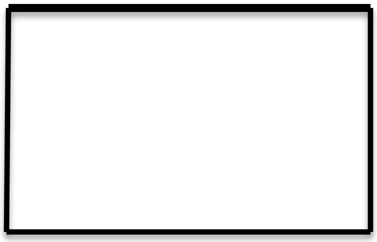
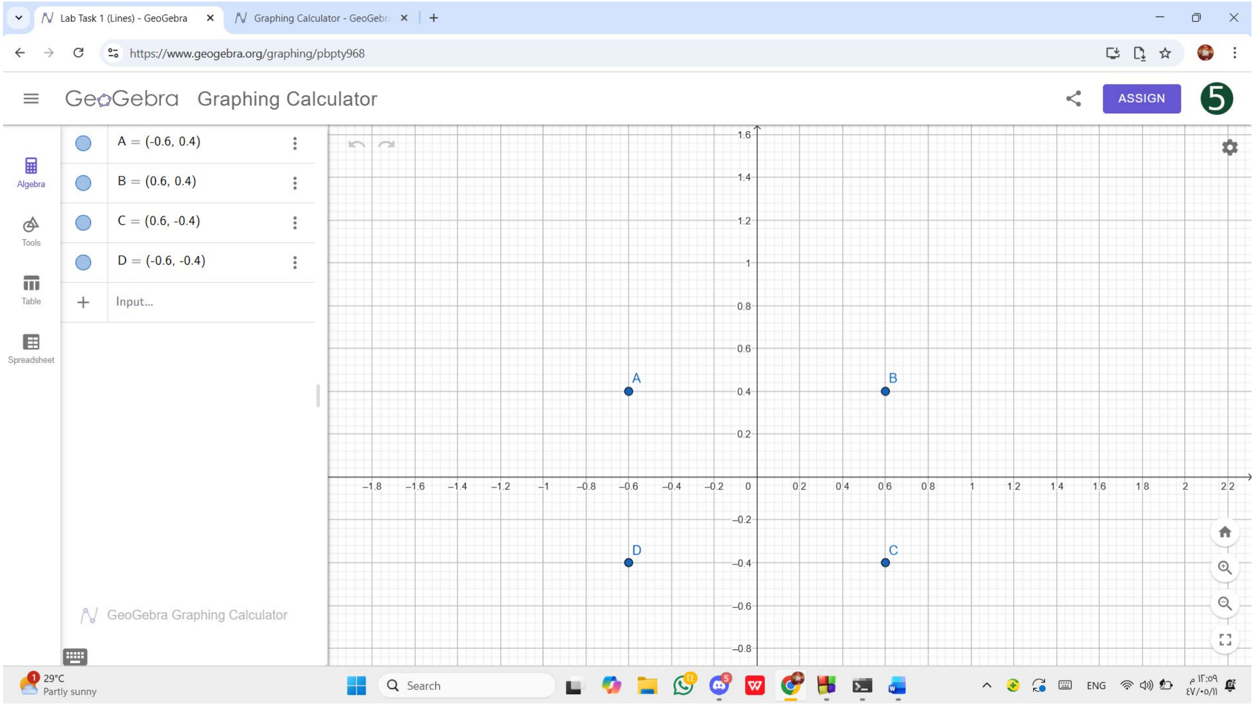
Lab Taks-1

Question-

Draw the object-



Graph Plot (Picture)-



A = (-0.6, 0.4)

B = (0.6, 0.4)

C = (0.6, -0.4)

