColor3f(1.0, 0.0, 1.0);

glVertex3f(0.5, -0.5, -0.5);

glVertex3f(0.5, 0.5, -0.5);

glVertex3f(0.5, 0.5, 0.5);

glVertex3f(0.5, -0.5, 0.5);

glEnd();


// Green side - LEFT

glBegin(GL_POLYGON);
```

```
glColor3f(0.0, 1.0, 0.0);

glVertex3f(-0.5, -0.5, 0.5);

glVertex3f(-0.5, 0.5, 0.5);

glVertex3f(-0.5, 0.5, -0.5);

glVertex3f(-0.5, -0.5, -0.5);

glEnd();

// Blue side - TOP

glBegin(GL_POLYGON);

glColor3f(0.0, 0.0, 1.0);

glVertex3f(0.5, 0.5, 0.5);

glVertex3f(0.5, 0.5, -0.5);

glVertex3f(-0.5, 0.5, -0.5);

glVertex3f(-0.5, 0.5, 0.5);

glEnd();

// Red side - BOTTOM

glBegin(GL_POLYGON);
```

```
        glColor3f(1.0, 0.0, 0.0);

        glVertex3f(0.5, -0.5, -0.5);

        glVertex3f(0.5, -0.5, 0.5);

        glVertex3f(-0.5, -0.5, 0.5);

        glVertex3f(-0.5, -0.5, -0.5);

        glEnd();


        glFlush();

        glutSwapBuffers();

    }



    void specialKeys(int key, int x, int y) {



        if (key == GLUT_KEY_RIGHT)

            rotate_y += 5;
```

```c
    else if (key == GLUT_KEY_LEFT)
        rotate_y -= 5;

    else if (key == GLUT_KEY_UP)
        rotate_x += 5;

    else if (key == GLUT_KEY_DOWN)
        rotate_x -= 5;


    glutPostRedisplay();

}

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


    glutInit(&argc, argv);
```

```
    glutInitDisplayMode(GLUT_DOUBLE | GLUT_RGB |
GLUT_DEPTH);

    glutCreateWindow("Awesome Cube");


    glEnable(GL_DEPTH_TEST);



    glutDisplayFunc(display);
    glutSpecialFunc(specialKeys);


    glutMainLoop();


    return 0;

}
```