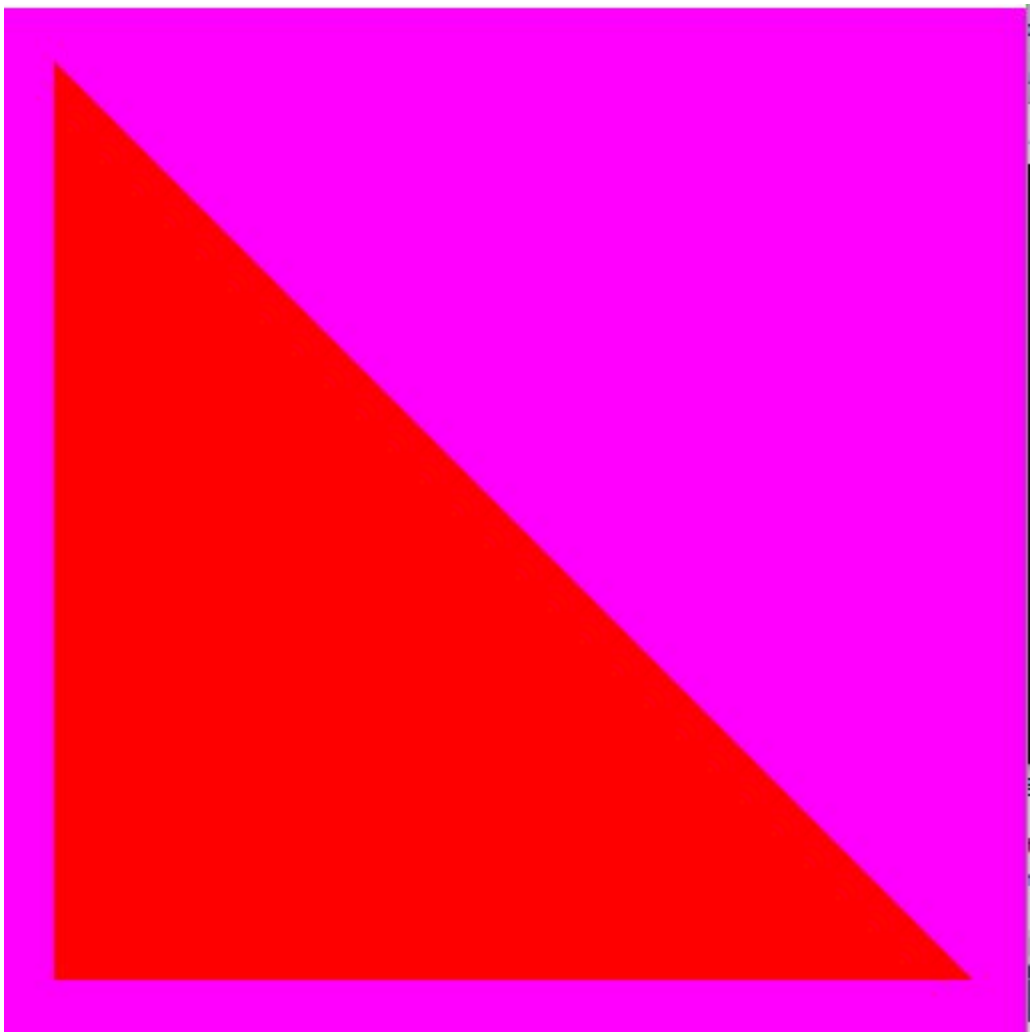
Md abul kashem

Assignment #1

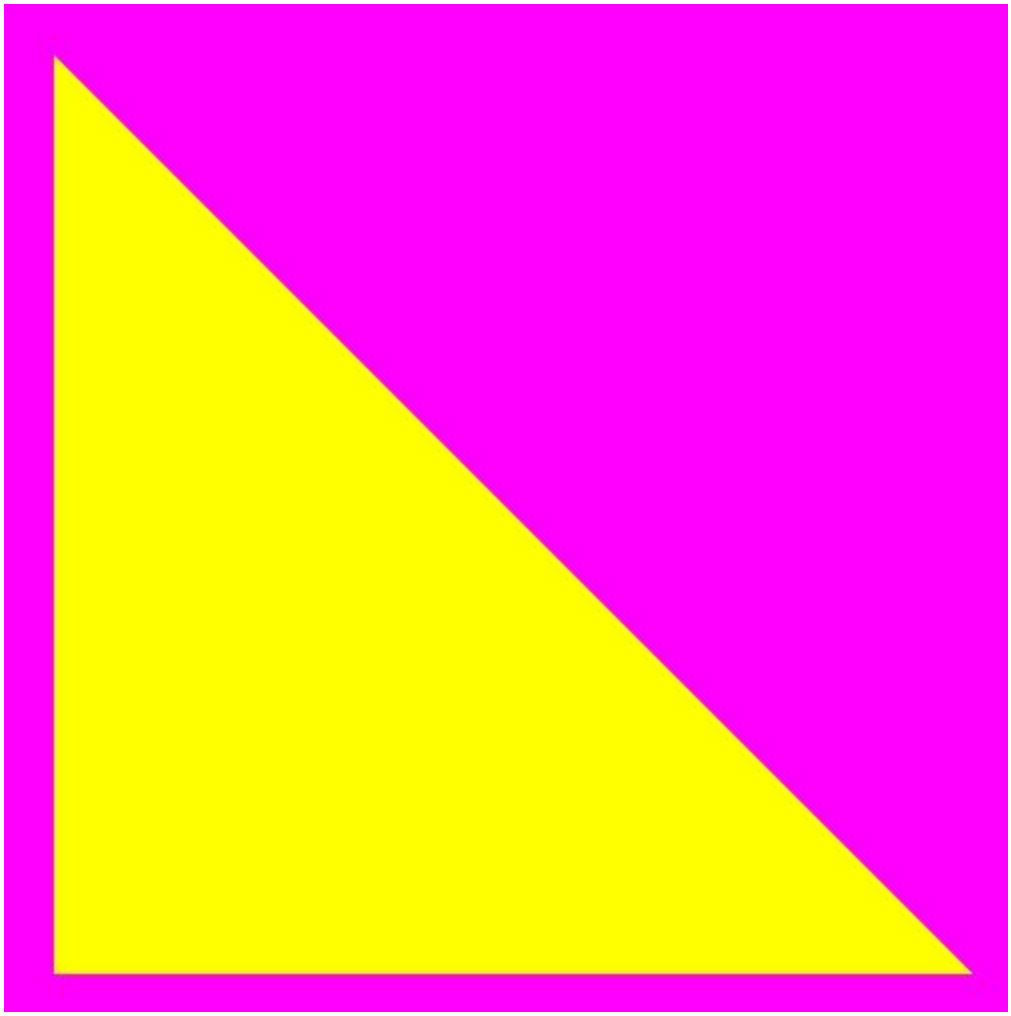
1) Change the background color. You can choose any color other than black. Write down the code to change the color. Show the screen shot with the code.

Answer: glClearColor(1.0,0.0,1.0,0.0);



