Python #8

We have gone over **indexing** and **slicing**. Good knowledge on the topic is essential to manipulate **sequential types** like string and list. The members can be accessed by its index. Python uses **zero-based** indexing meaning index 0 pointing to the first member. Besides the **positive** indexing, we can also use **negative** indexing, meaning going backwards, starting from the last. We can extract parts of a sequence using slicing in any direction. Just need to specify where to start, where to end and in which steps. It could be a shorthand to clone the sequence object. And it just might save you from iterating through the object.

We got to know **list comprehension** which offers a short way to create a new list based on an existing list. We need to provide an **expression**,telling Python how to construct the new list, and the base list or range. Expression usually uses a list member, like word[0] or num\*2, but also can be constant. It is optional to add a **condition**, filtering the members used to create the outcome list.

A new collection type was introduced called **dictionary**. A dictionary consists of key-value pairs, called **entries**. The idea is a simple and quick way to get **value** using a **key**, e.g salaries[‘Moshe’]. Keys are unique and of **immutable** type like **int** or **string**, while values can be any valid Python object including collections. Dictionaries are immutable, their members can be added, modified and removed. They are stored in **JSON** format.

Links:

* [Indexing and slicing](https://railsware.com/blog/python-for-machine-learning-indexing-and-slicing-for-lists-tuples-strings-and-other-sequential-types/)
* [List comprehension](https://www.w3schools.com/python/python_lists_comprehension.asp)
* [Dictionaries](https://www.programiz.com/python-programming/dictionary)
* [XML](https://www.w3schools.com/xml/default.asp)
* [JSON](https://www.w3schools.com/js/js_json_intro.asp)
* [if-else one liner](https://www.w3schools.com/python/gloss_python_if_else_shorthand.asp)