Week 3

3.1 Conditional Statements

Conditional statements are used to perform different actions based on different conditions.

 1. The if Statement
   - Use the if statement to specify a block of JavaScript code to be executed if a condition is true.

   Syntax:
```
if (condition) {
    // block of code to be executed if the condition is true
}
```

```html
<!DOCTYPE html>
<html>
<body>

<p id="demo">p>

<script>
function myFunction {
 var hour = 21;
 var greeting;
 if (hour < 18) {
   greeting = "Good day";
 }
 else {
   greeting = "Good evening";
 }
 document.getElementById("demo").innerHTML = greeting;
}
</script>

</body>
</html>
```

Good Evening!

 2. The else Statement
   - Use the else statement to specify a block of code to be executed if the condition is false.

   Syntax:
```
if (condition) {
    // block of code to be executed if the condition is true
}
else {
    // block of code to be executed if the condition is  false
}
```

```
<!DOCTYPE html>
<html>
<body>

<p id="demo">p>

<script>
function myFunction {
 var hour = 17;
 var greeting;
 if (hour < 18) {
   greeting = "Good day";
 }
 else {
   greeting = "Good evening";
 }
 document.getElementById("demo").innerHTML = greeting;
}
</script>

</body>
</html>
```

Good day

3. The else if Statement
- Use the else if statement to specify a new condition if the first condition is false.

Syntax:
```
if (condition1) {
   // block of code to be executed if condition1 is true
}
else if (condition2){
   // block of code to be executed if the condition1 is false and
condition2 is true
}
else {
   // block of code to be executed if the condition1 is false and
condition is false
}
```

```
<!DOCTYPE html>
<html>
<body>

<p id="demo">p>

<script>
function myFunction {
 var hour = 21;
 var greeting;
 if (time < 18) {
   greeting = "Good morning";
 }
 else (time < 20) {
   greeting = "Good day";
 }
 else {
   greeting = "Good evening";
 }

 document.getElementById("demo").innerHTML = greeting;
}
</script>

</body>
</html>
```

Good Evening!

3.2 Loops

- Loops can execute a block of code a number of times.
- Loops are handy, if you want to run the same code over and over again, each time with a different value.

1. The For Loop
Syntax
```
for (statement 1; statement 2; statement 3) {
    // code block to be executed
}
```

Statement 1 is executed (one time) before the execution of the code block.

Statement 2 defines the condition for executing the code block.

Statement 3 is executed (every time) after the code block has been executed.

```html
<!DOCTYPE html>
<html>
<body>

<h2>JavaScript For Loop</h2>

<p id="demo"></p>

<script>
var text = "";
var i;
for (i = 0; i < 5; i++) {
  text += "The number is " + i + "<br>";
}
document.getElementById("demo").innerHTML = text;
</script>

</body>
</html>
```

JavaScript For Loop

The number is 0
The number is 1
The number is 2
The number is 3
The number is 4

From the example above, you can read:

Statement 1 sets a variable before the loop starts (var i = 0).

Statement 2 defines the condition for the loop to run (i must be less than 5).

Statement 3 increases a value (i++) each time the code block in the loop has been executed.

2. The While Loop

- The while loop loops through a block of code as long as a specified condition is true.

Syntax:
```
while (condition 1) {
    // code block to be executed
}
```

```html
<!DOCTYPE html>
<html>
<body>

<h2>JavaScript While Loop</h2>

<p id="demo"></p>

<script>
var text = "";
var i = 0;
while (i < 10) {
  text += "<br>The number is " + i;
}
document.getElementById("demo").innerHTML = text;
</script>

</body>
</html>
```

JavaScript While Loop

The number is 0
The number is 1
The number is 2
The number is 3
The number is 4
The number is 5
The number is 6
The number is 7
The number is 8
The number is 9

3. The Do/While Loop

- The do/while loop is a variant of the while loop. This loop will execute the code block once, before checking if the condition is true, then it will repeat the loop as long as the condition is true.

Syntax:
```
do {
    // code block to be executed
} while (condition);
```

JavaScript Do/While Loop

The number is 0
The number is 1
The number is 2
The number is 3
The number is 4
The number is 5
The number is 6
The number is 7
The number is 8
The number is 9

```
<!DOCTYPE html>
<html>
<body>

<h2>JavaScript Do/While Loop</h2>

<p id="demo"></p>

<script>
var text = "";
var i = 0;
do {
  text += "<br>The number is " + i;
} while (i < 10);

document.getElementById("demo").innerHTML = text;
</script>

</body>
</html>
```

Sources:

JavaScript For Loop. (n.d.). w3schools. Retrieved from February 7, 2021 from https://www.w3schools.com/js/js_loop_for.asp

JavaScript if else and else if. (n.d.). w3schools. Retrieved from February 7, 2021 from https://www.w3schools.com/js/js_if_else.asp

JavaScript While Loop. (n.d.). w3schools. Retrieved from February 7, 2021 from https://www.w3schools.com/js/js_loop_while.asp