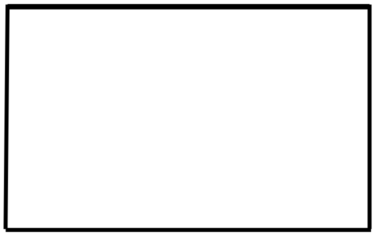
Lab Taks-1

Submission Guidelines-

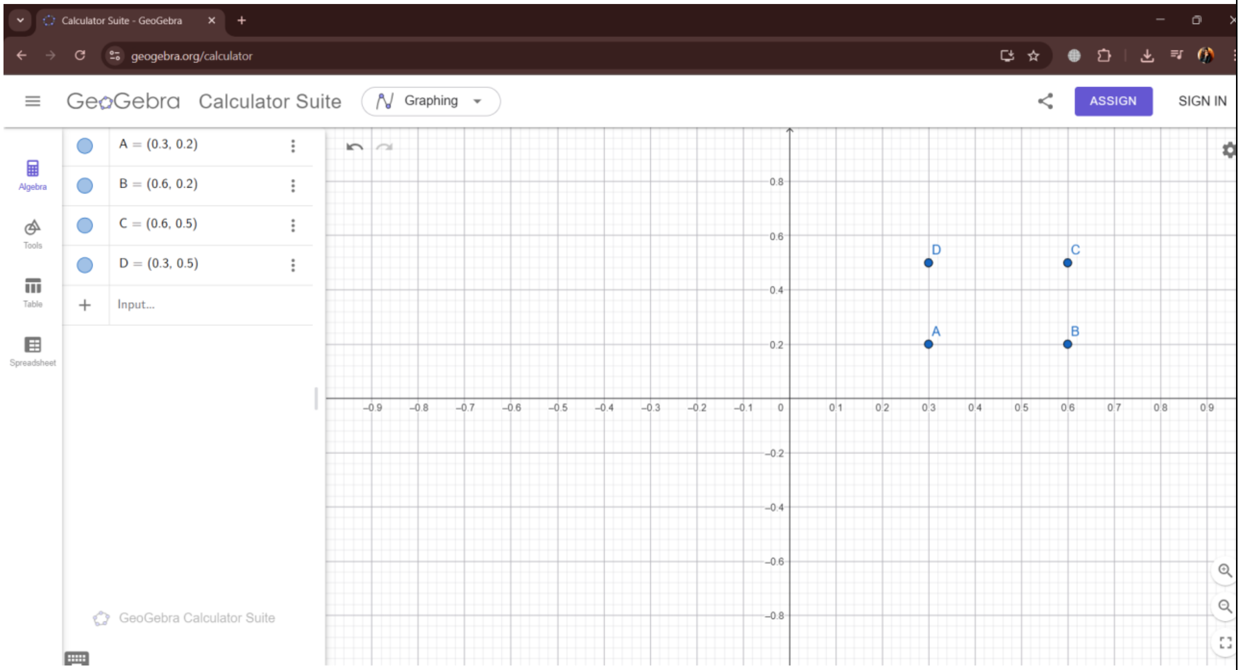
- Rename the file with your serial number only.
- Must submit within the given deadline in VUES to the section named Lab Tak-1
- Must include resources for all the section in the table

Question-

Draw the object-



Graph Plot (Picture)



A = (0.3, 0.2)

B = (0.6, 0.2)

C = (0.6, 0.5)