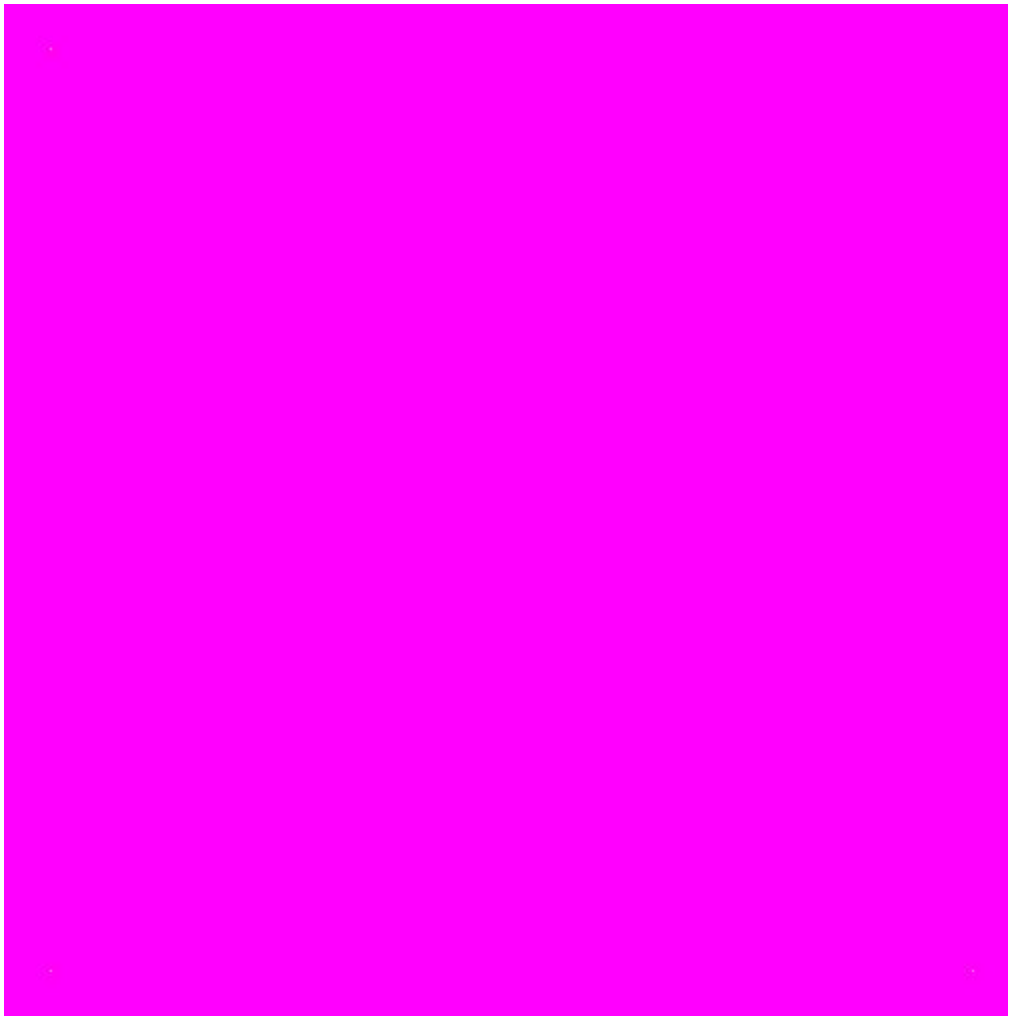
2) Change the color of the triangle. You can choose any color other than red as given in the original program. Write down the code to change the color. Show the screen shot with the code.

Answer: fColor = vec4(1.0, 1.0, 0.0, 1.0);

