Computer Exercise 1

Optional exercise to practice with Python programming

Sep. 15, 2021

Given the height data of a group of students, complete the following tasks. You can learn the basic usage of Python by yourself during this process.

Tasks:

1) Print out "Hello Python" to get started!

2) Let's start with the toy data of 5 students of heights (in cm) 178, 166, 185, 158 and 160, respectively. Study the data structure List in Python, and store the data into a list.

3) Calculate the difference between heights of the first and second students. Format such calculation as a function.

4) There are many built-in functions in Python. Choose the proper functions to get:
    a) The maximum and minimum height of the 5 students;
    b) The average height of the 5 students;
    c) The ascendingly sorted list of heights.
    Store the results into variables and print out these variables to check.

5) A data file "weight-height.csv" is provided with the homework. You can use some packages for data loading and processing. Study the usage of NumPy and Pandas by yourself. Load in the table "weight-height.csv" and repeat the tasks in 4) for the "Height" column in this table.

6) Try to explore further into this exercise to learn more about Python by yourself. For example, you can try to study:
    a) More data structures such as tuple, set, dictionary, etc.;
    b) The usage of "Class";
    c) Some commonly used packages, especially for machine learning.

Nothing to submit for this exercise.
But do not procrastinate! Try to finish this exercise before Sept 28 if you are new to Python programming.