

# Dataprocessing week 2

## Answers to the homework questions

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Explain the difference between the `==` operator and the `===` operator.

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The `'=='` operator tests whether two statements are True or False:

```
A == B
> false
A == A
> true
```

When you want to refer to the exact value of *false*, you can use the `'==='` operator.

This is what differentiates the `'=='` and the `'==='` operators.

Example: I want the expression `'0'` to be false

```
0 == false
> true
```

For cases like this, where you do not want any automatic type conversions to happen, you can use the `'==='` operator.

This way:

```
0 === false
> false
```

Explain what a closure is.

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In JavaScript, if you declare a function within another function, then the local variables can remain accessible after returning from the function you called.

Closure is to reference a specific instance of local variables in an enclosing function.

Whenever you use a function inside another function, a closure is used.

Closure will 'freeze' code and wrap it into a package. This package can be used later.

A new set of local variables is kept every time a function with a closure is called (given that the function contains a function declaration inside it, and a reference to that inside function is either returned or an external reference is kept for it in some way).

Explain what higher order functions are.

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A higher-order function is a function that operates on other functions. That is, it takes functions as inputs and/or returns them as outputs. There are some build-in higher order functions in javascript, like .map, .filter and .reduce.

Explain what a query selector is and give an example line of JavaScript that uses a query selector.

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A Query selector is used to select the first element that matches a specified CSS selector in the document. These are used to select HTML elements based on their id, classes, types, attributes, values of attributes, etc.

For example, you can change certain CSS-values after the page has been loaded with the query selector:

```
<!DOCTYPE html>
<html>
<body>

    <h3 class="bigWord">A h3 element</h3>
    <button onclick="makeRed()">Make red</button>

<script>
    Function makeRed() {
        document.querySelector(".bigWord").style.backgroundColor =
"red";
    }
</script>
</body>
</html>
```