```
glColor3f(red, green, blue);  glcolor3ub

      glBegin(GL_LINE_LOOP || GL_POLYGON || GL_POINTS || GL_LINES ||
GL_TRIANGLES || GL_LINE_STRIP || GL_TRIANGLE_STRIP || GL_TRIANGLE_FAN ||
GL_QUAD_STRIP);

        glVertex2d(-0.5, -0.5);

        glVertex2d(-0.5, 0.5);

        glVertex2d(0.5, 0.5);

        glVertex2d(0.5, -0.5);

glEnd();

       glFlush();

       glutSwapBuffers();

glClear(GL_COLOR_BUFFER_BIT | GL_DEPTH_BUFFER_BIT);

  glLoadIdentity();

glPushMatrix();

glTranslatef(GLfloat x,GLfloat y,GLfloat z);
glRotatef(ANG 45, x 0.0, y 0.0, z -1.0);


glEnd();
    glPopMatrix();


 glViewport( GLint x,
             GLint y,
             GLsizei width,
             GLsizei height);
    glMatrixMode(GL_PROJECTION);

    glLoadIdentity();
```

glOrtho(GLdouble *left*, GLdouble *right*, GLdouble *bottom*, GLdouble *top*, GLdouble *nearVal*, GLdouble *farVal*);

glFrustum(GLdouble *left*, GLdouble *right*, GLdouble *bottom*, GLdouble *top*, GLdouble *nearVal*, GLdouble *farVal*);

```
 glMatrixMode(GL_MODELVIEW);
```
glMatrixMode(GLenum *mode*);

```
  glLightfv(GL_LIGHT0, GL_AMBIENT, light_ambient);
    glLightfv(GL_LIGHT0, GL_DIFFUSE, light_diffuse);
    glLightfv(GL_LIGHT0, GL_SPECULAR, light_specular);

glMaterialfv(GL_FRONT, GL_SPECULAR, mat_specular);
    glMaterialfv(GL_FRONT, GL_AMBIENT, mat_ambient);
    glMaterialfv(GL_FRONT, GL_DIFFUSE, mat_diffuse);
    glMaterialf(GL_FRONT, GL_SHININESS, mat_shininess);

   glShadeModel(GL_SMOOTH); /*enable smooth shading */
```

```
    glEnable(GL_LIGHTING); /* enable lighting */
    glEnable(GL_LIGHT0);  /* enable light 0 */
    glEnable(GL_DEPTH_TEST); /* enable z buffer */

    glClearColor (1.0, 1.0, 1.0, 1.0);
    glColor3f (0.0, 0.0, 0.0);

       glMatrixMode(GL_MODELVIEW);

       glPushMatrix();

       glLoadIdentity();

glRotatef(ang,x,y,z);

       glMultMatrixf(c->m);

       glGetFloatv(GL_MODELVIEW_MATRIX,c->m);

       glPopMatrix();

glTranslatef(c->x, c->y, c->z);

       glutTimerFunc(v, update, v);

       glScalef(GLfloat x,GLfloat y,GLfloat z);

glutPostRedisplay();

GLUT_KEY_UP:

GLUT_KEY_DOWN:

GLUT_KEY_LEFT:

GLUT_KEY_RIGHT

teclas(unsigned char key, int x, int y)

rato(GLint button, GLint state, GLint x, GLint y)

moveRatoPress(int x, int y)


glutInit(&argc, argv);

glutInitDisplayMode(GLUT_DOUBLE | GLUT_RGB | GLUT_DEPTH);

  glutInitWindowSize(500, 500);

glutInitWindowPosition(0,0);

  glutCreateWindow("colorcube");

       myInit();

  glutReshapeFunc(myReshape);

  glutDisplayFunc(display);

       glutKeyboardFunc(teclas);
```

```
        glutSpecialFunc(teclasEspeciais);
        glutMouseFunc(rato);
        glutMotionFunc(moveRatoPress);
        init -> glEnable(GL_DEPTH_TEST); /* Enable hidden--surface--removal */
        glutTimerFunc(timeUpdate, update, timeUpdate);
  glutMainLoop();
```

GLUT_RIGHT_BUTTON
GLUT_MIDDLE_BUTTON

GLUT_LEFT_BUTTON

GLUT_DOWN (BOTÃO DO MOUSE CARREGADO)

GLUT_UP (BOTÃO DO MOUSE NÃO CARREGADO)