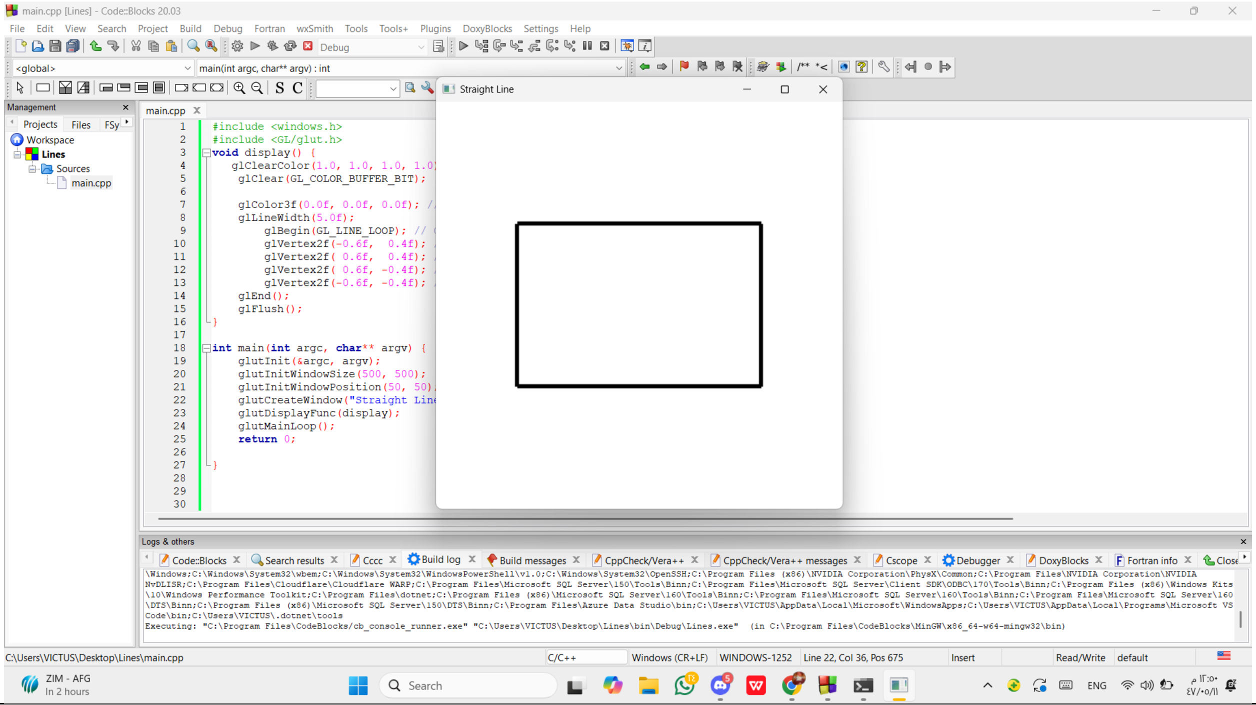
D = (-0.6, -0.4)

Code-

```
#include <windows.h>
#include <GL/glut.h>
void display() {
  glClearColor(1.0, 1.0, 1.0, 1.0);
   glClear(GL_COLOR_BUFFER_BIT);

   glColor3f(0.0f, 0.0f, 0.0f); // Black color
   glLineWidth(5.0f);            // line thickness
```

```
        glBegin(GL_LINE_LOOP); // Connects points as lines in a loop
        glVertex2f(-0.6f,  0.4f); // A
        glVertex2f( 0.6f,  0.4f); // B
        glVertex2f( 0.6f, -0.4f); // C
        glVertex2f(-0.6f, -0.4f); // D
    glEnd();




    glFlush();
}

int main(int argc, char** argv) {
    glutInit(&argc, argv);
    glutInitWindowSize(500, 500);
    glutInitWindowPosition(50, 50);
    glutCreateWindow("Rainbow Flag");
    glutDisplayFunc(display);
    glutMainLoop();
    return 0;

}
```

Output Screenshot (Full Screen)-



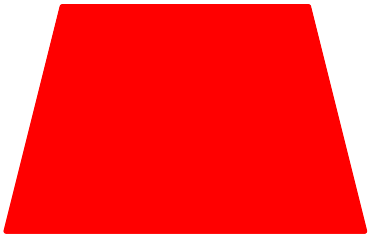
main.cpp [Lines] - Code::Blocks 20.03
File Edit View Search Project Build Debug Fortran wxSmith Tools Tools+ Plugins DoxyBlocks Settings Help
Debug
<global>
main(int argc, char** argv) : int
Management
Projects Files FSy
Workspace
Lines
Sources
main.cpp
Straight Line
Logs & others
Code::Blocks Search results Cccc Build log Build messages CppCheck/Vera++ CppCheck/Vera++ messages Cscope Debugger DoxyBlocks Fortran info Close
C:\Users\VICTUS\Desktop\Lines\main.cpp
C/C++ Windows (CR+LF) WINDOWS-1252 Line 22, Col 36, Pos 675 Insert Read/Write default
ZIM - AFG
In 2 hours
Search
ENG

```
#include <windows.h>
#include <GL/glut.h>
void display() {
   glClearColor(1.0, 1.0, 1.0, 1.0)
    glClear(GL_COLOR_BUFFER_BIT);

    glColor3f(0.0f, 0.0f, 0.0f); /
    glLineWidth(5.0f);
        glBegin(GL_LINE_LOOP); // 
        glVertex2f(-0.6f,  0.4f); 
        glVertex2f( 0.6f,  0.4f); 
        glVertex2f( 0.6f, -0.4f); 
        glVertex2f(-0.6f, -0.4f); 
    glEnd();
    glFlush();
}

int main(int argc, char** argv) {
    glutInit(&argc, argv);
    glutInitWindowSize(500, 500);
    glutInitWindowPosition(50, 50)
    glutCreateWindow("Straight Line
    glutDisplayFunc(display);
    glutMainLoop();
    return 0;

}
```