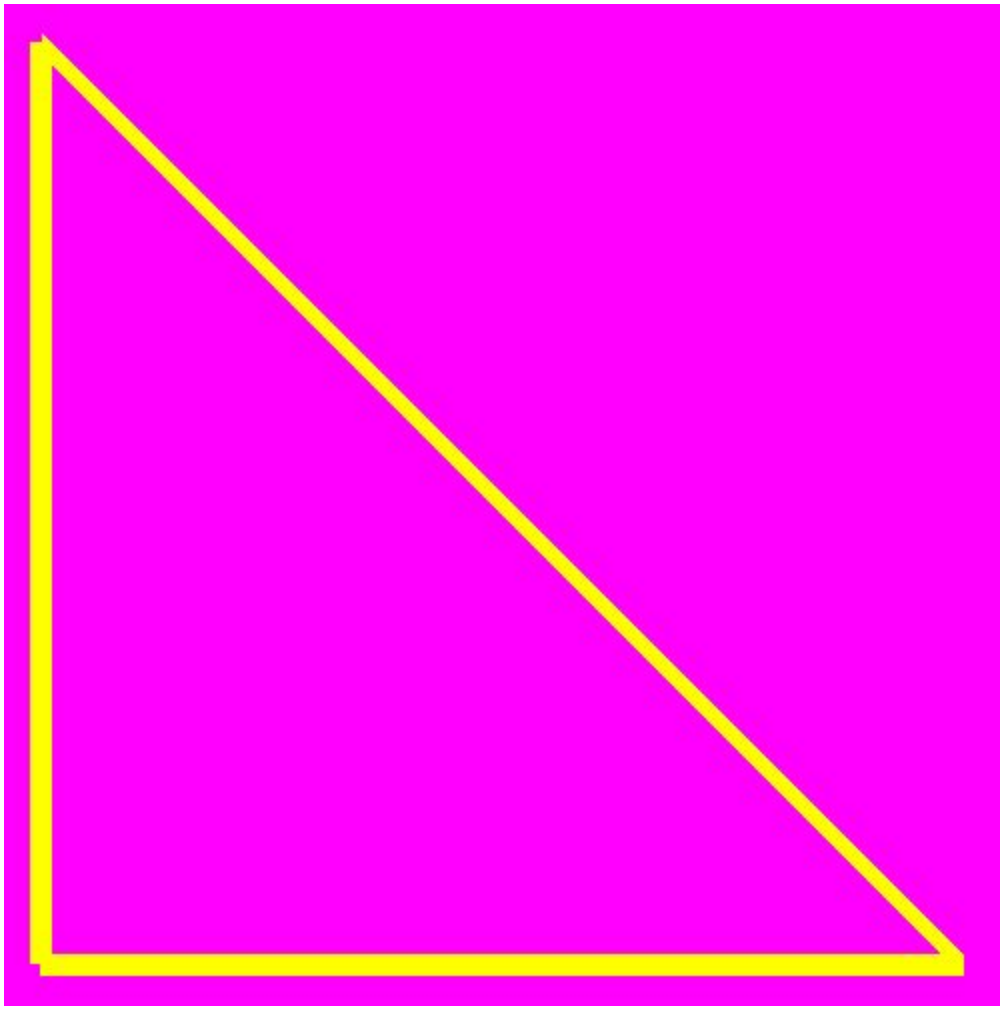


3) Replace GL_TRIANGLE with GL_TRIANGLE_STRIP, GL_TRIANGLE_FAN in glDrawArrays command. Does the output for each case differ from the original output? Why or why not?
Answer: Outputs are same.

