JavaScript Review

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CS 233JS

Topics

- Bootstrap
- JavaScript Review by Example
  - StopWatch
    - Variables
    - Scope
    - Operators and expresssions
    - If statements
    - Functions
    - Accessing elements on a web page
    - Adding an event handler
  - Concentration
    - Loops
    - Arrays
    - Strings
    - this
  - TicTacToe

Bootstrap

- Bootstrap is an open source toolkit for developing with HTML, CSS, and JS. It's responsive and mobile-first and as a consequence is one of the the most popular front-end component libraries.

- Lots of websites, including most of the labs you'll do this term, use Bootstrap primarily for styling.

- I haven't styled the StopWatch app at all but I did style Concentration and TTT minimally with Bootstrap.

- I assigned the w3Schools Bootstrap tutorials as part of your reading for this topic AND the first reading quiz asks you to take w3schools' Bootstrap quiz.

Add Bootstrap to any Page

- Bootstrap requires the use of the HTML5 doctype. Without it, you'll see some funky incomplete styling, but including it shouldn't cause any considerable hiccups.

  ```
  <!doctype html>
  <html lang="en">

      …

  </html>
  ```

- Add a link to Bootstrap in the head section of your page

```
<link href="https://cdn.jsdelivr.net/npm/bootstrap@5.2.1/dist/css/bootstrap.min.css" rel="stylesheet">
<script src="https://cdn.jsdelivr.net/npm/bootstrap@5.2.1/dist/js/bootstrap.bundle.min.js"></script>
```

Make Sure Your Page is Responsive

- Bootstrap is developed *mobile first*, a strategy in which we optimize code for mobile devices first and then scale up components as necessary using CSS media queries. To ensure proper rendering and touch zooming for all devices, add the responsive viewport meta tag to your <head>.

  `<meta name="viewport" content="width=device-width, initial-scale=1">`

Learning Bootstrap Details

- I've left learning about Bootstrap styles to you this week
  - Look at the Bootstrap tutorials on w3Schools.
  - Start at the beginning and look at enough to get the hang of the grid system.
  - Then look at the things that seem useful or interesting.
  - Use Bootstrap to style StopWatch app, Concentration and TTT.
    - I've given you a screen shot of my StopWatch. It's intended as a sample to give you some ideas.
    - I haven't given you any ideas for the other 2 apps but both are already minimally styled using bootstrap.
  - You will not be a Bootstrap expert at the end of this week. BUT you should get lots of practice this term and you'll get better at it as you practice.
  - The first reading quiz asks you to take the w3Schools Bootstrap quiz. Let me show you the quiz as well as the instructions in the reading quiz.

3 Applications as a Review of JS

- I want to start by creating 3 applications in the "style" that you used at the end of the CS 133 JS class.

- We'll do the first one together. I'll help some with the 2nd one. I'll leave the third one for you to do largely on your own. Of course, I'll be available to help. All 3 problems make up your first lab.

- Let me run the completed version of the first problem on my machine so you can see what it does before we start to write code.

Our First Example - StopWatch

- Let's look at what I've given you in the starting zip file
  - Styles.css
  - IndexStart.html
  - IndexStartV1.js
- Let's start writing JS code together.
  - I'll stop doing it with the whole group when everyone has the hang of it.
  - Ask lots of questions if you don't remember something from the first JS class. I'm assuming that you Brian showed you all kinds of things and it's possible that I think you know something that you don't know.
  - The second (5 point) question on the reading quiz asks you to take w3School's JS quiz. You should be able to do that at this point. The reading quiz closes on Sunday.

Important JS Review Concepts and Syntax

- As I write the code for this problem, look for examples of
  - Variables
  - Scope
  - Arithmetic operators and expressions
  - If statements
  - Relational and logical operators
  - Functions
  - Parameters and return values
  - Accessing elements on a web page
  - Adding an event handler

Our Second Example - Concentration

- Now that you've got some of the cobwebs taken care of, I'd like to start Concentration with you and show you a couple of other things.

- The starting files are in a separate zipfile

- Let's look at what I've given you. Questions?
  - stylesStart.css
  - indexStart.html
  - src/indexStart.js

More JS Review Concepts and Skills

- As I write the code for this problem, look for examples of
  - Loops
  - Arrays
  - Strings
  - The keyword this

Our Third Example - TicTacToe

- Now that you've got the cobwebs taken care of, I'd like you to do the next problem on your own.

- The starting files are in a separate zip file

- Let's look at what I've given you. Questions?
  - stylesStart.css
  - indexStart.html
  - src/indexStartV1.js

Lab 1

- StopWatch, Concentration and TTT version 1 are all lab 1.

- Let's look at the evaluation form together briefly.

- Please notice that I'm interested in encouraging you to deploy your JavaScript applications to a production web server. You MUST host your applications on citstudent.lanecc.net to get full credit for the lab. For this lab, I will evaluate your source code from citstudent too.

- You should be finished with the lab at this point. The lab is worth 30 points. You have one week after the due date to complete the lab with no late penalty. You may also make corrections and resubmit within that week with no point penalty. That effectively gives you an extra week to finish the lab BUT you should do your best to finish the lab by the time of the due date!

What's Next

- JavaScript You Don't Know
  - Advanced JS That We Never Showed You
  - New Features That You Should Know – ES 6
- Lab 2
  - Git
  - Version 2 of StopWatch, Concentration and TicTacToe
- Reading Quiz 2
- Participation Score 2
- Don't forget
  - Lab 1
  - Reading Quiz 1
  - Participation Score 1