

JavaScript II

Loops

Objective

- While loop, do while loop and for loop
- Infinite loops and nested loops

Repetition or Looping Control Structures

❖ The while loop: will repeatedly execute a block of code for as long as the evaluation condition is met.

```
let i = 0;
while (i < 10) {
  i++;           // shorthand for i = i + 1
  console.log(i);
}
```

Repetition or Looping Control Structures

❖ **The for loop:** very similar functionality to a while loop, but runs a predetermined number of times.

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

If statement vs Conditional (Ternary) Operator

```
let age = 15;

if(age<18){

  console.log("Too young")

}

else{

  console.log("Old enough")

}
```

```
let age = 15;

let voteable = (age < 18) ? "Too young":"Old enough";

console.log(voteable)
```

Break & Continue statement

❖ **Break statement** causes an immediate exit from the loop to the first statement after the loop body.

```
for (let i = 0; i < 10; i++) {  
  if (i === 3) {  
    break;  
  }  
  console.log("The number is " + i );  
}
```

❖ **Continue statement** breaks one iteration (in the loop), if a specified condition occurs, and continues with the next iteration in the loop.

```
for (let i = 0; i < 10; i++) {  
  if (i === 3) {  
    continue;  
  }  
  console.log("The number is " + i );  
}
```

Nested loop

- ❖ A nested loop is simply a loop within a loop.
- ❖ Each time the outer loop is executed, the inner loop is executed right from the start. That is, all the iterations of the inner loop are executed with each iteration of the outer loop.

```
for (iterating_var in sequence) {  
    for (iterating_var in sequence) {  
        statements(s);  
    }  
    statements(s);  
}
```

Nested for loop in another for loop

```
while (condition) {  
    while (condition) {  
        statement(s);  
    }  
    statement(s);  
}
```

Nested while loop in another while loop

```
for (iterating_var in sequence) {  
    while (condition) {  
        statement(s);  
    }  
    statements(s);  
}
```

Nested for loop in another while loop

Which Loop to Choose?

❖ Both the while loop and the for loop have 4

❖ **Common components:**

➤ Initialization of control variable

➤ Termination condition

➤ Update control variable

➤ Body to be repeated

❖ A while loop is generally used when we **don't know how many times** to run through the loop

❖ If we **do know how many times** to run through the loop, we use the for loop



Resources

- [JavaScript conditional statements and loops - Exercises, Practice, Solution](#)

Summary

- While loop, do while loop and for loop
- Infinite loops and nested loops