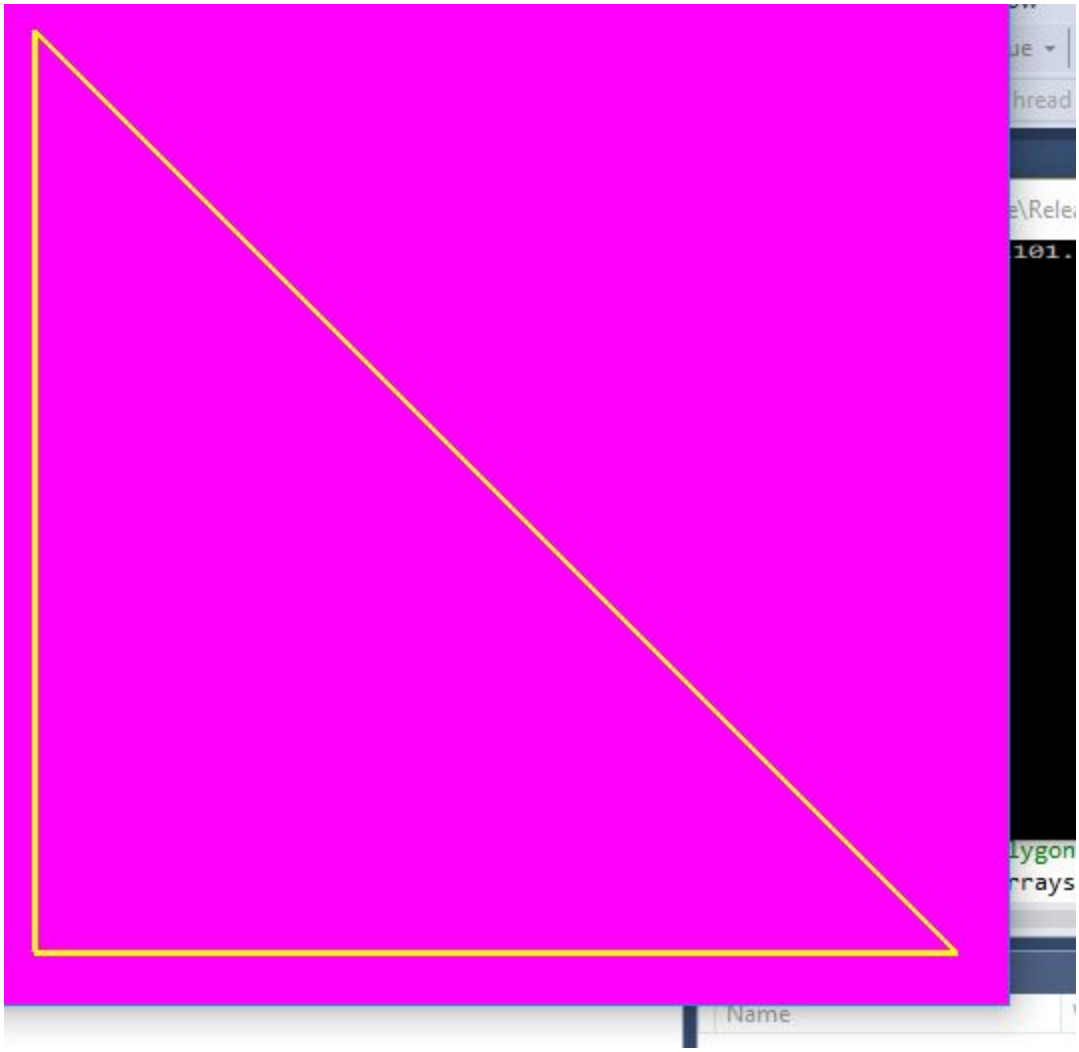
4) The triangle is composed of three points. Show the points. Write down the codes that draw points. Vary the size of the points. Show the screen shot with the code.
Answer:
glPolygonMode(GL_FRONT_AND_BACK, GL_POINT);
glEnable(20.5);



