Introduction to Javascript!

Javascript is a programming language very different from HTML, but is also used in the design of websites. While HTML/CSS are used to design the layout of a webpage, Javascript adds "life" to the website and makes it more interactive.

To add Javascript to your webpage, add <script></script> tags (*remember the HTML basic structure*):

```
<!DOCTYPE html>
<html>
    <head>
        <script>
            //Javascript stuff
        </script>
    </head>
    <body>
        <!-- Other HTML stuff -->
    </body>
</html>
```

You could put the script tags anywhere, but I usually put them where I put the <style></style> tags.

Some Javascript functions:

- Alert: prints out a dialogue box with a message
  - Syntax: alert("Hello world!");
- Prompt: asks the user to input something
  - Syntax: prompt("What is your name?");
- Comments are written with 2 slashes "//" or "/* comment */"

Variables:

- Cool and lets you do a lot of things
- ***Declaration:*** set the variable; introducing it
- ***Initialization:*** assigning a value to a declared variable (that doesn't already have a value)
- ***Assignment:*** Replacing the old value of a variable with a new value

- **VARIABLES ARE CASE-SENSITIVE** (hello is different from Hello)

```
<script>
    var x; //declaration
    var y = 2; //declaration and initialization
    x = 3; //initialization
    y = 10; //assignment
    x = 4; //assignment
</script>
```

Using prompt and alert:

- Can store prompt() as a variable
    - var name = prompt("What is your name?");
    - alert(name);
- Can mix and match variables with other strings (strings are basically text); just put quotes around appropriate text (but don't put quotes around variables), and combine them with "+"
    - alert("Hello, " + name + "!");
    - **Spaces must be manually entered**

Mathematical operations:

- alert(4 + 5) will output 9
- Don't use quotes when performing mathematical operations (Javascript will just recognize them as strings and combine them as a string)
- Multiply by 1 ("*" means multiply) to store prompts from a user as numbers
    - Javascript recognizes user answers as strings, so multiplying it by 1 will change it to a number value
    - Entering a non-numerical value will give you the "NaN" value (not a number)

Logical Operations:

```
if (some condition) {
    //do something;
} else {
    //do something if the above condition doesn't hold;
}
```

- “||” means LOGICAL OR
- “&&” means LOGICAL AND
- “>” or “<” for inequality, add an “=” to include equality; “<=” means less than or equal to
- “==” to check equality

Some notes:

- Make sure pop-ups are enabled!
- *SYNTAX IS IMPORTANT, TYPOS ARE IMPORTANT*
- Typing even the tiniest thing wrong will cause the program to not work!