

THE INTRODUCTION TO

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LOOPS

### DEFINITION

A generalized solution for repeating code with control over how many times the block of code runs

# JAVASCRIPT LOOPS

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Example without loops:

```
var num = 5;

function addFive(){
  num += 5;
}

addFive();
addFive();
addFive();
addFive();
addFive();
```

- ▶ If we wanted to run this function 5 times, this is a very tedious way of doing it...

### WHILE-LOOP

- ▶ A way to repeat code until a condition is met (evaluates to false)
- ▶ The condition is the same as in an *if* statement. It will always evaluate to a boolean
- ▶ If the condition is never met, the while loop will repeat until the computer crashes

```
var counter = 0;

while(counter < 10) {
  console.log(counter);
  counter++
}
```

### FOR-LOOPS

- ▶ A for-loop is used to iterate a specific amount of times, or when it's condition is met
- ▶ Similar to a while-loop, however we use it when our condition is predictable
- ▶ i.e. we know how many times to iterate.

## FOR-LOOPS SYNTAX

1. *for* keyword
2. Initialization (where we declare a variable)
3. Condition (where our variable meets a condition)
4. Update (After each iteration, how we manipulate our variable)

```
for([initialisation]; [condition]; [update]) {  
  console.log(i);  
}
```

### FOR-LOOPS SYNTAX

- ▶ Here we have declared a variable **i** and assigned it to zero
- ▶ The condition is that **i** must be less than 10
- ▶ In the update section, every time the loop runs, it will increment **i**

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

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



### HOW TO "BREAK" the loop

- ▶ If you put the *return* key word inside the for-loop, it will stop iterating (inside a function of course)
- ▶ *break* key word will stop the for-loop from iterating, however it will not stop the function
- ▶ *continue* key word will not run any lines of code below, however the loop will continue to iterate
- ▶ *break* and *continue* are usually used inside conditional statements