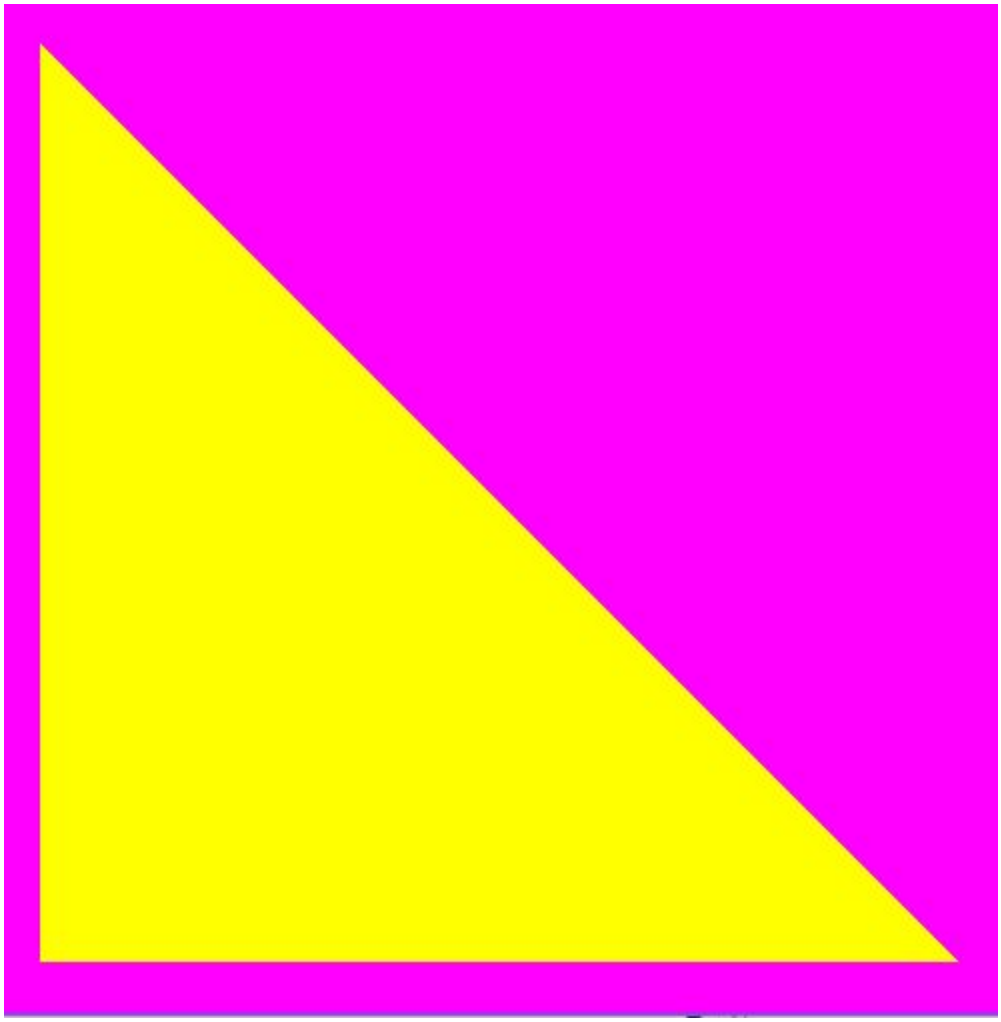
5) The triangle has three sides. Draw the lines to show the three sides of the triangle; vary the width of the lines. Use GL_LINE, GL_LINE_LOOP. Write down the codes that draw lines. Show the screen shots for different line width along with the code.
Answer:
glPolygonMode(GL_FRONT_AND_BACK, GL_LINE);
glLineWidth(10.5);



glLineWidth(2.5);