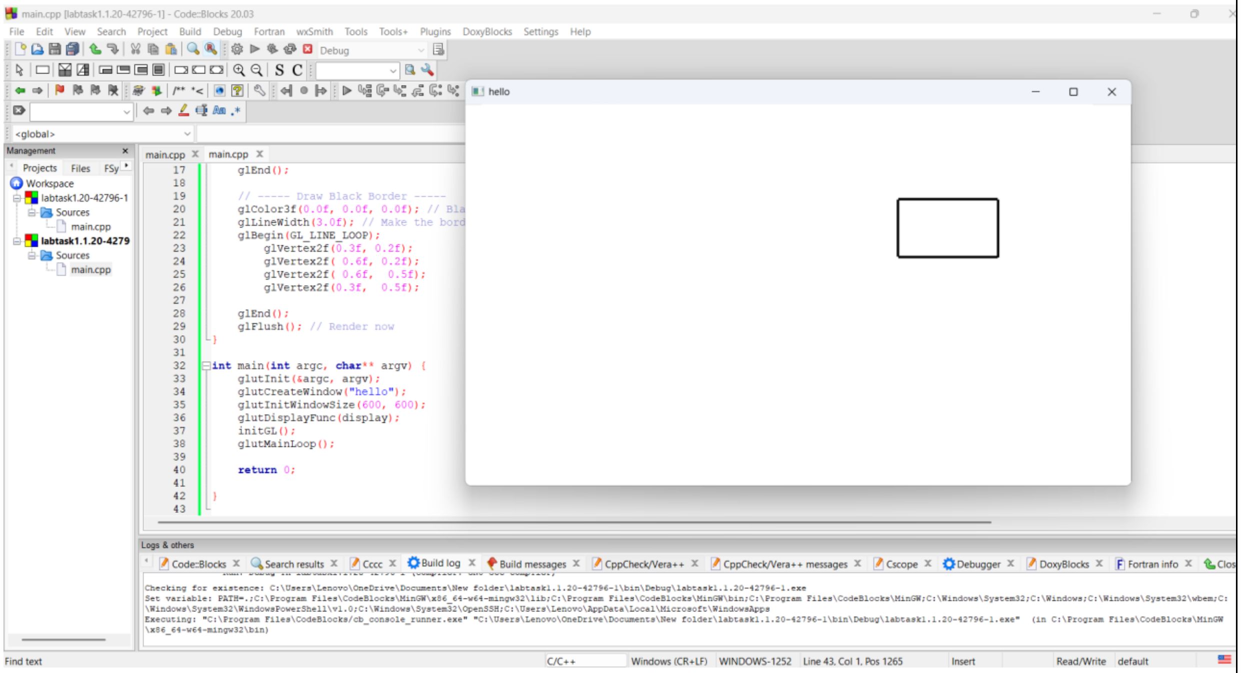
D = (0.3, 0.5)

Code:

```
#include <windows.h>  // For MS Windows
#include <GL/glut.h>  // GLUT, includes glu.h and gl.h



void initGL() {
   // Background color set to white
   glClearColor(1.0f, 1.0f, 1.0f, 1.0f);
}



void display() {
   glClear(GL_COLOR_BUFFER_BIT);   // Clear the color buffer
   glColor3f(1.0f, 1.0f, 1.0f); // White color fill
   glBegin(GL_QUADS);
      glVertex2f(0.3f, 0.2f);
      glVertex2f( 0.6f, 0.2f);
```

```
    glVertex2f( 0.6f,  0.5f);
    glVertex2f(0.3f,  0.5f);
  glEnd();


  // ----- Draw Black Border -----
  glColor3f(0.0f, 0.0f, 0.0f); // Black color border
  glLineWidth(3.0f); // Make the border thicker
  glBegin(GL_LINE_LOOP);
    glVertex2f(0.3f, 0.2f);
    glVertex2f( 0.6f, 0.2f);
    glVertex2f( 0.6f,  0.5f);
    glVertex2f(0.3f,  0.5f);


  glEnd();
  glFlush(); // Render now
}


int main(int argc, char** argv) {
  glutInit(&argc, argv);           // Initialize GLUT
  glutCreateWindow("hello");
  glutInitWindowSize(600, 600);      // Window size
  glutDisplayFunc(display);         // Register display callback
  initGL();                        // Initialize OpenGL
  glutMainLoop();                  // Event loop


  return 0;


}
```

