Python #7

When we need extra functionality in Python, we can import and use existing **modules** like **math** or **random**. We use keyword **import** to import such modules. Module random has many useful methods for generating random numbers, shuffle collection, pick an element from collection and more.

A set of commands in Python code can be grouped together in **function**. It is very useful if we are planning to run it more than once during our program execution. It also makes our code clean, organized and understandable. We have already used some built-in functions like **len()**, **print()** and **int()**. Before a function is used, it needs to be created. First comes declaration consisting of keyword **def**, name and parentheses with **parameters**. The name must start with a letter, spaces are not allowed. Then comes a code we want to run, don’t forget the indentation.

With no parameters the function will do the same thing each time, like printing ‘---------------------------’. Using parameters makes the function much more useful, as the same code is used for different cases, like **len()** can accept different collections. All declared parameters must get values. We can also declare default value for a parameter, so it would be a **default parameter** and have a default value if not set when called, like **range()** step parameter is 1 by default. Setting values for parameters is done according to their order in declaration. It is possible to set parameter value by its name instead of its position, in **print()** we can set the ending character by end=’+’.

There are many functions we use when some result is expected at the end of its execution. It is done by using keyword **return** followed by some value which we want to output as a result. The nice thing about it is that it can be done at any place in code, saving **if** blocks and **break** statements. A function with no **return** statement or no value after **return** statement, would return **None**.

Links:

* [Python modules](https://www.geeksforgeeks.org/python-modules/)
* [Importing modules in Python](https://www.geeksforgeeks.org/import-module-python/)
* [random module](https://www.w3schools.com/python/module_random.asp)
* [Functions](https://github.com/python240419/21.06.2019/blob/master/Functions.ipynb)
* [More functions](https://www.w3schools.com/python/python_functions.asp)