Javascript Notes – Aaron Connolly

1. //Comment//
2. //Notification Question// confirm('This is an example of using JS to create some interaction on a website. Click OK to continue!');
3. //Question Textbox Notification// prompt("where are you from?");

a. numbers are quantities, just like you're used to. You can do math with them.
b. strings are sequences of characters, like the letters `a-z`, spaces, and even numbers. These are all strings: `"Ryan"`, `"4"` and `"What is your name?"` Strings are extremely useful as labels, names, and content for your programs.
To make a number in your code, just write a number as numerals without quotes: `42`, `190.12334`.

1. To write a string, surround words with quotes: `"What is your name?"`

4.//true or false boolean// "I'm coding like a champ".length>10 //=True,spaces included in count//
5. //Console Logging// console.log(2 * 5) console.log("Hello") //Logs whats inside brackets under each other

List of comparison operators:

> Greater than
< Less than
<= Less than or equal to
>= Greater than or equal to
=== Equal to
!== **Not** equal to

6. //if console log//
```
 if (10>5) {
console.log("You're a slick dude");
}
```
7. //if or else console logging//
```
if (10!==10) {
   console.log("Cool");
} else {
   console.log("False");
}
```

```
8. //debugging//  fixing mistakes in code
9. //if or else prompting or confirming//
if (12 / 4 !== "Ari".length) {
   confirm("Will this run the first block?");
} else {
   prompt("What year is it?");
}
10.  if ("Jon".length * 2 / (2+1) ===2 )
{
   console.log("The answer makes sense!");
}
else {
   console.log("This answer doesn't make sense");
}
```

Modulo - When `%` is placed between two numbers, the computer will divide the first number by the second, and then return the **remainder** of that division.

```
11. console.log(14 % 3);  //=2//
console.log(99 % 8); //=3//
console.log(11 % 3); //=2//
```

```
12. if(10 % 2===0) {
   console.log("The first number is even");
} else {
   console.log("The first number is odd");
}
```

Sometimes you don't want to display the entire string, just a part of it. `"some word".substring(x, y)` where `x` is where you start chopping and `y` is where you finish chopping the original string.

```
13.  "wonderful day".substring(3,7) //will return “derf”//
```

```
14. console.log ("January".substring(0,3));
console.log ("Melbourne is great".substring(0,12));
console.log ("Hamburgers".substring(3,10));
```

Varaibles: To do more complex coding, we need a way to 'save' the values from our coding. We do this by defining a variable with a specific, case-sensitive name. Once you create (or **declare**) a variable as having a particular name, you can then call up that value by typing the variable name.

```
15.  var myAge = 18;
console.log(myAge);

16. var myCountry = "Ireland";
console.log(myCountry.length);
console.log(myCountry.substring(0,3));

17. var myColor = "Yellow";
console.log (myColor.length);

18. if ("America".substring(2,6) *4/3!==3)
{
   console.log("I finished my first course!");
}
else {
   console.log("This answer doesn't make sense");
```

Interactive Questions & Answers game

```
confirm("Are you ready? If so click ok");
var age = prompt("What is your age");
if (age > 13){
   console.log("Have fun");
} else {
   console.log("You are too young to play but sure fuck it!");
}
  console.log("You are at a Justin Bieber concert, and you hear this lyric 'Lace my shoes off, start racing.'");
  console.log("Suddenly, Bieber stops and says, 'Who wants to race me?'");
  var userAnswer = prompt("Do you want to race Bieber on stage?");
  if (userAnswer = "Yes") {
      console.log ("You and Bieber start racing. It's neck and neck! You win by a shoelace!");
  } else {
      console.log ("Oh no! Bieber shakes his head and sings 'I set a pace, so I can race without pacing.'");
  }
  var feedback = prompt ("Please rate my game out of 10!");
  if (feedback >8) {
      console.log ("I'll keep practicing coding and racing.");}
```

Functions

```
19. var divideByThree = function (number) {
   var val = number / 3;
   console.log(val);
};
ivideByThree(6);
```

Calculating cost of 5 oranges

```
var orangeCost = function(orange){
   var val= orange * 5;
   console.log(val);
};
orangeCost(2.60);
```

Sometimes, we just want it to `return` a value. We can then use that value (ie. the output from the function) in other code. Let's learn about the `return` keyword, then we'll see how to use functions with an if / else statement in the next exercise!
The `return` keyword simply gives the programmer back the value that comes out of the function. So the function runs, and when the `return` keyword is used, the function will immediately stop running and `return` the value.

```
// Define quarter here.
var quarter = function(number) {
   return number /4;
}




if (quarter(12) % 3 === 0){
   console.log("The statement is true");
} else {
   console.log("The statement is false");
}


//Function that calculates how many years it is until you are 100.
var calculate = function (age){
   return 100 - age;
}
calculate(13);


//Calculates the perimeter of a box
var perimeterBox = function (length,width){
   return length + length + width + width;
}
perimeterBox(13,12,10,10);
```

Global vs Local Variables

Let's talk about an important concept: **scope**. Scope can be global or local.
Variables defined **outside** a function are accessible anywhere once they have been declared. They are called **global variables** and their scope is **global**.

Variables defined **inside** a function are **local variables**. They cannot be accessed outside of that function. The variable `localVar` only exists inside the function `bar`. Trying to print `localVar` outside the function gives a error.
Check out the code in the editor. Until now you've been using the `var` keyword without really understanding why. The `var` keyword creates a new variable **in the current scope**. That means if `var` is used outside a function, that variable has a global scope. If `var` is used inside a function, that variable has a local scope.

```
var my_number = 7; //this has global scope

var timesTwo = function(number) {
   var my_number = number * 2;
   console.log("Inside the function my_number is: ");
   console.log(my_number);
};

timesTwo(7);

console.log("Outside the function my_number is: ")
console.log(my_number);

//Calculates sleep

var sleepCheck = function (numHours){
   if (numHours >= 8){
      return "You're getting plenty of sleep! Maybe even too much!";
}
   else{
      return "Get some more shut eye!";
}
};
console.log(sleepCheck(10));
console.log(sleepCheck(5));
console.log(sleepCheck(2));
```

Build "Rock, Paper, Scissors"