Output Screenshot (Full Screen)-

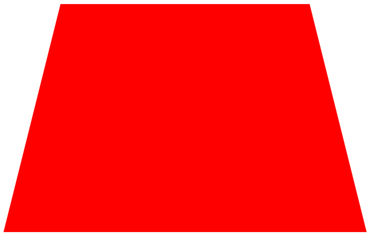


```cpp
    glEnd();

    // ----- Draw Black Border -----
    glColor3f(0.0f, 0.0f, 0.0f); // Bla
    glLineWidth(3.0f); // Make the bord
    glBegin(GL_LINE_LOOP);
        glVertex2f(0.3f, 0.2f);
        glVertex2f( 0.6f, 0.2f);
        glVertex2f( 0.6f,  0.5f);
        glVertex2f(0.3f,  0.5f);

    glEnd();
    glFlush(); // Render now
}

int main(int argc, char** argv) {
    glutInit(&argc, argv);
    glutCreateWindow("hello");
    glutInitWindowSize(600, 600);
    glutDisplayFunc(display);
    initGL();
    glutMainLoop();

    return 0;

}
```

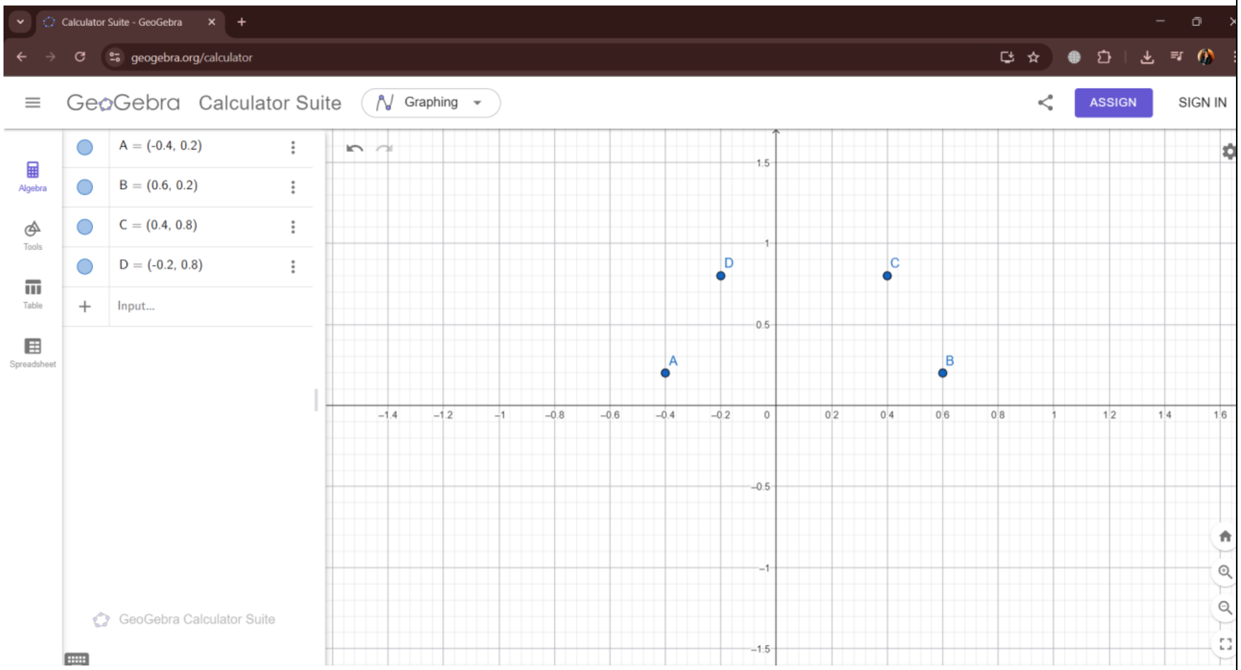
```
Checking for existence: C:\Users\Lenovo\OneDrive\Documents\New folder\labtask1.1.20-42796-1\bin\Debug\labtask1.1.20-42796-1.exe
Set variable: PATH=.;C:\Program Files\CodeBlocks\MinGW\x86_64-w64-mingw32\lib;C:\Program Files\CodeBlocks\MinGW\bin;C:\Program Files\CodeBlocks\MinGW;C:\Windows\System32;C:\Windows;C:\Windows\System32\wbem;C:
\Windows\System32\WindowsPowerShell\v1.0;C:\Windows\System32\OpenSSH;C:\Users\Lenovo\AppData\Local\Microsoft\WindowsApps
Executing: "C:\Program Files\CodeBlocks/cb_console_runner.exe" "C:\Users\Lenovo\OneDrive\Documents\New folder\labtask1.1.20-42796-1\bin\Debug\labtask1.1.20-42796-1.exe"  (in C:\Program Files\CodeBlocks\MinGW
\x86_64-w64-mingw32\bin)
```

