

Week 10

- Loops
- Break statement
- Factorials

Loops

The most common loops are the for and while loops.

while	<code>while (<i>condition</i>) { <i>code block to be executed</i> }</code>
for	<code><i>for</i> (<i>statement 1</i>; <i>statement 2</i>; <i>statement 3</i>) { <i>code block to be executed</i> }</code>

Examples:

```
var i;  
while (i <= 10) {  
    console.log(i);  
    i=i+1;  
}
```

```
var i;  
for (i = 0; i <= 10; i++) {  
    console.log(i);  
}
```

Both loops will count from 0 to 10, but the code is different.

Break Statement

```
var i;  
for (i = 0; i < 10; i++) {  
    if (i === 3) { break; }  
    text += "The number is " + i;  
}
```

Output:
The number is 0
The number is 1
The number is 2

The break statement is used to jump out of a loop. It breaks the loop if the condition is met and executes the code after the loop.

Solutions for Week 9's homework:

```
<script>  
    //with for loop  
    function factorial(num) {  
        if (num === 0 || num === 1)  
            return 1;  
        for (var i = num - 1; i >= 1; i--) {  
            num *= i;  
        }  
        return num;  
    }  
    console.log(factorial(5));  
    //output is 5*4*3*2*1=120  
</script>
```

References:

https://www.w3schools.com/js/js_loop_while.asp

https://www.w3schools.com/js/js_loop_for.asp

https://www.w3schools.com/js/js_break.asp