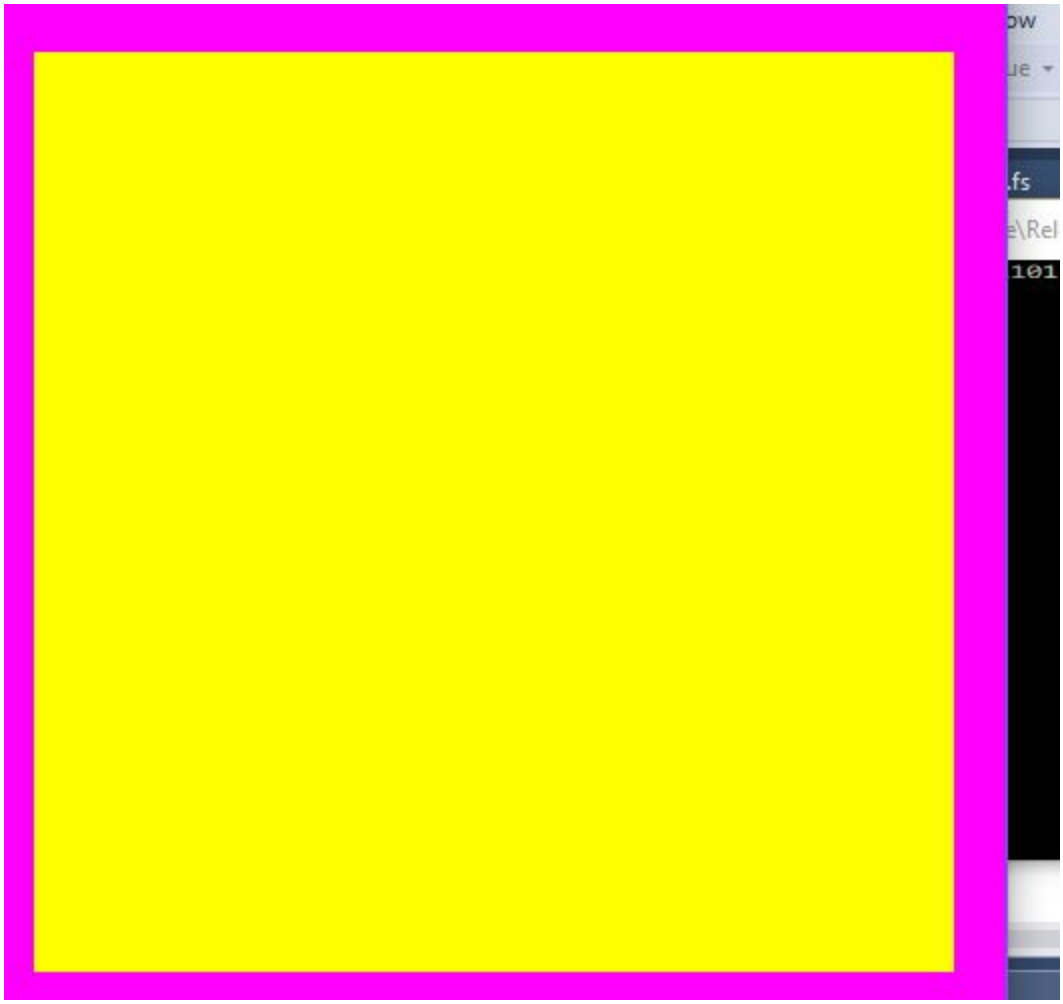


```
glPolygonMode(GL_FRONT_AND_BACK, GL_LINE_LOOP);
        glLineWidth(10.5);
```



7) Replace GL_TRIANGLE with GL_TRIANGLE_STRIP, GL_TRIANGLE_FAN in glDrawArrays command for the square. Does the output for each case differ from the original output? Why or why not?

Answer: We can make same output by rearrange the vertices. For Example, to make square with our exiting triangle:

```
GLfloat vertices[4][2] = { { -0.90, -0.90 },  //
                           { 0.90, -0.90  },
                           { 0.90,  0.90 },
                            { -0.90,  0.90 }
                       };
glDrawArrays(GL_TRIANGLE_FAN, 0, 4);
```

Explaination: when we use GL_TRIANGLE_FUN the second triangle make by joining forth point to the first and third points from the existing triangle.