**Lab Taks-3**

Submission Guidelines-

* Rename the file to your id only. If your id is 18-XXXXX-1, then the file name must be 18-XXXXX-1.docx.
* Must submit within time that will be discussed in class VUES to the section named Lab Tak-3
* Must include resources for all the section in the table

|  |
| --- |
| **Question- 1**  Draw five storied building with windows and a front door |
| **Graph Plot (Picture)-** |
| **#include <GL/glut.h>**  **void star()**  **{**  **glColor3ub(64, 97, 98);**  **glBegin(GL\_POLYGON);**  **glVertex2f(10, 30);**  **glVertex2f(8.3649338660357,29.909448719786);**  **glVertex2f(17.3050236792905,37.8622804748893);**  **glVertex2f(25.715089269601,29.8479233460145);**  **glVertex2f(23.9308534302272,29.8479233460145);**  **glEnd();**  **glColor3ub(108, 159, 161);**  **glBegin(GL\_POLYGON);**  **glVertex2f(10, 30);**  **glVertex2f(10, 0);**  **glVertex2f(23.95, 0);**  **glVertex2f(23.9308534302272, 29.8479233460145);**  **glVertex2f(17.2576431322463, 36.2513418753873);**  **glEnd();**  **glColor3ub(70, 109, 110);**  **glBegin(GL\_POLYGON);**  **glVertex2f(15.8670100989413,4.9018418613286);**  **glVertex2f(15.9065727883206, 0);**  **glVertex2f(19.083339, 0);**  **glVertex2f(19.0833950494843,4.9018418613286);**  **glEnd();**  **glColor3ub(70, 109, 110);**  **glBegin(GL\_POLYGON);**  **glVertex2f(12.0000653927463,29.3611728495387);**  **glVertex2f(15.008066122851,29.3871038903155);**  **glVertex2f(15.008066122851,26.690275649532);**  **glVertex2f(12.0000653927463,26.6643446087552);**  **glEnd();**  **glColor3ub(70, 109, 110);**  **glBegin(GL\_POLYGON);**  **glVertex2f(19.0551705655797,29.4648970126458);**  **glVertex2f(19.079239524803,26.7421377310855);**  **glVertex2f(22.0094471325773,26.7421377310855);**  **glVertex2f(21.9675850510238,29.4648970126458);**  **glEnd();**  **glColor3ub(70, 109, 110);**  **glBegin(GL\_POLYGON);**  **glVertex2f(12.0168061896062,25.0058359014549);**  **glVertex2f(11.9776327769908,22.372146725182);**  **glVertex2f(15.0030836746763,22.3991596796256);**  **glVertex2f(15,25);**  **glEnd();**  **glColor3ub(70, 109, 110);**  **glBegin(GL\_POLYGON);**  **glVertex2f(18.9940578951764,25.0350983536193);**  **glVertex2f(21.980307793431,25.0350983536193);**  **glVertex2f(21.99981505534304,22.4680096601003);**  **glVertex2f(18.9859057852118,22.4680096601003);**  **glEnd();**  **glColor3ub(70, 109, 110);**  **glBegin(GL\_POLYGON);**  **glVertex2f(12.0576168633597,20.4645976052241);**  **glVertex2f(12.0634135741319,17.502221197649);**  **glVertex2f(15.1171910974128,17.5365333046522);**  **glVertex2f(15.151503204416,20.4873745069236);**  **glEnd();**  **glColor3ub(70, 109, 110);**  **glBegin(GL\_POLYGON);**  **glVertex2f(19.0630834027758,20.55599872093);**  **glVertex2f(21.9796124980441,20.5216866139268);**  **glVertex2f(21.9796124980441,17.5365333046522);**  **glVertex2f(19.0787712957727,17.5708454116553);**  **glEnd();**  **glColor3ub(70, 109, 110);**  **glBegin(GL\_POLYGON);**  **glVertex2f(11.9954923899377,15.4832148128185);**  **glVertex2f(15.2175321275785,15.4421162444083);**  **glVertex2f(15.2032508316866,12.499398209638);**  **glVertex2f(12.0116656595923,12.5248129787126);**  **glEnd();**  **glColor3ub(70, 109, 110);**  **glBegin(GL\_POLYGON);**  **glVertex2f(19.0311934661477,15.346069958997);**  **glVertex2f(21.9538618567183,15.346069958997);**  **glVertex2f(21.9538618567183,12.4890795097876);**  **glVertex2f(19.0640324368283,12.5219184804681);**  **glEnd();**  **glColor3ub(70, 109, 110);**  **glBegin(GL\_POLYGON);**  **glVertex2f(11.9837098641759,10.4949835711236);**  **glVertex2f(15.2043236120565,10.4949835711236);**  **glVertex2f(15.1561989161678,7.498743910909);**  **glVertex2f(11.9837098641759,7.498743910909);**  **glEnd();**  **glColor3ub(70, 109, 110);**  **glBegin(GL\_POLYGON);**  **glVertex2f(19.0239271821272,10.4794898275747);**  **glVertex2f(22.0187540572174,10.4450665301598);**  **glVertex2f(22.0187540572174,7.587932844729);**  **glVertex2f(18.9895038847124,7.5535095473141);**  **glEnd();**  **}**  **void display() {**  **glClearColor(1.0f, 1.0f, 1.0f, 1.0f);**  **glClear(GL\_COLOR\_BUFFER\_BIT);**  **star();**  **// starh();**  **glFlush();**  **}**  **int main(int argc, char \*argv[])**  **{**  **glutInit(&argc, argv);**  **glutInitWindowPosition(100, 100);**  **glutInitWindowSize(320, 320);**  **glutCreateWindow("Shraboni Biswas Naboni-26");**  **glutDisplayFunc(display);**  **gluOrtho2D(-40, 50, -40, 60);**  **glutMainLoop();**  **return 0;**  **}** |
| **Output Screenshot (Full Screen)-** |

|  |
| --- |
| **Question- 2**  Draw a tree |
| **Graph Plot (Picture)-** |
| **#include <GL/glut.h>**  **#include <math.h>**  **void land()**  **{**  **glColor3ub(255, 255, 255);**  **glBegin(GL\_POLYGON);**  **glVertex2f(10.6624357654173, 36.2171808350353);**  **glVertex2f(17.5734578235902, 25.0740167953103);**  **glVertex2f(12.4234449117334, 8.1402535504169);**  **glEnd();**  **glColor3ub(255, 255, 255);**  **glBegin(GL\_POLYGON);**  **glVertex2f(0, 0);**  **glVertex2f(17.5734578235902, 25.0740167953103);**  **glVertex2f(12.4234449117334, 8.1402535504169);**  **glEnd();**  **}**  **void star()**  **{**  **glColor3ub(139, 69, 19);**  **glBegin(GL\_POLYGON);**  **glVertex2f(12.6624357654173,36.2171808350353);**  **glVertex2f(17.5734578235902,25.0740167953103);**  **glVertex2f(16.4234449117334,8.1402535504169);**  **glVertex2f(12.98524,0);**  **glVertex2f(28.3046055416139,0.3916705309292);**  **glVertex2f(24.8177431828446,8.2693966007417);**  **glVertex2f(28.3046055416139,0.3916705309292);**  **glVertex2f(24.3179508974699,24.9221052461426);**  **glVertex2f(28.38,36.655);**  **glEnd();**  **}**  **void tree1()**  **{**  **glColor3ub(153, 76, 0);**  **glBegin(GL\_POLYGON);**  **glVertex2f(100.4669979436415,67.508822524133);**  **glVertex2f(111.8352664440669,49.847305997484);**  **//glVertex2f(112.5504920517491,19.09260486715);**  **glVertex2f(128.825,0);**  **//glVertex2f(120,20);**  **glVertex2f(121.3716078798287,51.0393486769544);**  **glVertex2f(129.4417823898445,66.8021204644695);**  **glEnd();**  **glColor3ub(153, 76, 0);**  **glBegin(GL\_POLYGON);**  **glVertex2f(111.8352664440669,49.847305997484);**  **glVertex2f(112.5504920517491,19.09260486715);**  **//glVertex2f(128.52386395665,68.919988869009);**  **glVertex2f(120,20);**  **glVertex2f(121.3716078798287,51.0393486769544);**  **glEnd();**  **glColor3ub(153, 76, 0);**  **glBegin(GL\_POLYGON);**  **glVertex2f(112.716500311142,19.9242171734546);**  **glVertex2f(120,20);**  **glVertex2f(112.5504920517491,19.09260486715);**  **glVertex2f(128.52386395665,0);**  **glVertex2f(102.77574,0);**  **glEnd();**  **glColor3ub(153, 76, 0);**  **glBegin(GL\_POLYGON);**  **glVertex2f(112.716500311142,19.9242171734546);**  **glVertex2f(120.970805997457,22.5519005336666);**  **glVertex2f(140,0);**  **glVertex2f(102.775,0);**  **glEnd();**  **}**  **void ball(float radius, float xc, float yc, float r, float g, float b)**  **{**  **glBegin(GL\_POLYGON);**  **for(int i=0;i<200;i++)**  **{**  **glColor3f(r,g,b);**  **float pi=3.1416;**  **float A=(i\*2\*pi)/200;**  **float r=radius;**  **float x = r \* cos(A);**  **float y = r \* sin(A);**  **glVertex2f(x+xc,y+yc);**  **}**  **glEnd();**  **}**  **void display() {**  **glClearColor(1.0f, 1.0f, 1.0f, 1.0f);**  **glClear(GL\_COLOR\_BUFFER\_BIT);**  **tree1();**  **// star();**  **//land();**  **/\* tree(10.85, 14.7448525751114, 55.9231827509079, 0.0, 1.0, 0.0);**  **tree(10.11, 22.544623138801, 63.4613290801818, 0.0, 1.0, 0.0);**  **tree(9.62, 29.55880299099, 56.1814862712405, 0.0, 1.0, 0.0);**  **tree(10.59, 8.182699604969, 45.7208811989321, 0.0, 1.0, 0.0);**  **tree(10.36, 31.6251799051866, 46.4973946698809, 0.0, 1.0, 0.0);**  **tree(7.11, 8.4004009874327, 42.1434672652494, 0.0, 1.0, 0.0);\*/**  **// tree(10.36, 19.4, 41.63, 0.0, 1, 0.0);**  **ball(15.34,100,80,0,0.392,0);**  **ball(15.04834,131.384,79.6483,0,0.392,0);**  **ball(15.04834,118.5107,70.33039,0,0.392,0);**  **ball(15.04834,118.5107,85.33039,0,0.392,0);**  **glFlush();**  **}**  **int main(int argc, char \*argv[])**  **{**  **glutInit(&argc, argv);**  **glutInitWindowPosition(100, 100);**  **glutInitWindowSize(320, 320);**  **glutCreateWindow("Shraboni Biswas Naboni-26");**  **glutDisplayFunc(display);**  **gluOrtho2D(-40, 400, -40, 100);**  **glutMainLoop();**  **return 0;**  **}** |
| **Output Screenshot (Full Screen)-** |

|  |
| --- |
| **Question- 3**  Draw a lamppost with black background |
| **Graph Plot (Picture)-** |