Question-

Draw the object-



Graph Plot (Picture)-



A = (-0.4, 0.2)

B = (0.6, 0.2)

C = (0.4, 0.8)

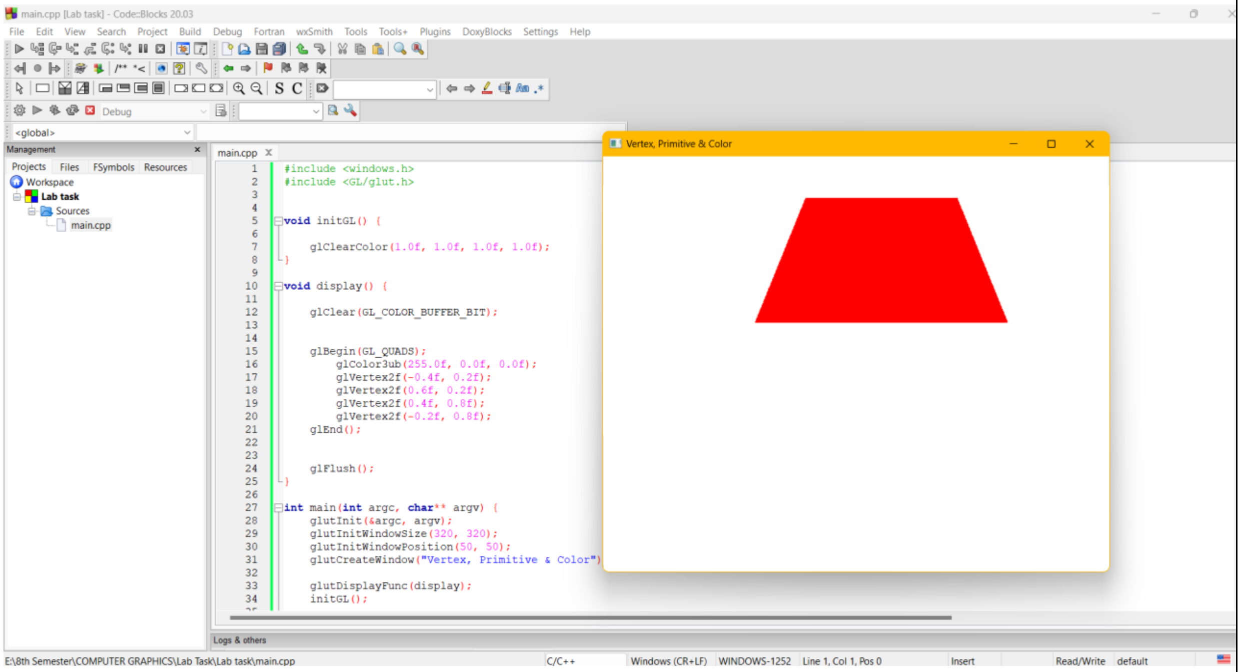
D = (-0.2, 0.8)

