Flex & Pseudo-Selector Review, and Intro to JavaScript

Today's a busy one

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Lesson Objectives

Quick review

1. Flex
2. Workshop-a-Thon!
3. Pseudo-Selectors

Intro to Programming & JavaScript

1. Computer Languages
2. What is Javascript
3. Javascript Data Types
   a. What we're focusing on first
4. If there's time:
   a. Basic Number operations
   b. Basic String operations

Flex: What does each of these do?
(yes I will be calling on you)

`display: flex`

`justify-content`

`align-items`

`align-content`

`flex-basis`

WORKSHOP-A-THON
Tic-Tac-Toe

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Pseudo-selectors: `:nth-child()`, `:nth-of-type()`

- **`:nth-child()`**:
  a. The **nth of all siblings, if it/they match the selector**
- **`:nth-of-type()`**:
  a. The **nth of ONLY the siblings that match the selector**

Resource: https://css-tricks.com/examples/nth-child-tester/

BREAK TIME

A way to speak to a computer, or a piece of software, to tell it what you want it to do.

What is a Computer Language?

Computer Languages

HTML is a MARKUP Language:

We use it to create structure and semantic meaning for our pages.
Others include: XML, TeX, Markdown, etc

CSS is a STYLESHEET Language:

We use it to define styles for the presentation of our pages.
Really the only one you need to worry about

JavaScript is a PROGRAMMING Language:

We will use it to add interactivity, dynamic updates, and other functionality to our pages.
Others include: Java (no relation), A+, B, C, C+, C++, C#, D, E, F, J, P, Q, R, S, T, Ruby, PHP, Python, Elixir, Erlang, Python, Haskell, Clojure, etc

Programming:

- Involves logical analysis and decision-making

- At its heart, is just moving information around, usually interpreting or modifying it in the process

- Is a social activity
    - Collaboration, like pairing, is necessary for large scale success
    - Documentation, written and provided by (or for) others, is vital

- Is a creative process, like writing in any language
    - Ideation
    - Outlining
    - First draft
    - Proofreading, editing, revisions, and refinement

JAVASCRIPT INTRO DEMO:
VSCODE — NODE — BROWSER

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Javascript: Data Types

Primitives

A **primitive** in Javascript is data that is **not an object** and **has no methods**.
There are 7 types:
- string, number, (we are focusing on these first)
- boolean, undefined, null, (you will see a lot of these as well)
- bigint, symbol (less commonly used)

Objects

This is the **only other data type** in Javascript.
We'll worry about these later.

BREAK TIME

Javascript: number (or arithmetic) operators

Basic Arithmetic

- **+**
- **–**
- *****
- **/**

"The Others"

- **%**
- **++**
- **– –**
- ******
- **–**
- **+**

Resource: https://developer.mozilla.org/en-US/docs/Web/JavaScript/Guide/Expressions_and_Operators#arithmetic_operators

Javascript: "the other" arithmetic operators

- **%**
  - Modulus, or modulo: `5 % 2 = 1`
- **++**
  - Increment: `4++ = 5`
- **--**
  - Decrement: `4-- = 3`
- ******
  - Exponentiation: `4**2 = 16`
- **-**
  - Unary negation: if x is 3, `-x` returns -3
- **+**
  - Unary plus: `+"3" = 3` fdsa
    - *yeah I know. don't worry about this yet*

Resource: https://developer.mozilla.org/en-US/docs/Web/JavaScript/Guide/Expressions_and_Operators#arithmetic_operators

ARITHMETIC OPERATORS DEMO

Javascript: the `string` data type

1. Represents textual data
   a. As a "string" of characters
2. Can be written using:
   a. Single quotes: `'hello'`
   b. Double quotes: `"hello"`
   c. Backticks: `` `hello` ``
      i. *This gives you some special powers, which we'll talk about in a later class*

Resource: https://developer.mozilla.org/en-US/docs/Web/JavaScript/Guide/Expressions_and_Operators#arithmetic_operators

Javascript: String operators

- **+**
  - Concatenation
- ... that's it, basically

Resource: https://developer.mozilla.org/en-US/docs/Web/JavaScript/Guide/Expressions_and_Operators#arithmetic_operators

STRING OPERATIONS DEMO