CS405 Computer Graphics **Barış Ulaş Çukur**
Assignment 2 **29461**

In this assignment, we're asked to change a fragment shader code to render the rectangle in blue instead of red. The original code provided in this assignment already has the required parts to render a red rectangle inside a canvas (Figure 1.1).

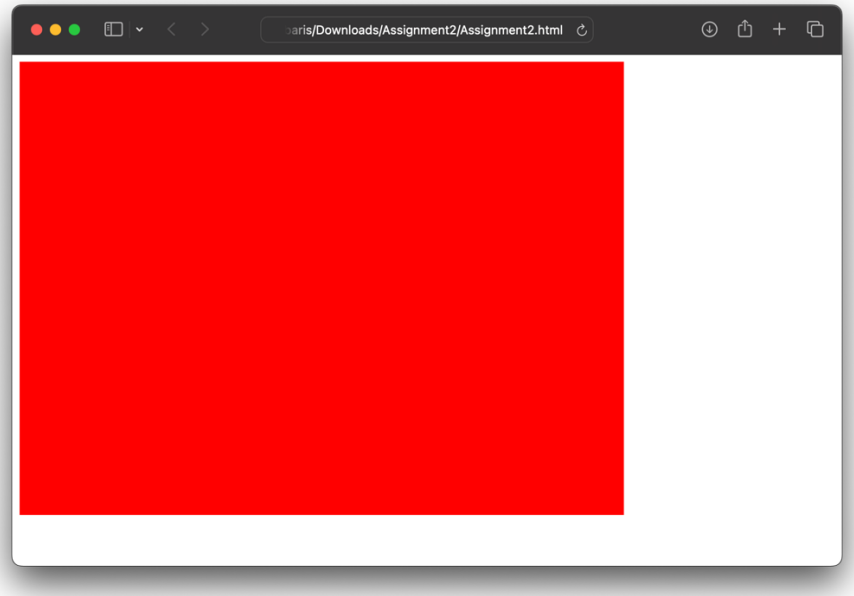

Figure 1.1

This rectangle is being rendered with the use of a fragment shader on another JS file called "redbox.js". The main file uses the fragment shader of the redbox.js file in line 84 with *gl.shaderSource(fragmentShader, fragmentShaderSource);* function call.

Thus, to modify the color of the rectangle we simply need to change this fragment shader inside "redbox.js" file (Figure 1.2).

JS redbox.js > ...

```
1   // [TO-DO] Please change the color to blue
2
3   const fragmentShaderSource = `
4   precision mediump float;
5
6   void main() {
7     gl_FragColor = vec4(1.0, 0.0, 0.0, 1.0);
8   }
9   `;
10
```

Figure 1.2

The function *vec4* has 4 parameters: red, green, blue, and alpha values. Here we're only interested in the colors, so we'll keep the alpha (opacity) at 1.0. To change the color to blue, we'll simply modify the vec4 function call by changing red and green parameters to 0, and blue parameter to 1.0 (Figure 1.3).

JS redbox.js > ...

```
1   // [TO-DO] Please change the color to blue
2
3   const fragmentShaderSource = `
4   precision mediump float;
5
6   void main() {
7     gl_FragColor = vec4(0.0, 0.0, 1.0, 1.0);
8   }
9   `;
10
```

Figure 1.3

Now we have the same rectangle with the color blue (Figure 1.4).

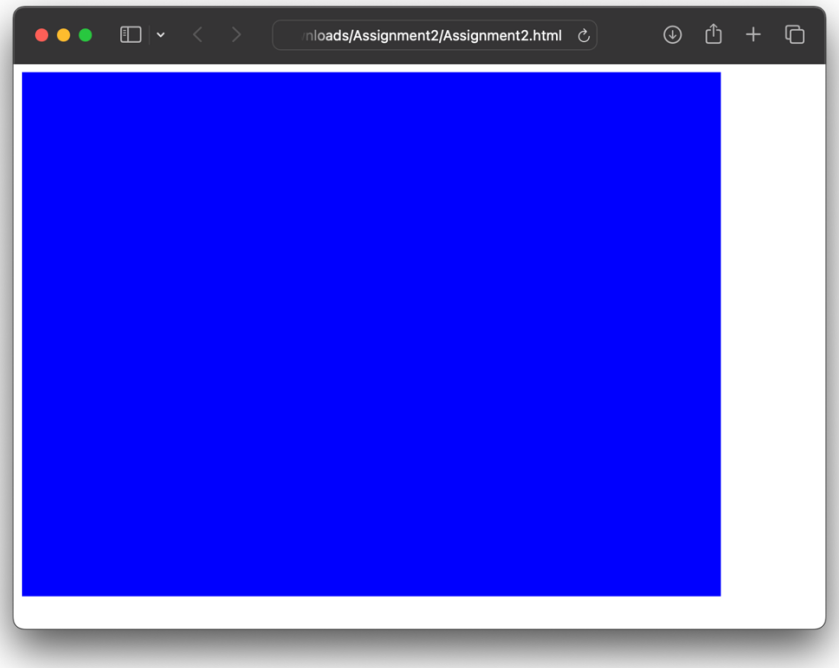

Figure 1.4