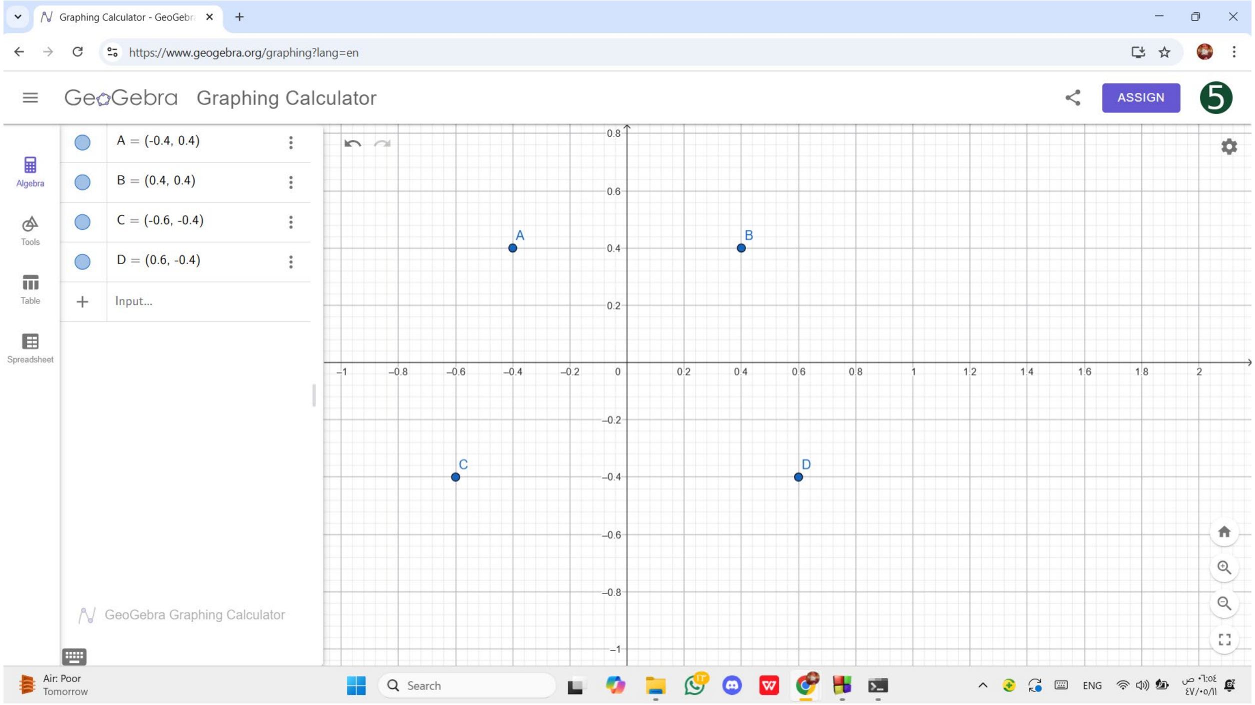
```
\Windows;C:\Windows\System32\wbem;C:\Windows\System32\WindowsPowerShell\v1.0;C:\Windows\System32\OpenSSH;C:\Program Files (x86)\NVIDIA Corporation\PhysX\Common;C:\Program Files\NVIDIA Corporation\NVIDIA
NvDLISR;C:\Program Files\Cloudflare\Cloudflare WARP;C:\Program Files\Microsoft SQL Server\150\Tools\Binn;C:\Program Files\Microsoft SQL Server\Client SDK\ODBC\170\Tools\Binn;C:\Program Files (x86)\Windows Kits
\10\Windows Performance Toolkit;C:\Program Files\dotnet;C:\Program Files (x86)\Microsoft SQL Server\160\Tools\Binn;C:\Program Files\Microsoft SQL Server\160\Tools\Binn;C:\Program Files\Microsoft SQL Server\160
\DTS\Binn;C:\Program Files (x86)\Microsoft SQL Server\150\DTS\Binn;C:\Program Files\Azure Data Studio\bin;C:\Users\VICTUS\AppData\Local\Microsoft\WindowsApps;C:\Users\VICTUS\AppData\Local\Programs\Microsoft VS
Code\bin;C:\Users\VICTUS\.dotnet\tools
Executing: "C:\Program Files\CodeBlocks/cb_console_runner.exe" "C:\Users\VICTUS\Desktop\Lines\bin\Debug\Lines.exe"  (in C:\Program Files\CodeBlocks\MinGW\x86_64-w64-mingw32\bin)
```