Code-

```
#include <windows.h>
#include <GL/glut.h>
void initGL() {
  glClearColor(1.0f, 1.0f, 1.0f, 1.0f);
}
void display() {
  glClear(GL_COLOR_BUFFER_BIT);
  glBegin(GL_QUADS);
    glColor3ub(255.0f, 0.0f, 0.0f);
    glVertex2f(-0.4f, 0.2f);
    glVertex2f(0.6f, 0.2f);
    glVertex2f(0.4f, 0.8f);
    glVertex2f(-0.2f, 0.8f);
  glEnd();
  glFlush();
}
int main(int argc, char** argv) {
  glutInit(&argc, argv);
  glutInitWindowSize(320, 320);
  glutInitWindowPosition(50, 50);
  glutCreateWindow("Vertex, Primitive & Color");

  glutDisplayFunc(display);
```

```
   initGL();

   glutMainLoop();

   return 0;

}
```

Output Screenshot (Full Screen)-

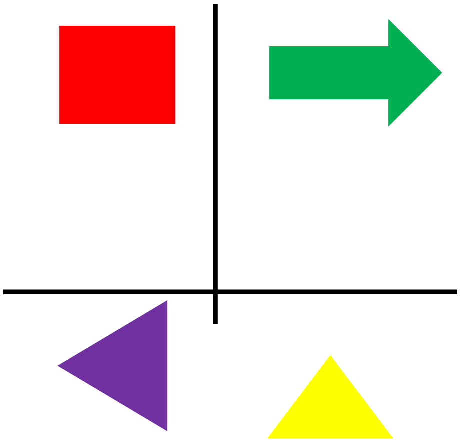


main.cpp [Lab task] - Code::Blocks 20.03
File Edit View Search Project Build Debug Fortran wxSmith Tools Tools+ Plugins DoxyBlocks Settings Help
Debug
<global>
Management
Projects Files FSymbols Resources
Workspace
Lab task
Sources
main.cpp
Logs & others
Vertex, Primitive & Color
E:\8th Semester\COMPUTER GRAPHICS\Lab Task\Lab task\main.cpp
C/C++
Windows (CR+LF)
WINDOWS-1252
Line 1, Col 1, Pos 0
Insert
Read/Write
default

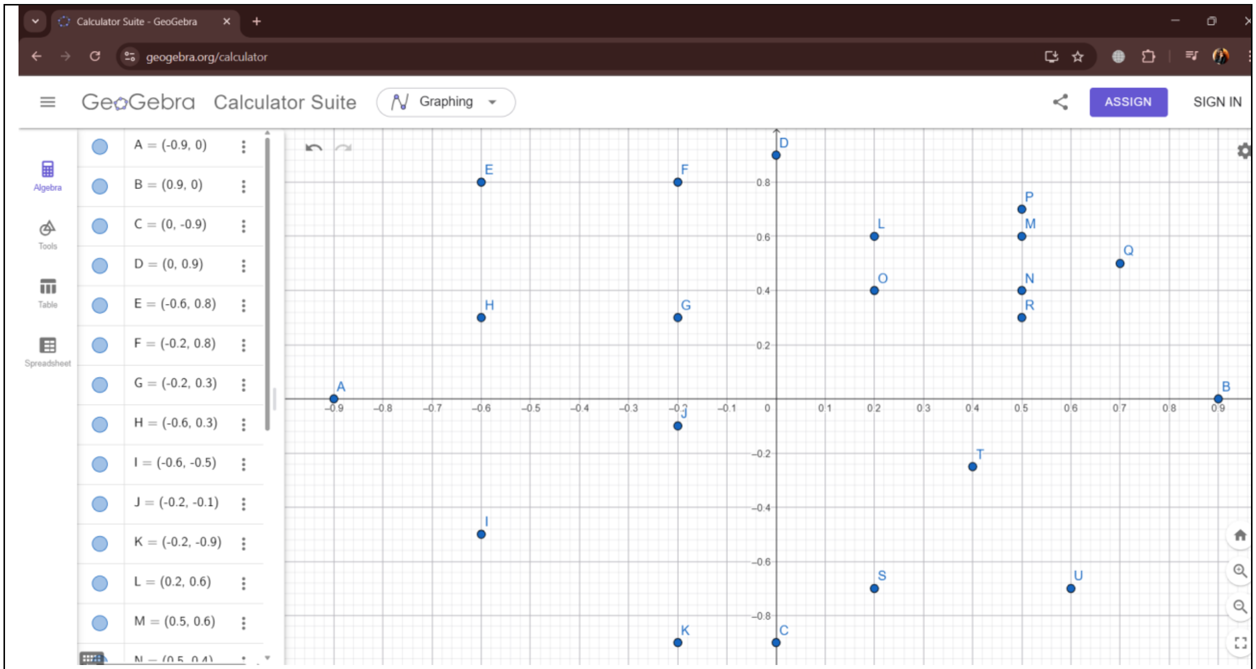
```
#include <windows.h>
#include <GL/glut.h>


void initGL() {

    glClearColor(1.0f, 1.0f, 1.0f, 1.0f);
}

void display() {

    glClear(GL_COLOR_BUFFER_BIT);


    glBegin(GL_QUADS);
        glColor3ub(255.0f, 0.0f, 0.0f);
        glVertex2f(-0.4f, 0.2f);
        glVertex2f(0.6f, 0.2f);
        glVertex2f(0.4f, 0.8f);
        glVertex2f(-0.2f, 0.8f);
    glEnd();


    glFlush();
}

int main(int argc, char** argv) {
    glutInit(&argc, argv);
    glutInitWindowSize(320, 320);
    glutInitWindowPosition(50, 50);
    glutCreateWindow("Vertex, Primitive & Color")

    glutDisplayFunc(display);
    initGL();
```

