

## Introduction

### What is JavaScript?

JavaScript is a Scripting language

### What's the difference between Scripting language and Programming language?

Scripting languages are lightweight programming languages. Scripting languages are not compiled they are interpreted.

### What is JavaScript used for?

We can use Javascript for a lot of things. In this course, we will use it to add functionality to web applications.

### JavaScript releases

There are many versions of JavaScript. ES6 version had the biggest update to the language.

### How is JavaScript included?

You can add a `<script></script>` tag in the head or the end of the body section.

### What's the difference between adding the script element in the head or body section?

Depends-

If you place the script tag inside the head element it will be parsed before HTML/CSS are loaded.

If you place the script tag in the body element, it will be parsed after HTML/CSS is loaded.

### How to output JavaScript in the console?

```
console.log()
```

### Variables

Var

Let

Const

### Variable naming convention

Camel case: firstName

or first\_name

Rules:

A variable name can't start with a number.

Variable names can contain number letters underscore and \$ sign

Variable names cannot be reserved keywords

### What is the difference between let, var, and const?

Variable declared with let can't be redeclared and has to be declared before use.

Const is used to declare constants. Variables declared with const can't be redeclared or reassigned.

### Comments

// Single line

/\* Multi  
line \*/

### Operators

Operator	Description
+	Addition
-	Subtraction
*	Multiplication
**	Exponentiation
/	Division
%	Modulus
++	Increment
--	Decrement

### Assignment operators

=, +=, -=, \*=, /=, %=, \*\*=

### Comparison operators

==, ===, !=, !==, >, <, >=, <=

### Data types

strings, numbers, booleans, undefined, and null (symbol and big int later)

### Number

Any number 1, 2, 0.1, ....

### Boolean

True

False

## **String**

'string here' or "string here"

## **Undefined**

Declared but not defined

## **Null**

Declared and assigned null

## **Javascript functions**

```
Function nameOfFunction(){  
    //your code here  
}
```

With return value

Local variables

```
let nameOfFunction = () => {  
}
```

## **Arrays**

Let arrayName = []

## **Array methods**

```
pop()  
push()  
shift()  
unshift()  
concat()  
splice()  
slice()
```

## **Conditional Statements**

```
if{  
}else if{  
}else
```

```
switch(){  
case a:  
    //code  
    break  
case b:
```

```
        //code
        break
default:
    //code
}
```

### **JavaScript for loop**

```
for(let i=0; i<array.length; i++){
    console.log(array[i])
}
```

```
for (let x of array){
    console.log(x)
}
```

```
array.forEach(function here)
```

`.map`

Loops through an array and returns a copy of the array (it also allows you to modify the elements of the array)

```
array.map(x=>x*2)
```

### Assignment 3 (part a)

Write functions to:

#### 1- Add two integers

**Example**

1+1

Result

2

#### 2- Concatenate 2 arrays and sort the array

**Example:**

[1,2,4] and [3,5]

Result

[1,2,3,4,5]

#### 3- Sort the array and return the min and second max value

**Example:**

[2,4,6,1,5]

Explanation [1,2,4,5,6] min is 1 second max is 5

[1,5]

#### 4- Replace every uppercase letters in a string into lowercase

**Example:**

AppPle

Result

Apple

#### 5- Remove duplicated from a sorted array

**Example:**

[1,2,3,3,3,4,5,5]

Result:

[1,2,3,4,5]