Question-

Draw the object-



Graph Plot (Picture)-



A = (-0.4, 0.4)

B = (0.4, 0.4)

C = (-0.6, -0.4)

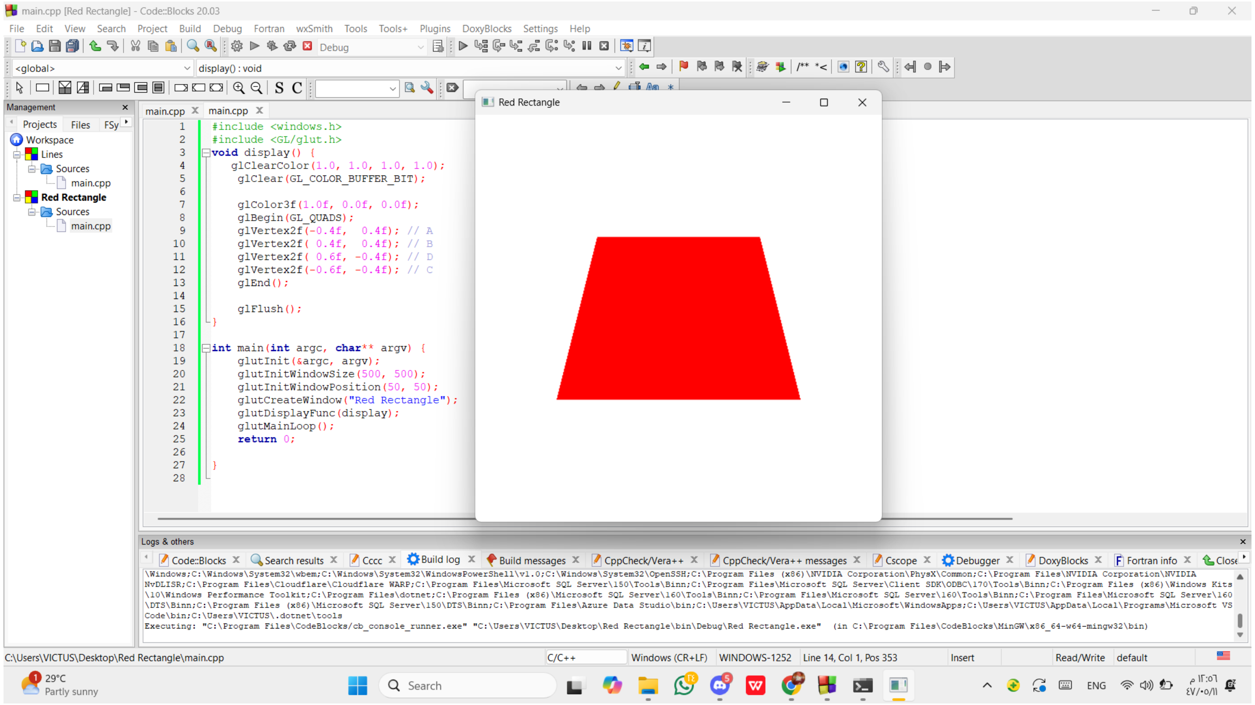
D = (0.6, -0.4)

