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CS 261

Loops, Conditional Statements, Functions, Variables, Parameters, Arrays, Associative Arrays

# Loops

Javascript uses four different types of loops:

* **For** – This loops through a code block a certain number of times.
* **For/In** – This is the same as a For Each, which looks at values in an array and returns those that meet the criteria.
* **While** – This loop runs as long as the condition is true, if the condition is never true this never runs.
* **Do/While** – Like the while loop this runs as long as the condition is true, however, unlike the while loop this one will always run at least once, even if the condition is initially false.

# Conditional Statements

Conditional statements are used for decision making in code. Javascript uses these four statements:

* If – code will run only when the condition is true.
* Else – code runs only when the condition is false.
* Else If – this adds another condition to the code, like either the first one, or the second, or etc.
* Switch – used to determine specific criteria, amongst many, that matches the condition.

# Functions

A function is a specific section of code that is used to perform a certain task. For example, if you wanted to create a function that would return the sum of two numbers then you would use the **function** command and then give the it a name, pass it two or more parameters, and then inside its code block return the sum of those numbers. Some functions require no parameters.

# Variables

Variables are created in Javascript by calling the keyword, **var**, and then giving it a name or designation. Variable names are case-sensitive so a variable named foo, and Foo would be two distinct variables. Variables are used to hold specific data. Javascript does not require variables to be specified with distinct data types, instead they are all instantiated with the keyword **var**.

# Parameter

Parameters are data values that are passed into functions. For example, our previous sum function could take two or more **parameters** that would then be passed into the functions code and used to create the return value.

# Arrays

Arrays are used to hold more than one value. For example if you wanted to store the names of each of your classmates in variables it would end up requiring lots of variables, and anytime a change was made to the group you would have to create a new variable. This would be very inefficient. Using an array you can store all of your classmates and easily add or remove them as needed. To create an array in Javascript you need to call the **var** keyword, give the array a name, and then either assign it values, if they are known, or else signify that it is an array by using the [] brackets.

## Associative Arrays

In Javascript associative arrays don’t really exist. Javascript has objects which in turn can act like this array type, in that they can have a key and a value pair. However, per W3schools, “JavaScript does **not**support arrays with named indexes. In JavaScript, **arrays**always use **numbered indexes.**”