**CS 405 Computer Graphics**

**Assignment 2**

**İpek Nur Dolu – 27893**

In this assignment, the objective was to modify the color of a red box to blue by only making changes to the provided **redbox.js** file. This report explains the methodology I used to achieve this goal.

1. I downloaded the assignment content, and I observed the html file and I also observed the redbox.js file we were provided.
2. Before making any changes, I examined the js file.

This was the redbox.js file we were provided:   
A screen shot of a computer program

Description automatically generated

I analyzed the Fragment Shader thoroughly.

gl\_FragColor is a vector that represents the output color of a fragment in a shader program. It is usually a four-component vector in RGBA format.

RGBA= Red, Green, Blue, Alpha. While Red, Green and Blue components control the amount of the respective colors in the final fragment, Alpha component controls the transparency or opacity of the fragment. 1.0 represents full while 0.0 represents that, that component was not used for colors. For Alpha component 1.0 represents full opacity and 0.0 represents full transparency.

In the js file above, we can clearly see that Red and Alpha components are 1.0 while Green and Blue components are 0.0. This setting is giving us the initial red opaque box.

1. We need to change the code as the following to reach our goal of getting a blue opaque box.A screen shot of a computer

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Above I changed the Red component to 0.0 and Blue component to 1.0 in gl\_FragColor vector, changing the color of the box from red to blue.

1. Then I tested to see if I was successful. To do that I saved the js file and then opened the html file.

A screenshot of a computer

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