Code-

```
#include <windows.h>
#include <GL/glut.h>
void display() {
  glClearColor(1.0, 1.0, 1.0, 1.0);
   glClear(GL_COLOR_BUFFER_BIT);

   glColor3f(1.0f, 0.0f, 0.0f);
   glBegin(GL_QUADS);
   glVertex2f(-0.4f,  0.4f); // A
   glVertex2f( 0.4f,  0.4f); // B
   glVertex2f( 0.6f, -0.4f); // D
   glVertex2f(-0.6f, -0.4f); // C
   glEnd();
```

```
    glFlush();
}

int main(int argc, char** argv) {
    glutInit(&argc, argv);
    glutInitWindowSize(500, 500);
    glutInitWindowPosition(50, 50);
    glutCreateWindow("Rainbow Flag");
    glutDisplayFunc(display);
    glutMainLoop();
    return 0;

}
```

Output Screenshot (Full Screen)-

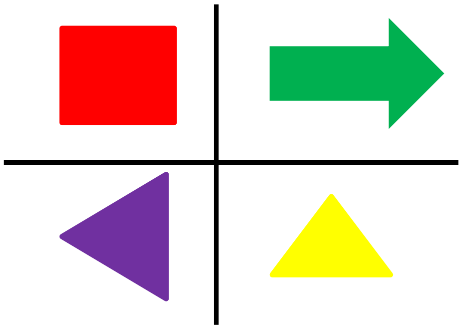

main.cpp [Red Rectangle] - Code::Blocks 20.03
File Edit View Search Project Build Debug Fortran wxSmith Tools Tools+ Plugins DoxyBlocks Settings Help
Debug
<global>
display() : void
Management
Projects Files FSy
Workspace
Lines
Sources
main.cpp
Red Rectangle
Sources
main.cpp
main.cpp main.cpp
Red Rectangle
Logs & others
Code::Blocks Search results Cccc Build log Build messages CppCheck/Vera++ CppCheck/Vera++ messages Cscope Debugger DoxyBlocks Fortran info Close
C:\Users\VICTUS\Desktop\Red Rectangle\main.cpp
C/C++
Windows (CR+LF)
WINDOWS-1252
Line 14, Col 1, Pos 353
Insert
Read/Write
default
29°C
Partly sunny
Search
ENG

```
#include <windows.h>
#include <GL/glut.h>
void display() {
   glClearColor(1.0, 1.0, 1.0, 1.0);
    glClear(GL_COLOR_BUFFER_BIT);

    glColor3f(1.0f, 0.0f, 0.0f);
    glBegin(GL_QUADS);
    glVertex2f(-0.4f,  0.4f); // A
    glVertex2f( 0.4f,  0.4f); // B
    glVertex2f( 0.6f, -0.4f); // D
    glVertex2f(-0.6f, -0.4f); // C
    glEnd();

    glFlush();
}

int main(int argc, char** argv) {
    glutInit(&argc, argv);
    glutInitWindowSize(500, 500);
    glutInitWindowPosition(50, 50);
    glutCreateWindow("Red Rectangle");
    glutDisplayFunc(display);
    glutMainLoop();
    return 0;

}
```

