Intro To Javascript

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What Is Javascript?

Javascript is a programming language that is used in your both frontend and backend development. For this lesson, we will be learning how Javascript runs in the browser.

Data Types

Data types are “kinds” or “types” of information referenced in your code. There are several data types that include:

Integer: A whole number such as 1, 2, 3, 4, 5

Double/Float: A number with decimal points such as 1.5, 10.2, 3.1454435232

Char: Short for characters. These are single characters are letters such as a, b, c, d, etc.

String: When multiple characters are combined, they become a string. String can be coherent words such as ‘cat’ or a mixture of letter and numbers such as ‘X9urT$3f’

More Data Types

In addition to strings and numbers, there are other data types that can be used.

Booleans: True or False.

Null, Undefined: When something does not exist and we do not want it to have value, we can define it either null or undefined.

Arrays: Array can be thought of as containers that hold multiple data types. We will discuss this in later lessons.

Objects: Objects are like arrays, except they use what is known as key value pairs for accessing data. We will discuss in later lessons.

Printing Code To The Screen

To test your code, you will need to output results to screen. To do this, we use a built-in function called console log.

Examples:

```
console.log(“Hello World”);

console.log(20);
```

Running Your Code Using Node

You can run your code on the command line using node. Put the contents of ‘console.log(“Hello World”)’ into the file ‘test.js’. And to run the code from your terminal:

```
$ node test.js
```

Variables

Variables are when we assign a data type to a value that represents it. Variables begin with the term ‘var’, followed by the name of the variable, and then an equals sign to assign the variable.

Examples:

```
var x = 1;                  //We have assigned the integer 1 to the variable x
console.log(x);

var y = ‘cat’;              //We have assigned the string cat to variable y
console.log(y);

var answer = false;         //We have assigned the boolean false to a variable.
console.log(answer);

var empty = null;           //We assigned a null value to the variable empty.
```

Variables and Mathematical Equations

Once a value is assigned to a variable, we can re-use the value in other places. One such use case is creating algebraic equations with variables.

Examples:

```
var x = 5;

var y = 6;

var sum = x +y;     //The variable sum will be the addition of x + y, so 11.
console.log(sum);

var sub = y-x;       //The variable sub will be the subscription of y - x, which is 1.
console.log(sub);

var mult = x * y     //Multiples x *y, which equals the value will be 30.
```

Variables And Strings

Variables and strings can go through what is known as concatenation. That is when you combine two strings into one. Also note how strings can use “” and ‘’.

Examples:

```
var location = “I’m going” + “ to the store”;      //outputs “I’m going to the store”;

var string1 = ‘Time to ’;

var string2 = ‘go to bed.’

var string3 = string1 + string2;                  //outputs “Time to go to bed”;

console.log(string3);
```

String Length

When you have a string, you can get how many characters are in it using the .length function. This will be important in later lessons.

Examples:

```
var string = “This string has a length of 31”;

console.log(string.length);
```

Commenting Your Code

In our past examples, you may have noticed we have a '//' behind our variables. The // is used to comment your code so that it will not be interpreted by the compiler, and will only act as notes.

Example:

```
//My starting value
var start = 1;

//My ending value
var end = 10;

//The result
console.log(start-end);
```