**Lab Taks-1**

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| **Question-**  Draw the object- |
| **Graph Plot (Picture)-** |
| Code-  #include <windows.h> // For Windows  #include <GL/glut.h> // GLUT library  /\* Display function \*/  void display() {  glClear(GL\_COLOR\_BUFFER\_BIT);  glLoadIdentity();  glBegin(GL\_QUADS);  glColor3f(1.0f, 1.0f, 1.0f);  glVertex2f(-0.4f, -0.3f);  glVertex2f( 0.4f, -0.3f);  glVertex2f( 0.4f, 0.3f);  glVertex2f(-0.4f, 0.3f);  glEnd();  glLineWidth(5.0f);  glBegin(GL\_LINE\_LOOP);  glColor3f(0.0f, 0.0f, 0.0f);  glVertex2f(-0.4f, -0.3f);  glVertex2f( 0.4f, -0.3f);  glVertex2f( 0.4f, 0.3f);  glVertex2f(-0.4f, 0.3f);  glEnd();  glFlush();  }  /\* Initialize OpenGL \*/  void init() {  glClearColor(1.0f, 1.0f, 1.0f, 1.0f);  glMatrixMode(GL\_PROJECTION);  glLoadIdentity();  gluOrtho2D(-1, 1, -1, 1); // Set up 2D coordinate system  }  int main(int argc, char\*\* argv) {  glutInit(&argc, argv);  glutInitDisplayMode(GLUT\_SINGLE | GLUT\_RGB);  glutInitWindowSize(500, 500); // Set window size  glutCreateWindow("Rectangle");  init(); // Initialize OpenGL settings  glutDisplayFunc(display);  glutMainLoop();  return 0;  } |
| **Output Screenshot (Full Screen)-** |

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| **Question-**  Draw the object- |
| **Graph Plot (Picture)-** |
| **Code-**  #include <windows.h> // For Windows  #include <GL/glut.h> // GLUT library  /\* Display function \*/  void display() {  glClear(GL\_COLOR\_BUFFER\_BIT);  glLoadIdentity();  glBegin(GL\_QUADS);  glColor3f(1.0f, 0.0f, 0.0f);  glVertex2f(-0.6f, -0.3f);  glVertex2f( 0.6f, -0.3f);  glVertex2f( 0.4f, 0.3f);  glVertex2f(-0.4f, 0.3f);  glEnd();  glFlush();  }  /\* Initialize OpenGL \*/  void init() {  glClearColor(1.0f, 1.0f, 1.0f, 1.0f);  glMatrixMode(GL\_PROJECTION);  glLoadIdentity();  gluOrtho2D(-1, 1, -1, 1);  }  int main(int argc, char\*\* argv) {  glutInit(&argc, argv);  glutInitDisplayMode(GLUT\_SINGLE | GLUT\_RGB);  glutInitWindowSize(500, 500);  glutCreateWindow("Red Trapezoid");  init();  glutDisplayFunc(display);  glutMainLoop();  return 0;  } |
| **Output Screenshot (Full Screen)-** |

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| **Question-**  Draw the object- |
| **Graph Plot (Picture)-** |
| **Code-**  #include <windows.h> // for MS Windows  #include <GL/glut.h> // GLUT, includes glu.h and gl.h  /\* Initialize OpenGL Graphics \*/  void initGL() {  glClearColor(1.0f, 1.0f, 1.0f, 1.0f);  }  /\* Handler for window-repaint event \*/  void display() {  glClear(GL\_COLOR\_BUFFER\_BIT); // Clear the color buffer  glBegin(GL\_QUADS);  glColor3f(1.0f, 0.0f, 0.0f);  glVertex2f(-0.5f, 0.5f);  glVertex2f(-0.2f, 0.5f);  glVertex2f(-0.2f, 0.8f);  glVertex2f(-0.5f, 0.8f);  glEnd();  glBegin(GL\_QUADS);  glColor3f(0.0f, 1.0f, 0.0f);  glVertex2f(0.2f, 0.6f);  glVertex2f(0.5f, 0.6f);  glVertex2f(0.5f, 0.7f);  glVertex2f(0.2f, 0.7f);  glEnd();  glBegin(GL\_TRIANGLES);  glVertex2f(0.5f, 0.55f);  glVertex2f(0.7f, 0.65f);  glVertex2f(0.5f, 0.75f);  glEnd();  glBegin(GL\_TRIANGLES);  glColor3f(0.5f, 0.0f, 0.5f);  glVertex2f(-0.5f, -0.6f);  glVertex2f(-0.2f, -0.8f);  glVertex2f(-0.2f, -0.4f);  glEnd();  glBegin(GL\_TRIANGLES);  glColor3f(1.0f, 1.0f, 0.0f);  glVertex2f(0.3f, -0.4f);  glVertex2f(0.5f, -0.4f);  glVertex2f(0.4f, -0.2f);  glEnd();  glBegin(GL\_LINES);  glColor3f(0.0f, 0.0f, 0.0f);  glVertex2f(-1.0f, 0.0f);  glVertex2f(1.0f, 0.0f);  glVertex2f(0.0f, -1.0f);  glVertex2f(0.0f, 1.0f);  glEnd();  glFlush();  }  /\* Main function \*/  int main(int argc, char\*\* argv) {  glutInit(&argc, argv);  glutCreateWindow("2D Shapes Drawing");  glutInitWindowSize(500, 500);  glutDisplayFunc(display);  initGL();  glutMainLoop();  return 0;  } |
| **Output Screenshot (Full Screen)-** |