Question-

Draw the object-



Graph Plot (Picture)-



A = (-0.9, 0)

B = (0.9, 0)

C = (0, -0.9)

D = (0, 0.9)

E = (-0.6, 0.8)

F = (-0.2, 0.8)

G = (-0.2, 0.3)

H = (-0.6, 0.3)

I = (-0.6, -0.5)

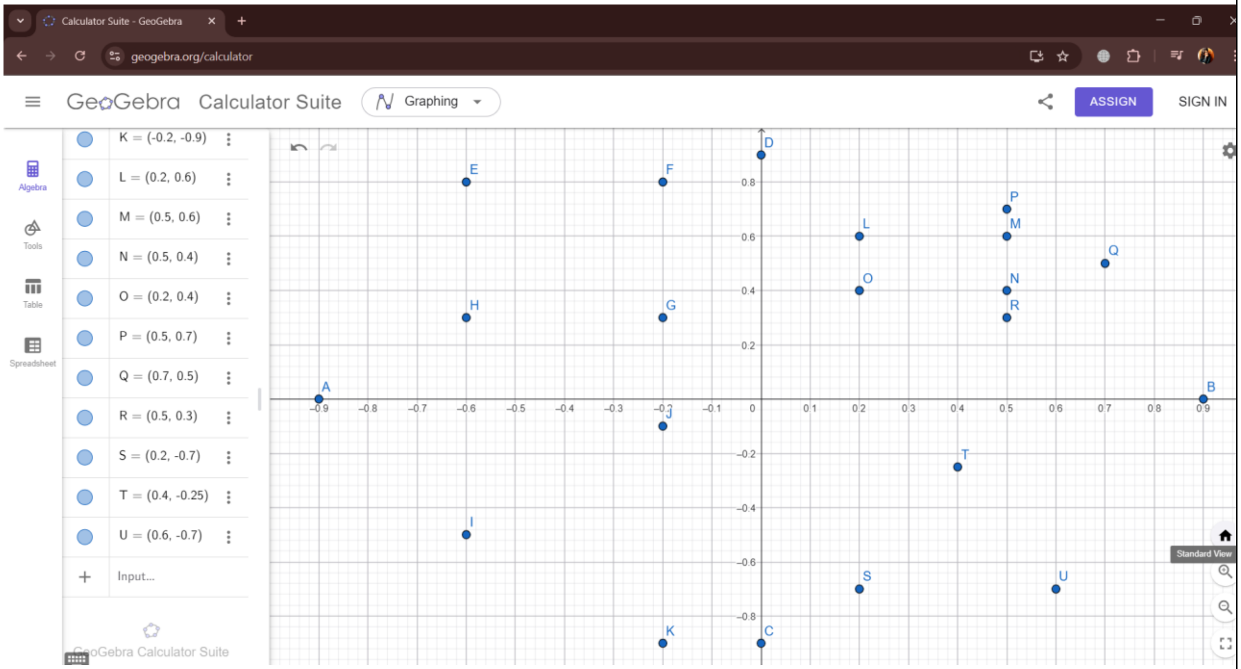
J = (-0.2, -0.1)

