

Functions in JavaScript

What is a function?

- ✓ A function is a special block that contains one or several instructions.
- ✓ It is only executed when explicitly called.
- ✓ A function can be called by specifying its identifier with the parameter brackets.
- ✓ A function can contain parameters if required.
- ✓ Parameters enter default values into the function as soon as it starts.
- ✓ If no parameters are required, so the parameter bracket remains empty ()

Model 1 - Certainly

```
function Identifier ( Parameter )  
{  
  
}
```

Model 2 - Certainly

```
const Identifier = ( Parameter ) =>  
{  
  
}
```

Model 1 - Anonymous

```
const Id = function ( Parameter )  
{  
  
}
```

Model 2 - Anonymous

```
const Id = ( Parameter ) =>  
{  
  
}
```

A function can return something by using "return" inside the block:

```
function foo () {  
    ...;  
    return VALUE;  
}
```

Function parameters

What are Parameter?

- ✓ Parameters are values that can be provided when starting the function
- ✓ Parameters are optional
- ✓ A parameter is not defined. She can be anything

Where must parameters be specified?

```
function myFoo ( par1, par2, par3 )  
{  
  
}
```

```
const myFoo = ( par1, par2, par3 ) =>  
{  
  
}
```

How is a parameter defined?

- ✓ A standalone term
- ✓ A parameter object in { }

A Parameter:

- ✓ (parameter)
- ✓ ({ Attribute1, Attribute2, ... })

Several Parameters:

- ✓ (param1, param2, param3, ...)
- ✓ (param1, { attr1, attr2 }, param3, ...)
- ✓ ({ a, b, c }, {e, f, g }, param3, param4, ...)

Function call

How is a function called?

- ✓ myFoo()
- ✓ myFoo(3, 4, 5)
- ✓ myFoo({ a, b })
- ✓ myFoo({ a, b, c }, d, e, f)
- ✓ X = myFoo()
- ✓ X = myFoo(3, 4, 5)
- ✓ X = myFoo({ a, b })
- ✓ X = myFoo({ a, b, c }, d, e, f)
- ✓ [a, b] = myFoo(...)
- ✓ X = myFoo(...)[...]

A function can call other functions and itself multiple times as needed:

```
function fooA ( a, b )  
{  
    console.log( `The addition of ${a} and ${b} results in ${a + b}` );  
}
```

```
funktion fooB( x )  
{  
    fooA( x * 2, 5 );  
    fooA( x * 3, 6 );  
    fooA( x * 4, 7 );  
    fooA( x * 5, 8 );  
}
```

```
fooB( 1 );  
fooB( 2 );  
fooA( 6, 9 );  
fooB( 3 );  
fooA( 2, 7 );
```

```
function saySomething ( a, b )  
{  
    return `Your name is ${a} ${b}`;  
}
```

```
let a = saySomething( `Freddie`, `Hansen` );  
let b = saySomething( `Felix`, `Jansen` );  
let c = saySomething( `Fox`, `Mozilla` );
```

```
console.log(a);  
console.log(b);  
console.log(c);
```