| **Code-**  **#include <GL/glut.h>**  **#include <math.h>**  **#include <cmath>**  **void land()**  **{**  **glColor3ub(0, 0, 0);**  **glBegin(GL\_POLYGON);**  **glVertex2f(12.6672574330719,81.2182649709387);**  **glVertex2f(12.0351328111774,70.7430569509716);**  **glVertex2f(49.6786446978031,71.0558796041059);**  **glVertex2f(49.9897441054592,80.8555109452734);**  **glEnd();**  **}**  **void star()**  **{**  **glColor3ub (153, 76, 0);**  **glBegin(GL\_POLYGON);**  **glVertex2f(29.86,0);**  **glVertex2f(31.3569913656179,-0.1156748395893);**  **glVertex2f(31.3254953578683,70.8824530729946);**  **glVertex2f(29.8716383417568,70.8674648563336);**  **glEnd();**  **glColor3ub (153, 76, 0);**  **glBegin(GL\_POLYGON);**  **glVertex2f(30.4434489,81.0454998);**  **glVertex2f(31.3254953578683,70.8824530729946);**  **glVertex2f(29.8716383417568,70.8674648563336);**  **glEnd();**  **}**  **void star1()**  **{**  **glColor3ub (153, 76, 0);**  **glBegin(GL\_POLYGON);**  **glVertex2f(30.4434489,81.0454998);**  **glVertex2f(31.4054953578683,70.8824530729946);**  **glVertex2f(29.8716383417568,70.8674648563336);**  **glEnd();**  **}**  **void ball(float radius, float xc, float yc, float r, float g, float b)**  **{**  **glBegin(GL\_POLYGON);**  **for(int i=0;i<200;i++)**  **{**  **glColor3f(r,g,b);**  **float pi=3.1416;**  **float A=(i\*2\*pi)/200;**  **float r=radius;**  **float x = r \* cos(A);**  **float y = r \* sin(A);**  **glVertex2f(x+xc,y+yc);**  **}**  **glEnd();**  **}**  **void display() {**  **glClearColor(0.0f, 0.0f, 0.0f, 0.0f);**  **glClear(GL\_COLOR\_BUFFER\_BIT);**  **star();**  **ball(7.1253, 24.0455066271736, 71.1042710206256,0.6, 0.3, 0.0);**  **ball(6.90, 24.0455066271736, 71.1042710206256, 0.0, 0.0, 0.0);**  **ball(7.0976, 37.9522423088534, 70.8333604683851, 0.6, 0.3, 0.0);**  **ball(6.90, 37.9522423088534, 70.8333604683851, 0.0, 0.0, 0.0);**  **land();**  **star1();**  **ball(4.4773, 16.9457931566967, 75.2812655084949,1.0, 1.0, 0.0);**  **ball(4.4851, 44.5786428807245, 75.4164498266933, 1.0, 1.0, 0.0);**  **ball(5.0022, 30.3854849916117, 86.0819655829509, 1.0, 1.0, 0.0);**  **//**  **glFlush();**  **}**  **int main(int argc, char \*argv[])**  **{**  **glutInit(&argc, argv);**  **glutInitWindowPosition(100, 100);**  **glutInitWindowSize(320, 320);**  **glutCreateWindow("Shraboni Biswas Naboni-26");**  **glutDisplayFunc(display);**  **gluOrtho2D(-40, 70, -40, 100);**  **glutMainLoop();**  **return 0;**  **}** |
| **Output Screenshot (Full Screen)-** |

|  |
| --- |
| **Question- 4**  Draw a bench |
| **Graph Plot (Picture)-** |
