

## Reading Assignment – Questions Data Processing Week 3

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1. Explain the difference between the `==` operator and the `===` operator.
  - `==` means equal to whereby `===` means *precisely* equal to. This means that for the `===` operator, you have to compare objects of the same type. The `==` operator is not that precise and therefore converts types before comparing the values, which allows us to compare objects of other types.
    - `5 == "5"` gives true, because the string will be converted into an integer before the values are being compared.
    - `5 === "5"` gives false, because you compare an integer with a string, which are two other types.
      - `5 === 5` gives true, because these are both integers.
2. Explain what a closure is. (Note that JavaScript programs use closures very often)
  - Local bindings (also called variables that have been created within a function for example) are being re-created whenever you call the function. A closure is a function that enables to reference local bindings in an enclosing scope (closure). This means that the local bindings can be recalled whenever the function/closure exists.
3. Explain what higher order functions are.
  - A higher-order function is a function that can take another function or more other functions as arguments. Another feature of higher-order functions is that these functions can return. In other words, these higher-order functions can control/manage on other functions. This allows us to not just abstract over values but also over actions.
4. Explain what a query selector is and give an example line of JavaScript that uses a query selector.
  - A query selector can be used to return the first element that matches a selector within a specific document. It is an effective way to find DOM elements. Another method can be used to get *all* the elements of a certain selector within the document, namely `querySelectorAll()`.
    - Get the first `<div>` element in the document
      - `document.querySelector("div");`
    - Get all elements in the document with the class `"method"`
      - `document.querySelectorAll(".method");`