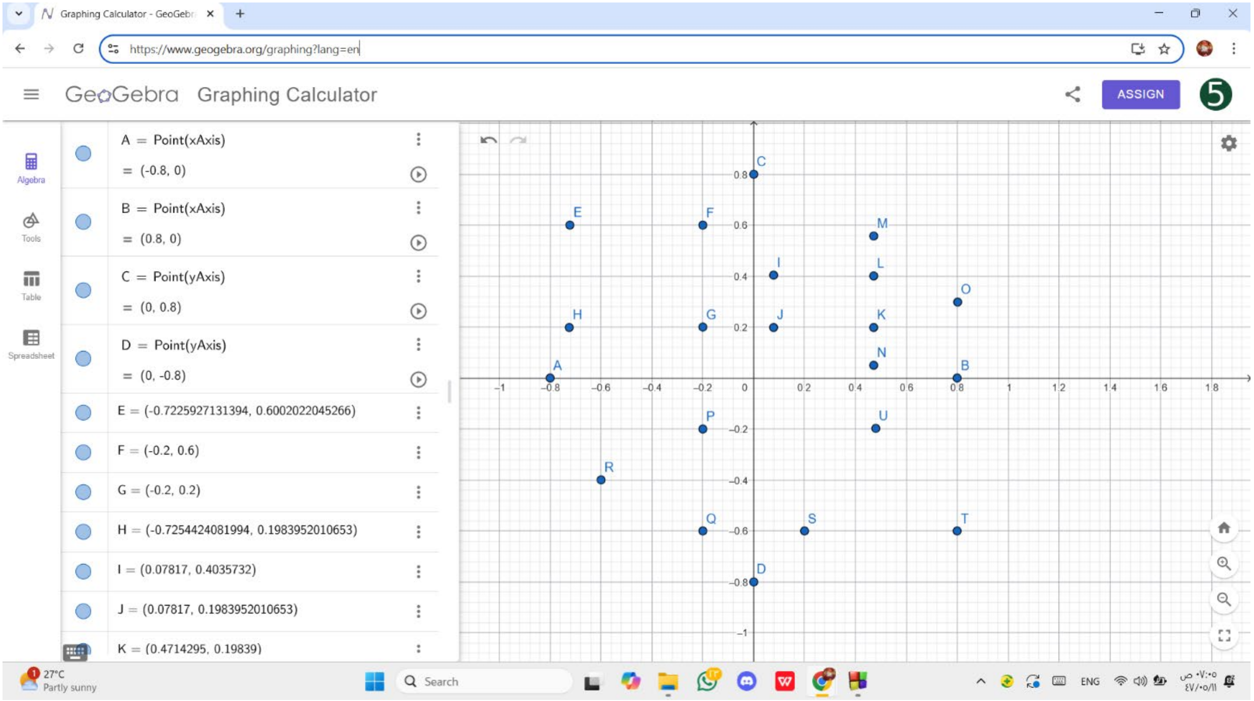
```
\Windows;C:\Windows\System32\wbem;C:\Windows\System32\WindowsPowerShell\v1.0;C:\Windows\System32\OpenSSH;C:\Program Files (x86)\NVIDIA Corporation\PhysX\Common;C:\Program Files\NVIDIA Corporation\NVIDIA
NvDLISR;C:\Program Files\Cloudflare\Cloudflare WARP;C:\Program Files\Microsoft SQL Server\150\Tools\Binn;C:\Program Files\Microsoft SQL Server\Client SDK\ODBC\170\Tools\Binn;C:\Program Files (x86)\Windows Kits
\10\Windows Performance Toolkit;C:\Program Files\dotnet;C:\Program Files (x86)\Microsoft SQL Server\160\Tools\Binn;C:\Program Files\Microsoft SQL Server\160\Tools\Binn;C:\Program Files\Microsoft SQL Server\160
\DTS\Binn;C:\Program Files (x86)\Microsoft SQL Server\150\DTS\Binn;C:\Program Files\Azure Data Studio\bin;C:\Users\VICTUS\AppData\Local\Microsoft\WindowsApps;C:\Users\VICTUS\AppData\Local\Programs\Microsoft VS
Code\bin;C:\Users\VICTUS\.dotnet\tools
Executing: "C:\Program Files\CodeBlocks/cb_console_runner.exe" "C:\Users\VICTUS\Desktop\Red Rectangle\bin\Debug\Red Rectangle.exe"  (in C:\Program Files\CodeBlocks\MinGW\x86_64-w64-mingw32\bin)
```

Question-

Draw the object-



Graph Plot (Picture)-



Graphing Calculator - GeoGebra
https://www.geogebra.org/graphing?lang=en
GeoGebra Graphing Calculator
ASSIGN
Algebra
Tools
Table
Spreadsheet
27°C
Partly sunny
Search
ENG

A = Point(xAxis)
= (-0.8, 0)

B = Point(xAxis)
= (0.8, 0)

C = Point(yAxis)
= (0, 0.8)

D = Point(yAxis)
= (0, -0.8)

E = (-0.7225927131394, 0.6002022045266)

F = (-0.2, 0.6)

G = (-0.2, 0.2)

H = (-0.7254424081994, 0.1983952010653)

I = (0.07817, 0.4035732)

J = (0.07817, 0.1983952010653)

