**8. To draw a simple shaded scene consisting of a tea pot on a table. *D*el*i*ne suitably the position and properties of the light source along with the properties of the surfaces of the solid object used in the scene.**

#include<stdio.h> #include<GL/glut.h> void tableLeg(double thick,double len)

glPushMatrix(); g|Translated(0,len/2,0); glScaled(thick,len,thick); glutSolidCube(1.0); glPopMatrix();

void table(double top Wid, double top Thick,double legThick,double legLen)

glPushMatrix(); glTranslated(0,legLen,0); glScaled(topWid,top Thick,top Wid); glutSolidCube(1.0); g|PopMatrix(); double dist=0.95\*top Wid/2.0-legThick/2.0; glPushMatrix(); glTranslated(dist,0,dist); tableLeg(legThick,legLen); glTranslated(0.0,0.0,-2\*dist); tableLeg(legThick,legLen); glTranslated(-2\*dist,0,2\*dist); tableLeg(legThick,legLen); glTranslated(0,0,-2\* dist); tableLeg(legThick,legLen); glPopMatrix();

void displaySolid(void)

GLfloat mat\_ambient[]={0.7f*,*0.7f,0.7f,1.0f}; GLfloat mat\_diffuse[]={0.5f,0.5f,0.5f,1.Of}; GLfloat mat\_specular[]={1.0f,1.0,1.0,1.0f}; GLfloat mat\_shininess[]={50.0f}; g Materialfv(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);

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GLfloat lightIntensity[]={0.75,0.78,0.7f,0.7f}; GLfloat light\_position[]={2.0f,6.0f.3.0f,0.0f}; glLightfv(GL\_LIGHTO.GL\_POSITION,light\_position); glLightfv(GL\_LIGHTO.GL\_DIFFUSE,lightIntensity); g/MatrixMode(GL\_PROJECTION); glLoadIdentity(); double winHt=1.0; glOrtho(-winHt\*64/48.0,winHt\*64/48.0,-winHt,win Ht,0.1,100.0); glMatrixMode(GL MODELVIEW); glLoadIdentity(); gluLookAt(2.3,1.3,2.0,0.0,0.25,0.0,0.0,1.0,0.0); glClear(GL\_COLOR\_BUFFER\_BIT|GL\_DEPTH\_BUFFER\_BIT); glPushMatrix(); glTranslated(0.6,0.38,0.5); glRotated(30,0,1,0); glutSolidTeapot(0.08); glPopMatrix(); glPushMatrix(); glTranslated(0.25,0,42,0.35); glPopMatrix(); glPushMatrixO; glTranslated(0.4,0,0.4); table(0.6,0.02,0.02,0.3); glPopMatrix(); glFlush();

}

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

glutInit(&argc,argv); glutInitDisplayMode(GLUT\_SINGLE|GLUT\_RGB/GLUT\_DEPTH); glutInit WindowSize(640,480); glutInit WindowPosition(100,100); glutCreate Window("Şimple shaded scene consisting of a teapot"); glutDisplayFunc(displaySolid); glEnable(GL\_LIGHTING); glEnable(GL\_LIGHTO); glShadeModel(GL\_SMOOTH); glEnable(GL\_DEPTH\_TEST); gEnable(GL\_NORMALIZE); giClearColor(1,1,1,0.0); glViewport(0,0,640,480); glutMainLoop();

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