K = (-0.2, -0.9)

L = (0.2, 0.6)

M = (0.5, 0.6)

N = (0.5, 0.4)



K = (-0.2, -0.9)

L = (0.2, 0.6)

M = (0.5, 0.6)

N = (0.5, 0.4)

O = (0.2, 0.4)

P = (0.5, 0.7)

Q = (0.7, 0.5)

R = (0.5, 0.3)

S = (0.2, -0.7)

T = (0.4, -0.25)

U = (0.6, -0.7)

+ Input...

Code:

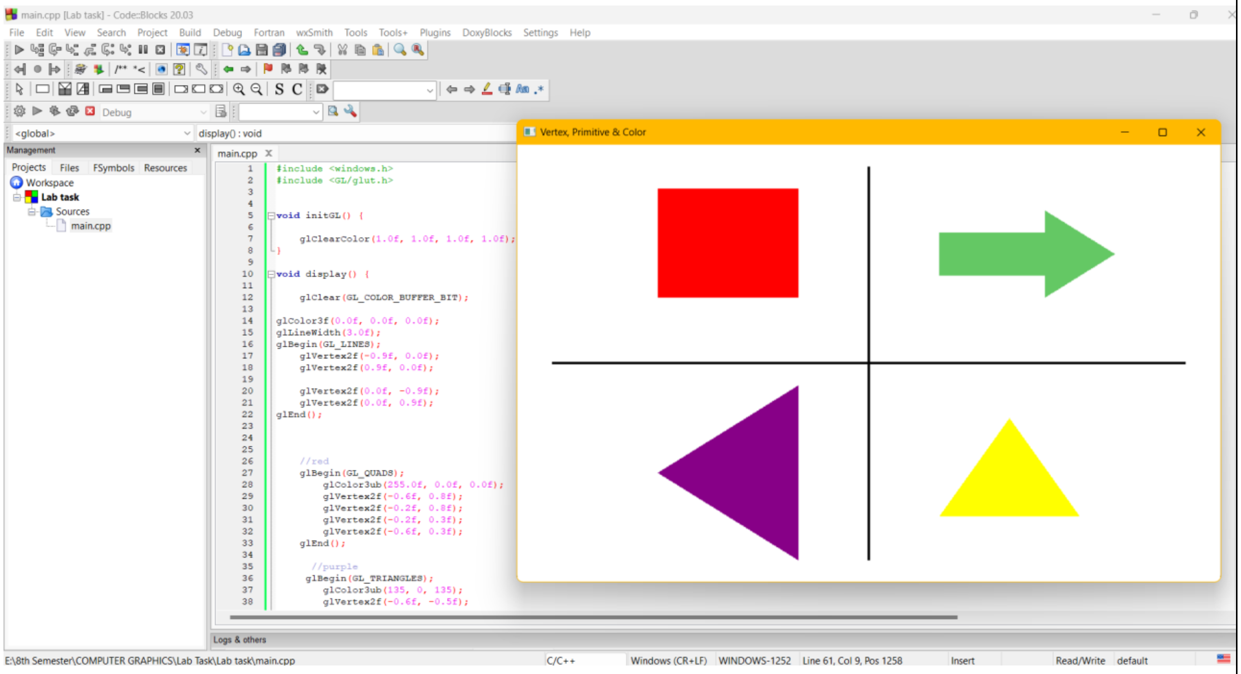
```
#include <windows.h>
#include <GL/glut.h>
void initGL() {

   glClearColor(1.0f, 1.0f, 1.0f, 1.0f);
}
void display() {

   glClear(GL_COLOR_BUFFER_BIT);

glColor3f(0.0f, 0.0f, 0.0f);
glLineWidth(3.0f);
glBegin(GL_LINES);
   glVertex2f(-0.9f, 0.0f);
   glVertex2f(0.9f, 0.0f);

   glVertex2f(0.0f, -0.9f);
   glVertex2f(0.0f, 0.9f);
glEnd();

   //red
   glBegin(GL_QUADS);
      glColor3ub(255.0f, 0.0f, 0.0f);
```

```
    glVertex2f(-0.6f, 0.8f);
    glVertex2f(-0.2f, 0.8f);
    glVertex2f(-0.2f, 0.3f);
    glVertex2f(-0.6f, 0.3f);
glEnd();


  //purple
 glBegin(GL_TRIANGLES);
    glColor3ub(135, 0, 135);
    glVertex2f(-0.6f, -0.5f);
    glVertex2f(-0.2f, -0.1f);
    glVertex2f(-0.2f, -0.9f);
glEnd();


 //green
glBegin(GL_QUADS);
    glColor3ub(100, 200, 100);
    glVertex2f(0.2f, 0.6f);
    glVertex2f(0.5f, 0.6f);
    glVertex2f(0.5f, 0.4f);
    glVertex2f(0.2f, 0.4f);
glEnd();


 glBegin(GL_TRIANGLES);
```

```
    glColor3ub(100, 200, 100);
    glVertex2f(0.5f, 0.7f);
    glVertex2f(0.7f, 0.5f);
    glVertex2f(0.5f, 0.3f);
  glEnd();

  //yellow
  glBegin(GL_TRIANGLES);
    glColor3ub(255, 255, 0);
    glVertex2f(0.2f, -0.7f);
    glVertex2f(0.4f, -0.25f);
    glVertex2f(0.6f, -0.7f);
  glEnd();


  glFlush();
}

int main(int argc, char** argv) {
  glutInit(&argc, argv);
  glutInitWindowSize(320, 320);
  glutInitWindowPosition(50, 50);
  glutCreateWindow("Vertex, Primitive & Color");
```

```
    glutDisplayFunc(display);

    initGL();



    glutMainLoop();

    return 0;

}
```