K = (0.4714295, 0.19839)

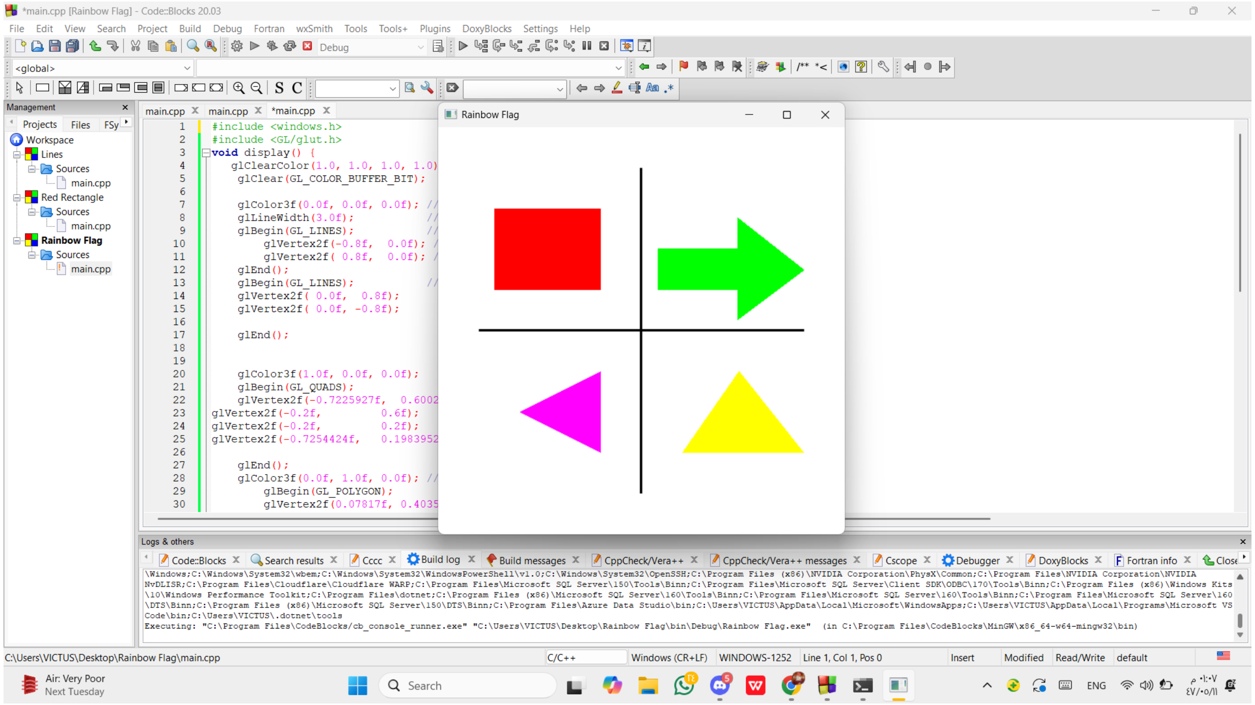
Code-

```
#include <windows.h>
#include <GL/glut.h>
void display() {
  glClearColor(1.0, 1.0, 1.0, 1.0);
   glClear(GL_COLOR_BUFFER_BIT);

   glColor3f(0.0f, 0.0f, 0.0f); // Black color
   glLineWidth(3.0f);         // Line thickness
   glBegin(GL_LINES);          // Start drawing a line
```

```
      glVertex2f(-0.8f,  0.0f); // Point A
      glVertex2f( 0.8f,  0.0f); // Point B
   glEnd();
   glBegin(GL_LINES);          // Start drawing a line
   glVertex2f( 0.0f,  0.8f);      // C
   glVertex2f( 0.0f, -0.8f);      // D

   glEnd();



   glColor3f(1.0f, 0.0f, 0.0f);
   glBegin(GL_QUADS);
   glVertex2f(-0.7225927f,  0.6002022f); // E
glVertex2f(-0.2f,        0.6f);      // F
glVertex2f(-0.2f,        0.2f);      // G
glVertex2f(-0.7254424f,   0.1983952f); // H

   glEnd();
   glColor3f(0.0f, 1.0f, 0.0f); // Green
      glBegin(GL_POLYGON);         // Start polygon
      glVertex2f(0.07817f, 0.4035732f);  // I
      glVertex2f(0.07817f, 0.1983952f);  // J
      glVertex2f(0.4714295f, 0.19839f);  // K
      glVertex2f(0.4714295f, 0.4035732f); // L
   glEnd();
      glBegin(GL_TRIANGLES);       // Start drawing triangle
      glVertex2f(0.4714295f, 0.557456f);   // M
      glVertex2f(0.4714295f, 0.050211f);   // N
      glVertex2f(0.8019941f, 0.2981345f);  // O
   glEnd();

      glColor3f(1.0f, 0.0f, 1.0f); // Purple color
   glBegin(GL_TRIANGLES);       // Draw filled triangle
      glVertex2f(-0.2f, -0.2f); // P
      glVertex2f(-0.2f, -0.6f); // Q
      glVertex2f(-0.6f, -0.4f); // R
   glEnd();

      glColor3f(1.0f, 1.0f, 0.0f); // Yellow color
   glBegin(GL_TRIANGLES);       // Draw filled triangle
      glVertex2f(0.2f, -0.6f);       // S
      glVertex2f(0.8f, -0.6f);       // T
      glVertex2f(0.4799786f, -0.1977124f); // U
   glEnd();

   glFlush();
}
```

```
int main(int argc, char** argv) {
    glutInit(&argc, argv);
    glutInitWindowSize(500, 500);
    glutInitWindowPosition(50, 50);
    glutCreateWindow("Rainbow Flag");
    glutDisplayFunc(display);
    glutMainLoop();
    return 0;

}
```

