Program to draw a simple shaded scene consisting of a tea pot on a table. Define suitably the position and properties of the light source along with the properties of the properties of the surfaces of the solid object used in the scene.

```c
#include<GL/glut.h>

void teapot(GLfloat x,GLfloat y,GLfloat z)
{
 glPushMatrix();
 glTranslatef(x,y,z);
 glutSolidTeapot(0.1);
 glPopMatrix();
}

void tableTop(GLfloat x,GLfloat y,GLfloat z)
{
 glPushMatrix();
 glTranslatef(x,y,z);
 glScalef(0.6,0.02,0.5);
 glutSolidCube(1.0);
 glPopMatrix();
}

void tableLeg(GLfloat x,GLfloat y,GLfloat z)
{
 glPushMatrix();
 glTranslatef(x,y,z);
 glScalef(0.02,0.3,0.02);
 glutSolidCube(1.0);
 glPopMatrix();
}

void wall(GLfloat x,GLfloat y,GLfloat z)
{
 glPushMatrix();
 glTranslatef(x,y,z);
 glScalef(1.0,1.0,0.02);
 glutSolidCube(1.0);
 glPopMatrix();
}

void light()
{
 GLfloat mat_ambient[]={1.0,1.0,1.0,1.0};
 GLfloat mat_diffuse[]={0.5,0.5,0.5,1.0};
```

```c
  GLfloat mat_specular[]={1.0,1.0,1.0,1.0};
  GLfloat mat_shininess[]={50.0f};

  glMaterialfv(GL_FRONT,GL_AMBIENT,mat_ambient);
  glMaterialfv(GL_FRONT,GL_DIFFUSE,mat_diffuse);
  glMaterialfv(GL_FRONT,GL_SPECULAR,mat_specular);
  glMaterialfv(GL_FRONT,GL_SHININESS,mat_shininess);
  GLfloat light_position[]={2.0,6.0,3.0,1.0};
  GLfloat lightIntensity[]={0.7,0.7,0.7,1.0};
  glLightfv(GL_LIGHT0,GL_POSITION,light_position);
  glLightfv(GL_LIGHT0,GL_DIFFUSE,lightIntensity);
void display()
{
 GLfloat teapotP=-0.07,tabletopP=-0.15,tablelegP=0.2,wallP=0.5;
 glClear(GL_COLOR_BUFFER_BIT|GL_DEPTH_BUFFER_BIT);
 glLoadIdentity();
 gluLookAt(-2.0,2.0,5.0,0.0,0.0,0.0,0.0,1.0,0.0);

 light();     //Adding light source to your project

 teapot(0.0,teapotP,0.0);    //Create teapot

 tableTop(0.0,tabletopP,0.0);   //Create table's top
 tableLeg(tablelegP,-0.3,tablelegP); //Create 1st leg
 tableLeg(-tablelegP,-0.3,tablelegP); //Create 2nd leg
 tableLeg(-tablelegP,-0.3,-tablelegP); //Create 3rd leg
 tableLeg(tablelegP,-0.3,-tablelegP); //Create 4th leg

 wall(0.0,0.0,-wallP);    //Create 1st wall
 glRotatef(90.0,1.0,0.0,0.0);
 wall(0.0,0.0,wallP);    //Create 2nd wall
 glRotatef(90.0,0.0,1.0,0.0);
 wall(0.0,0.0,wallP);    //Create 3rd wall
 glFlush();
}

void myinit()
{
 glClearColor(0.0,0.0,0.0,1.0);
 glMatrixMode(GL_PROJECTION);
 glLoadIdentity();
 glOrtho(-1.0,1.0,-1.0,1.0,-1.0,10.0);
 glMatrixMode(GL_MODELVIEW);
}

void main(int argc,char **argv)
```

```
{
 glutInit(&argc,argv);

 glutInitDisplayMode(GLUT_SINGLE|GLUT_RGB|GLUT_DEPTH);
 glutInitWindowSize(500,500);
 glutInitWindowPosition(0,0);
 glutCreateWindow("Teapot on a table");
 myinit();
 glutDisplayFunc(display);
 glEnable(GL_LIGHTING);
 glEnable(GL_LIGHT0);
 glShadeModel(GL_SMOOTH);
 glEnable(GL_NORMALIZE);
 glEnable(GL_DEPTH_TEST);
 glutMainLoop();
}

}
```

OUTPUT