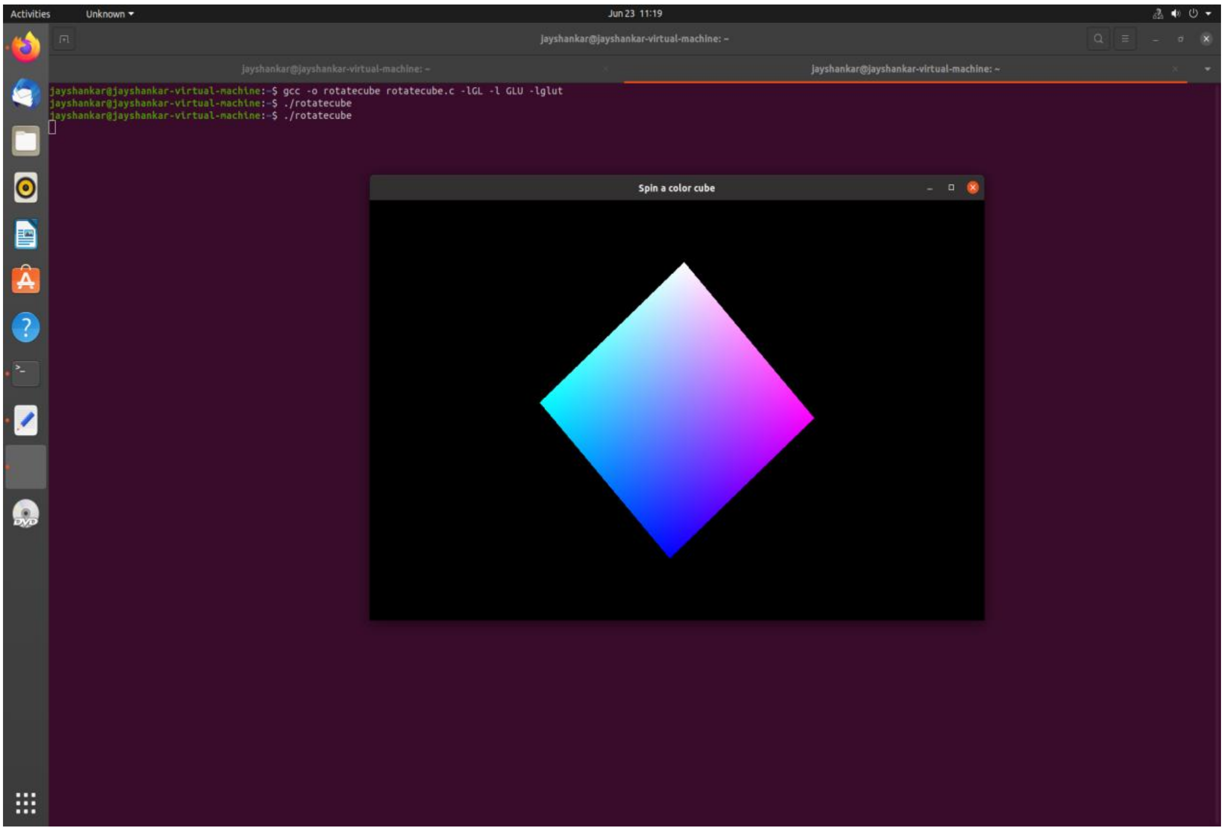
CGV ASSIGNMENT

Spinning cube:

CODE:

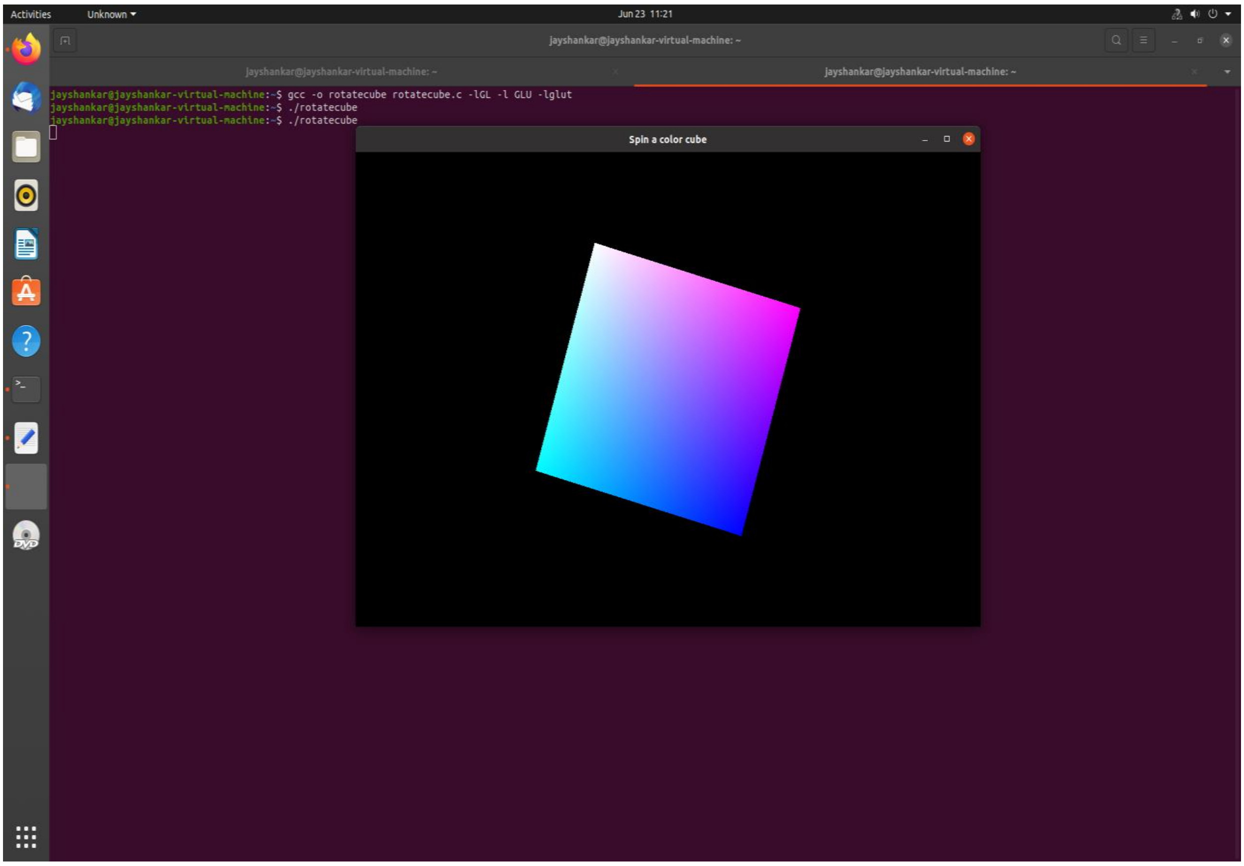
```
#include<stdlib.h>
#include<GL/glut.h>
GLfloat vertices[]= {-1, -1, -1,
                      1, -1, -1,
                      1, 1, -1,
                     -1, 1, -1,
                     -1, -1, 1,
                      1, -1, 1,
                       1, 1, 1,
                      -1, 1, 1};

GLfloat colors[]= {0, 0, 0,
                   1, 0, 0,
                   1, 1, 0,
                   0, 1, 0,
                   0, 0, 1,
                   1, 0, 1,
                   1, 1, 1,
                   0, 1, 1};

            GLubyte cubeIndices[]= {0, 3, 2, 1,2, 3, 7, 6,0, 4, 7, 3,1, 2, 6,
            5,4, 5, 6, 7,0, 1, 5, 4};

            static GLfloat theta[]= {0, 0,0};
            static GLint axis=2;
            void display(void){glClear(GL_COLOR_BUFFER_BIT |
            GL_DEPTH_BUFFER_BIT);
            glLoadIdentity();
            glRotatef(theta[0], 1, 0, 0);
            glRotatef(theta[1], 0, 1, 0);
            glRotatef(theta[2], 0, 0, 1);
            glDrawElements(GL_QUADS,24,GL_UNSIGNED_BYTE,cubeIn
            dices);
            glutSwapBuffers();
            }

            void spinCube()
            {
            theta[axis] += 2;
if(theta[axis] > 360)
theta[axis] -= 360;
glutPostRedisplay();
}
void mouse(int btn, int state, int x, int y)
{
if(btn==GLUT_LEFT_BUTTON && state==GLUT_DOWN)
axis=0;

if(btn==GLUT_MIDDLE_BUTTON && state==GLUT_DOWN)
axis=1;

if(btn==GLUT_RIGHT_BUTTON && state==GLUT_DOWN)
axis=2;
}

void myReshape(int w, int h)
{glViewport(0,0,w,h);
glMatrixMode(GL_PROJECTION);
glLoadIdentity();

if(w<=h)
glOrtho(-2, 2, -2*(GLfloat)h/(GLfloat)w, 2*(GLfloat)h/(GLfloat)w, -10, 10);
else
glOrtho(-2*(GLfloat)w/(GLfloat)h, 2*(GLfloat)w/(GLfloat)h,  -2, 2, -10, 10);
glMatrixMode(GL_MODELVIEW);
}
int main(int argc, char **argv)
{
glutInit(&argc, argv);
glutInitDisplayMode(GLUT_DOUBLE|GLUT_RGB|GLUT_DEPTH);
glutInitWindowSize(500, 500);
glutCreateWindow("Spin a color cube");
glutReshapeFunc(myReshape);
glutDisplayFunc(display);
glutIdleFunc(spinCube);
glutMouseFunc(mouse);
glEnable(GL_DEPTH_TEST);
glEnableClientState(GL_COLOR_ARRAY);
glEnableClientState(GL_VERTEX_ARRAY);
glVertexPointer(3, GL_FLOAT, 0, vertices);
glColorPointer(3, GL_FLOAT, 0, colors);
glColor3f(1, 1, 1);
glutMainLoop();
}
```

OUTPUT



Activities
Unknown
Jun 23 11:19
jayshankar@jayshankar-virtual-machine: ~
jayshankar@jayshankar-virtual-machine: ~
jayshankar@jayshankar-virtual-machine: ~
Spin a color cube

```
jayshankar@jayshankar-virtual-machine:~$ gcc -o rotatecube rotatecube.c -lGL -l GLU -lglut
jayshankar@jayshankar-virtual-machine:~$ ./rotatecube
jayshankar@jayshankar-virtual-machine:~$ ./rotatecube
```



Activities
Unknown
Jun 23 11:21
jayshankar@jayshankar-virtual-machine: ~
jayshankar@jayshankar-virtual-machine: ~
jayshankar@jayshankar-virtual-machine: ~
Spin a color cube

```
jayshankar@jayshankar-virtual-machine:~$ gcc -o rotatecube rotatecube.c -lGL -l GLU -lglut
jayshankar@jayshankar-virtual-machine:~$ ./rotatecube
jayshankar@jayshankar-virtual-machine:~$ ./rotatecube
```