

## Summary entry-level requirements Programming

Prospective students should be skilled and knowledgeable concerning the following topics in programming

### Required knowlegde

- Data types (difference string, integer, float, object, tuple, list, dictionary)
- Basic operators (e.g. ==, =, +=)
- Slicing, index principles
- Functions: definitions, arguments, calling a function
- String manipulation idioms
- Imports and usage of standard (built-in) libraries
- Accessing help functionality and writing script documentation (inline documentation)
- File handling (read files and loop over them by line)
- Flow control: Loops (e.g. for loop, while loop, if-elif-else)
- PEP8 formatting

### Required skills

- Starting python interpreter from the command line
- Translate a problem into pseudocode
- Translate pseudocode to software script
- Organize a script in functions and program flow
- debug a script containing logical and/or syntax errors using lots of print statements (debugger IDE not mandatory)

Prospective student can prepare themselves via various sources like <https://www.learnpython.org/> or <https://www.py4e.com/lessons>.