| **Code-**  **#include <GL/glut.h>**  **#include <math.h>**  **#include <cmath>**  **void land()**  **{**  **glColor3ub(0, 0, 0);**  **glBegin(GL\_POLYGON);**  **glVertex2f(12.6672574330719,81.2182649709387);**  **glVertex2f(12.0351328111774,70.7430569509716);**  **glVertex2f(49.6786446978031,71.0558796041059);**  **glVertex2f(49.9897441054592,80.8555109452734);**  **glEnd();**  **}**  **void star()**  **{**  **glColor3ub (153, 76, 0);**  **glBegin(GL\_POLYGON);**  **glVertex2f(29.86,0);**  **glVertex2f(31.3569913656179,-0.1156748395893);**  **glVertex2f(31.3254953578683,70.8824530729946);**  **glVertex2f(29.8716383417568,70.8674648563336);**  **glEnd();**  **glColor3ub (153, 76, 0);**  **glBegin(GL\_POLYGON);**  **glVertex2f(30.4434489,81.0454998);**  **glVertex2f(31.3254953578683,70.8824530729946);**  **glVertex2f(29.8716383417568,70.8674648563336);**  **glEnd();**  **}**  **void star1()**  **{**  **glColor3ub (153, 76, 0);**  **glBegin(GL\_POLYGON);**  **glVertex2f(30.4434489,81.0454998);**  **glVertex2f(31.4054953578683,70.8824530729946);**  **glVertex2f(29.8716383417568,70.8674648563336);**  **glEnd();**  **}**  **void bench ()**  **{**  **glColor3ub (153, 76, 0);**  **glBegin(GL\_POLYGON);**  **glVertex2f(44.2278519408587,17.0422448349301);**  **glVertex2f(67.1940363496479,16.999469559546);**  **glVertex2f(67.1940363496479,13.97708);**  **glVertex2f(44.2278,14);**  **glEnd();**  **glColor3ub (153, 76, 0);**  **glBegin(GL\_POLYGON);**  **glVertex2f(44.2278519408587,12.58229);**  **glVertex2f(67.1650,12.455);**  **glVertex2f(67.1482150657787,9.879631358392);**  **glVertex2f(44.2278519408587,9.879631358392);**  **glEnd();**  **glColor3ub (101, 67, 33);**  **glBegin(GL\_POLYGON);**  **glVertex2f(44.2278519408587,9.879631358392);**  **glVertex2f(41.2457097333943,4.9757753363439);**  **glVertex2f(68.7110823024908,4.9757753363439);**  **glVertex2f(67.1482150657787,9.879631358392);**  **glEnd();**  **glColor3ub(153, 76, 0);**  **glBegin(GL\_POLYGON);**  **glVertex2f(41.2457097333943,4.9757753363439);**  **glVertex2f(41.2457097333943,0);**  **glVertex2f(42.9443,4.9757753363439);**  **glEnd();**  **glColor3ub(153, 76, 0);**  **glBegin(GL\_POLYGON);**  **glVertex2f(68.7110823024908,4.9757753363439);**  **glVertex2f(68.72423,0);**  **glVertex2f(67.11056,4.975775);**  **glEnd();**  **}**  **void ball(float radius, float xc, float yc, float r, float g, float b)**  **{**  **glBegin(GL\_POLYGON);**  **for(int i=0;i<200;i++)**  **{**  **glColor3f(r,g,b);**  **float pi=3.1416;**  **float A=(i\*2\*pi)/200;**  **float r=radius;**  **float x = r \* cos(A);**  **float y = r \* sin(A);**  **glVertex2f(x+xc,y+yc);**  **}**  **glEnd();**  **}**  **void display() {**  **glClearColor(1.0f, 1.0f, 1.0f, 1.0f);**  **glClear(GL\_COLOR\_BUFFER\_BIT);**  **bench();**  **// star();**  **//ball(7.1253, 24.0455066271736, 71.1042710206256,0.6, 0.3, 0.0);**  **// ball(6.90, 24.0455066271736, 71.1042710206256, 0.0, 0.0, 0.0);**  **// ball(7.0976, 37.9522423088534, 70.8333604683851, 0.6, 0.3, 0.0);**  **// ball(6.90, 37.9522423088534, 70.8333604683851, 0.0, 0.0, 0.0);**  **// land();**  **//star1();**  **// ball(4.4773, 16.9457931566967, 75.2812655084949,1.0, 1.0, 0.0);**  **// ball(4.4851, 44.5786428807245, 75.4164498266933, 1.0, 1.0, 0.0);**  **// ball(5.0022, 30.3854849916117, 86.0819655829509, 1.0, 1.0, 0.0);**  **//**  **glFlush();**  **}**  **int main(int argc, char \*argv[])**  **{**  **glutInit(&argc, argv);**  **glutInitWindowPosition(100, 100);**  **glutInitWindowSize(320, 320);**  **glutCreateWindow("Shraboni Biswas Naboni-26");**  **glutDisplayFunc(display);**  **gluOrtho2D(-0, 90, -0, 70);**  **// gluOrtho2D(-0, 300, -40, 100);**  **glutMainLoop();**  **return 0;**  **}** |
| **Output Screenshot (Full Screen)-** |

|  |
| --- |
| **Question- 5**  Use the building, tree, lamppost and bench to create a scenario |
| **Graph Plot (Picture)-** |
| **Code-**  **#include <GL/glut.h>**  **#include <math.h>**  **#include <cmath>**  **void land()**  **{**  **glColor3ub(0, 0, 0);**  **glBegin(GL\_POLYGON);**  **glVertex2f(12.6672574330719,81.2182649709387);**  **glVertex2f(12.0351328111774,70.7430569509716);**  **glVertex2f(49.6786446978031,71.0558796041059);**  **glVertex2f(49.9897441054592,80.8555109452734);**  **glEnd();**  **}**  **void lamp()**  **{**  **glColor3ub (153, 76, 0);**  **glBegin(GL\_POLYGON);**  **glVertex2f(29.86,0);**  **glVertex2f(31.3569913656179,-0.1156748395893);**  **glVertex2f(31.3254953578683,70.8824530729946);**  **glVertex2f(29.8716383417568,70.8674648563336);**  **glEnd();**  **glColor3ub (153, 76, 0);**  **glBegin(GL\_POLYGON);**  **glVertex2f(30.4434489,81.0454998);**  **glVertex2f(31.3254953578683,70.8824530729946);**  **glVertex2f(29.8716383417568,70.8674648563336);**  **glEnd();**  **}**  **void lamp1()**  **{**  **glColor3ub (153, 76, 0);**  **glBegin(GL\_POLYGON);**  **glVertex2f(30.4434489,81.0454998);**  **glVertex2f(31.4054953578683,70.8824530729946);**  **glVertex2f(29.8716383417568,70.8674648563336);**  **glEnd();**  **}**  **void bench ()**  **{**  **glColor3ub (153, 76, 0);**  **glBegin(GL\_POLYGON);**  **glVertex2f(44.2278519408587,17.0422448349301);**  **glVertex2f(67.1940363496479,16.999469559546);**  **glVertex2f(67.1940363496479,13.97708);**  **glVertex2f(44.2278,14);**  **glEnd();**  **glColor3ub (153, 76, 0);**  **glBegin(GL\_POLYGON);**  **glVertex2f(44.2278519408587,12.58229);**  **glVertex2f(67.1650,12.455);**  **glVertex2f(67.1482150657787,9.879631358392);**  **glVertex2f(44.2278519408587,9.879631358392);**  **glEnd();**  **glColor3ub (101, 67, 33);**  **glBegin(GL\_POLYGON);**  **glVertex2f(44.2278519408587,9.879631358392);**  **glVertex2f(41.2457097333943,4.9757753363439);**  **glVertex2f(68.7110823024908,4.9757753363439);**  **glVertex2f(67.1482150657787,9.879631358392);**  **glEnd();**  **glColor3ub(153, 76, 0);**  **glBegin(GL\_POLYGON);**  **glVertex2f(41.2457097333943,4.9757753363439);**  **glVertex2f(41.2457097333943,0);**  **glVertex2f(42.9443,4.9757753363439);**  **glEnd();**  **glColor3ub(153, 76, 0);**  **glBegin(GL\_POLYGON);**  **glVertex2f(68.7110823024908,4.9757753363439);**  **glVertex2f(68.72423,0);**  **glVertex2f(67.11056,4.975775);**  **glEnd();**  **}**  **void tree()**  **{**  **glColor3ub(153, 76, 0);**  **glBegin(GL\_POLYGON);**  **glVertex2f(100.4669979436415,67.508822524133);**  **glVertex2f(111.8352664440669,49.847305997484);**  **//glVertex2f(112.5504920517491,19.09260486715);**  **glVertex2f(128.825,0);**  **//glVertex2f(120,20);**  **glVertex2f(121.3716078798287,51.0393486769544);**  **glVertex2f(129.4417823898445,66.8021204644695);**  **glEnd();**  **glColor3ub(153, 76, 0);**  **glBegin(GL\_POLYGON);**  **glVertex2f(111.8352664440669,49.847305997484);**  **glVertex2f(112.5504920517491,19.09260486715);**  **//glVertex2f(128.52386395665,68.919988869009);**  **glVertex2f(120,20);**  **glVertex2f(121.3716078798287,51.0393486769544);**  **glEnd();**  **glColor3ub(153, 76, 0);**  **glBegin(GL\_POLYGON);**  **glVertex2f(112.716500311142,19.9242171734546);**  **glVertex2f(120,20);**  **glVertex2f(112.5504920517491,19.09260486715);**  **glVertex2f(128.52386395665,0);**  **glVertex2f(102.77574,0);**  **glEnd();**  **glColor3ub(153, 76, 0);**  **glBegin(GL\_POLYGON);**  **glVertex2f(112.716500311142,19.9242171734546);**  **glVertex2f(120.970805997457,22.5519005336666);**  **glVertex2f(140,0);**  **glVertex2f(102.775,0);**  **glEnd();**  **}**  **void house()**  **{**  **glColor3ub(108, 159, 161);**  **glBegin(GL\_POLYGON);**  **glVertex2f(175.0366499079701,70.1399034598929);**  **glVertex2f(160,60);**  **glVertex2f(160,0);**  **glVertex2f(190,0);**  **glVertex2f(190,60);**  **glEnd();**  **glColor3ub(70, 109, 110);**  **glBegin(GL\_POLYGON);**  **glVertex2f(165,55);**  **glVertex2f(170,55);**  **glVertex2f(170,50);**  **glVertex2f(165,50);**  **glEnd();**  **glColor3ub(70, 109, 110);**  **glBegin(GL\_POLYGON);**  **glVertex2f(180,55);**  **glVertex2f(185,55);**  **glVertex2f(185,50);**  **glVertex2f(180,50);**  **glEnd();**  **glColor3ub(70, 109, 110);**  **glBegin(GL\_POLYGON);**  **glVertex2f(165,45);**  **glVertex2f(170,45);**  **glVertex2f(170,40);**  **glVertex2f(165,40);**  **glEnd();**  **glColor3ub(70, 109, 110);**  **glBegin(GL\_POLYGON);**  **glVertex2f(180,45);**  **glVertex2f(185,45);**  **glVertex2f(185,40);**  **glVertex2f(180,40);**  **glEnd();**  **glColor3ub(70, 109, 110);**  **glBegin(GL\_POLYGON);**  **glVertex2f(165,35);**  **glVertex2f(165,30);**  **glVertex2f(170,30);**  **glVertex2f(170.3865324137009,35.14165886803);**  **glEnd();**  **glColor3ub(70, 109, 110);**  **glBegin(GL\_POLYGON);**  **glVertex2f(180,35);**  **glVertex2f(180,30);**  **glVertex2f(185,30);**  **glVertex2f(185,35);**  **glEnd();**  **glColor3ub(70, 109, 110);**  **glBegin(GL\_POLYGON);**  **glVertex2f(165,25);**  **glVertex2f(165,20);**  **glVertex2f(170,20);**  **glVertex2f(170,25);**  **glEnd();**  **glColor3ub(70, 109, 110);**  **glBegin(GL\_POLYGON);**  **glVertex2f(180,25);**  **glVertex2f(180,20);**  **glVertex2f(185,20);**  **glVertex2f(185,25);**  **glEnd();**  **glColor3ub(70, 109, 110);**  **glBegin(GL\_POLYGON);**  **glVertex2f(165,15);**  **glVertex2f(165.1109952702151,10.1522723988848);**  **glVertex2f(170,10);**  **glVertex2f(170,15);**  **glEnd();**  **glColor3ub(70, 109, 110);**  **glBegin(GL\_POLYGON);**  **glVertex2f(180,15);**  **glVertex2f(180,10);**  **glVertex2f(185,10);**  **glVertex2f(185,15);**  **glEnd();**  **glColor3ub(70, 109, 110);**  **glBegin(GL\_POLYGON);**  **glVertex2f(172.60,0);**  **glVertex2f(172.8854710606152,6.6815242781702);**  **glVertex2f(178.0221782792725,6.8203542029988);**  **glVertex2f(178.0221,0);**  **glEnd();**  **}**  **void bound()**  **{**  **glColor3ub(70, 109, 110);**  **glBegin(GL\_POLYGON);**  **glVertex2f(160,60);**  **glVertex2f(156.5853009263667,59.9313909113093);**  **glVertex2f(174.9698152392272,73.287661993303);**  **glVertex2f(192.7257991482292,60.1670898127563);**  **glVertex2f(190,60);**  **glEnd();**  **}**  **void ball(float radius, float xc, float yc, float r, float g, float b)**  **{**  **glBegin(GL\_POLYGON);**  **for(int i=0;i<200;i++)**  **{**  **glColor3f(r,g,b);**  **float pi=3.1416;**  **float A=(i\*2\*pi)/200;**  **float r=radius;**  **float x = r \* cos(A);**  **float y = r \* sin(A);**  **glVertex2f(x+xc,y+yc);**  **}**  **glEnd();**  **}**  **void display() {**  **glClearColor(0.0f, 0.0f, 0.0f, 1.0f);**  **glClear(GL\_COLOR\_BUFFER\_BIT);**  **bound();**  **bench();**  **lamp();**  **ball(7.1253, 24.0455066271736, 71.1042710206256,0.6, 0.3, 0.0);**  **ball(6.90, 24.0455066271736, 71.1042710206256, 0.0, 0.0, 0.0);**  **ball(7.0976, 37.9522423088534, 70.8333604683851, 0.6, 0.3, 0.0);**  **ball(6.90, 37.9522423088534, 70.8333604683851, 0.0, 0.0, 0.0);**  **land();**  **lamp1();**  **ball(4.4773, 16.9457931566967, 75.2812655084949,1.0, 1.0, 0.0);**  **ball(4.4851, 44.5786428807245, 75.4164498266933, 1.0, 1.0, 0.0);**  **ball(5.0022, 30.3854849916117, 86.0819655829509, 1.0, 1.0, 0.0);**  **tree();**  **ball(15.34,100,80,0,0.392,0);**  **ball(15.04834,131.384,79.6483,0,0.392,0);**  **ball(15.04834,118.5107,70.33039,0,0.392,0);**  **ball(15.04834,118.5107,85.33039,0,0.392,0);**  **house();**  **glFlush();**  **}**  **int main(int argc, char \*argv[])**  **{**  **glutInit(&argc, argv);**  **glutInitWindowPosition(100, 100);**  **glutInitWindowSize(320, 320);**  **glutCreateWindow("Shraboni Biswas Naboni-26");**  **glutDisplayFunc(display);**  **gluOrtho2D(-0,250, -0, 100);**  **// gluOrtho2D(-0, 300, -40, 100);**  **glutMainLoop();**  **return 0;**  **}** |
| **Output Screenshot (Full Screen)-** |