

Web Dev Day 4: More JS

Website Development
UBC | Coding Pals

Homework

Homework review:

- Place a button on some of the calendar dates where you are available with the text “Available on this day!”
- If the button is pressed, make the text on the button change to “Unavailable”

```
<button id='buttontext'  
onclick="document.getElementById('buttontext').innerHTML =  
'Unavailable'">Available this day!</button>
```

JavaScript Syntax

- SOMEWHAT similar to CSS
- Curly bracket language
- Needs semicolons after each line except after curly brackets

Variables

What is a variable?

- A variable is a way for us to store a value, which can also be changed or modified later

Three ways to define variables:

- Var (not preferred)
- Let
- Const

Data Types

A data type refers to what kind of data is being stored in a variable

Examples of data types:

- Number
- String
- Boolean (true/false)
- Null

Variables are *dynamically typed* in JavaScript, meaning that they can change from one data type to another after being defined (unless const)

JavaScript Operators

- + : Addition
- - : Subtraction
- * : Multiplication
- / : Division
- ** : Exponential
- % : Modulus
- ++ : Increment (Add by 1)
- -- : Decrement (Subtract by 1)
- = : Assign

If-Else Statements

If-else statements come in handy when you need to run conditional logic

- Checking equality (==) vs. strict equality (===)

Syntax example:

```
let x = 5;
if (x === 5){
    console.log("x is 5!")
}else if (x > 5){
    console.log("x is greater than 5!")
}else{ // to hit this condition, x must be < 5
    console.log("x is less than 5!")
}
```

Arrays/For Loops

We can use arrays to store groups of data together

We refer to arrays elements with indexes, starting at index 0

We can use a loop to loop through an array, specifically by defining the index and looping through until we loop through every index

```
let cars = ["audi","bmw","mercedes"];

console.log(cars[0]); // prints audi
console.log(cars[1]); // prints bmw
console.log(cars[2]); // prints mercedes
```

```
for (let i=0;i<cars.length;i++){
  console.log(cars[i]);
}

// prints audi, bmw, and mercedes on 3 separate lines
```


Scope (Global vs Local)

If you define variables in a local scope (ex. within an if statement), you cannot call them in a wider scope

Ex:

```
if (variable === true){
```

```
    let x = 5; // defining a variable here
```

```
}
```

```
console.log(x); // will not run, because the variable 'x' is not defined in this scope
```

Functions

Functions are used to avoid repeating code

Defined by:

```
function functionname(){\n    // code inside the function goes here\n}
```

Functions can return values or print data or change some information

Calling a Function from HTML

Function defined in JS:

```
function clicked(){  
    document.getElementById("divid").innerHTML = "Hello JavaScript!";  
}
```

Calling the function in HTML:

```
<button onclick='clicked()>Click Me!</button>
```

Using JS to Change HTML

Create a button tag in HTML with the `<button>` tag

Set the “onclick” attribute to change the text from black to blue

We can reference our HTML document with the “document” keyword in JS

We can call an element by ID with “getElementById”

```
<button onclick="document.getElementById('idname').style.color = 'blue'">Click Me!</button>
```

Using JS to Change CSS

We can target CSS with JS as well with the style keyword

```
document.getElementById("idname").style.color = "red";
```

Some things are not present under the .style keyword, so we can also use `setProperty("propertyname", "value")` to change CSS as well

Final Project

Your website is expected to consist of mostly HTML and CSS

JavaScript is optional for your final website

- We did not create a back end, so any functionality doesn't really do anything, but it would be cool to show as a demonstration!

You can keep the table calendar with your availability but it is not required

Your websites will be presented and displayed Friday morning!

Break

Contact Info

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Work Time!