Output Screenshot (Full Screen)-



main.cpp [Lab task] - Code::Blocks 20.03
File Edit View Search Project Build Debug Fortran wxSmith Tools Tools+ Plugins DoxyBlocks Settings Help
Debug
<global>
display() : void
Management
Projects Files FSymbols Resources
Workspace
Lab task
Sources
main.cpp
Vertex, Primitive & Color
Logs & others

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


void initGL() {

    glClearColor(1.0f, 1.0f, 1.0f, 1.0f);
}

void display() {

    glClear(GL_COLOR_BUFFER_BIT);

glColor3f(0.0f, 0.0f, 0.0f);
glLineWidth(3.0f);
glBegin(GL_LINES);
    glVertex2f(-0.9f, 0.0f);
    glVertex2f(0.9f, 0.0f);

    glVertex2f(0.0f, -0.9f);
    glVertex2f(0.0f, 0.9f);
glEnd();



    //red
    glBegin(GL_QUADS);
        glColor3ub(255.0f, 0.0f, 0.0f);
        glVertex2f(-0.6f, 0.8f);
        glVertex2f(-0.2f, 0.8f);
        glVertex2f(-0.2f, 0.3f);
        glVertex2f(-0.6f, 0.3f);
    glEnd();

      //purple
     glBegin(GL_TRIANGLES);
        glColor3ub(135, 0, 135);
        glVertex2f(-0.6f, -0.5f);
```

E:\8th Semester\COMPUTER GRAPHICS\Lab Task\Lab task\main.cpp   C/C++   Windows (CR+LF)   WINDOWS-1252   Line 61, Col 9, Pos 1258   Insert   Read/Write   default