WebGL 5d Questions

Q1: Before executing it, what do you expect to see?

It looks like it will cycle through from red to green to blue and finally black, pausing on each for 1/10 of a second on each.

Q2: What do you see?

It draws the canvas in black without showing the other colors.

Q3: What do you see? (after changing enableAlert to true)

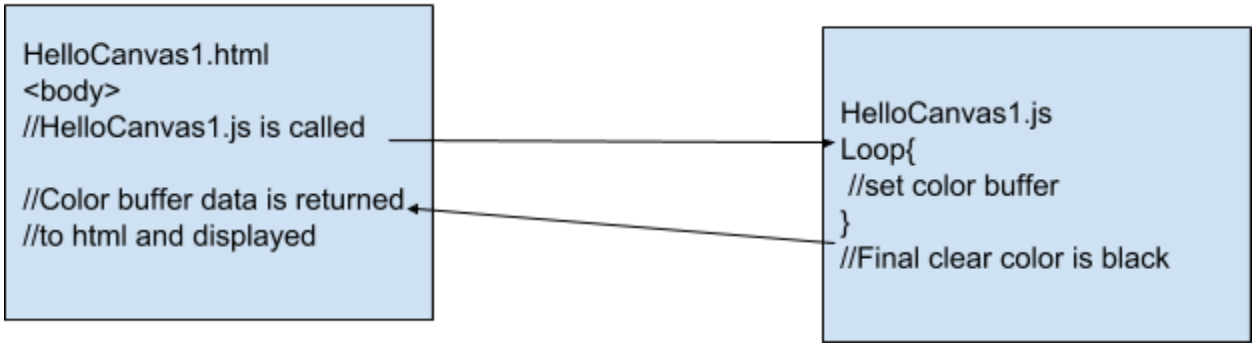
Using chrome the page pops up a message saying “The page says” 4 times, then clears the canvas with black. No other colors are seen. Using Firefox the canvas clears with a new color every time the message pops up.

Q4: Using you knowledge of how double buffering works (discussed in class) and using the discussion in WebGL book Appendix A, explain in writing why, in the first case (vii), you only see a black square, but in the second case (ix) you see 4 different colored squares -- even though in the first case there is a delay loop that should allow you to see the other 4 colors, each for a brief moment.

WebGL uses a single color buffer instead of the double buffer system used in other OpenGL implementations. Where OpenGL uses a call in the js to swap buffers and update what is displayed, in WebGL programs the browser checks if the color buffer has been modified after the js executes and exits. This means that unless the js returns control to the browser, using methods such as alert(), the browser will not check the color buffer until it is in its final state, and therefore will not display the changes over time.

Use a diagram (neat, scanned hand sketched pictures are ok; or use your preferred drawing tool) to help explain your answer

enableAlert = false



enableAlert = true