Output Screenshot (Full Screen)-



```
#include <windows.h>
#include <GL/glut.h>
void display() {
   glClearColor(1.0, 1.0, 1.0, 1.0)
    glClear(GL_COLOR_BUFFER_BIT);

    glColor3f(0.0f, 0.0f, 0.0f); //
    glLineWidth(3.0f);            //
    glBegin(GL_LINES);            //
        glVertex2f(-0.8f,  0.0f); /
        glVertex2f( 0.8f,  0.0f); /
    glEnd();
    glBegin(GL_LINES);            //
    glVertex2f( 0.0f,  0.8f);
    glVertex2f( 0.0f, -0.8f);

    glEnd();


    glColor3f(1.0f, 0.0f, 0.0f);
    glBegin(GL_QUADS);
    glVertex2f(-0.7225927f,  0.6002
glVertex2f(-0.2f,         0.6f);
glVertex2f(-0.2f,         0.2f);
glVertex2f(-0.7254424f,   0.1983952

    glEnd();
    glColor3f(0.0f, 1.0f, 0.0f); //
        glBegin(GL_POLYGON);
        glVertex2f(0.07817f, 0.4035
```

```
\Windows;C:\Windows\System32\wbem;C:\Windows\System32\WindowsPowerShell\v1.0;C:\Windows\System32\OpenSSH;C:\Program Files (x86)\NVIDIA Corporation\PhysX\Common;C:\Program Files\NVIDIA Corporation\NVIDIA
NvDLISR;C:\Program Files\Cloudflare\Cloudflare WARP;C:\Program Files\Microsoft SQL Server\150\Tools\Binn;C:\Program Files\Microsoft SQL Server\Client SDK\ODBC\170\Tools\Binn;C:\Program Files (x86)\Windows Kits
\10\Windows Performance Toolkit;C:\Program Files\dotnet;C:\Program Files (x86)\Microsoft SQL Server\160\Tools\Binn;C:\Program Files\Microsoft SQL Server\160\Tools\Binn;C:\Program Files\Microsoft SQL Server\160
\DTS\Binn;C:\Program Files (x86)\Microsoft SQL Server\150\DTS\Binn;C:\Program Files\Azure Data Studio\bin;C:\Users\VICTUS\AppData\Local\Microsoft\WindowsApps;C:\Users\VICTUS\AppData\Local\Programs\Microsoft VS
Code\bin;C:\Users\VICTUS\.dotnet\tools
Executing: "C:\Program Files\CodeBlocks/cb_console_runner.exe" "C:\Users\VICTUS\Desktop\Rainbow Flag\bin\Debug\Rainbow Flag.exe"  (in C:\Program Files\CodeBlocks\MinGW\x86_64-w64-mingw32\bin)
```