Data Processing Week_3: Questions

- *Explain the difference between the == operator and the === operator.*

  The == operator is a 'type-converting' comparison, while === is a 'strict' comparison. For strict comparison, the objects being compared must be of the same type.
  The == operator converts types and compares the values. Thus:

  0==false // true, because false is equivalent of 0
  0===false // false, because 0 is an integer and false is a boolian
  2=="2" // true, auto type coercion, string converted into number
  2==="2" // false, since 2 is an integer and "2" is a string

- *Explain what a closure is. (Note that JavaScript programs use closures very often)*

  A closure is a scope that holds onto local bindings (variables that have been created within a specific code block or function) even after the code execution has moved out of that code block. The scope object and all its local variables are tied to the function and will persist as long as that function persists.

- *Explain what higher order functions are.*

  Higher-order functions are functions that operate on other functions, either by taking them as arguments or returning them. Using higher-order functions, we can abstract over actions, not just values.

- *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 effectively find elements within the DOM. The querySelector() method returns the first element that matches a specified CSS selector in the document. The querySelectorAll() method returns *all* elements that match a specified CSS selector in the document.

  Get the first <p> element in the document:

  ```
  document.querySelector("p");
  ```