Python for physicists - exercise 1

Submission instructions - please read carefully:

• To be submitted by *** in the moodle (Lemida) system.

• *** files with py suffixes must be submitted - named exactly as detailed below for each exercise.

That is to say that:

• Do not submit complete projects, libraries, zip files, etc., and do not submit all exercises in one file, but in separate files with the names listed below.

• Make sure that the files run and do what is needed (on a recent version of Python, 3.5 or higher).

• Use only the commands we learned in practice (for example we have not yet learned Functions and loops).

Exercise 1. Submit it as file name: ex01-01.py

Write a Python program that defines variables for the salaries of 3 people: Yossi, Yoni, and Benny, who earn respectively 8000, 7000, and 8000 NIS per month.

Write a code that prints:

1. The names of the people and their monthly salaries.

2. The names of the people and their annual salaries.

Exercise 2. Submit it as file name: ex01-02.py

Write a program in Python that creates a variable named *num* and inserts the number *750164* into it.

The software must print to the screen the tens digit and the hundreds digit of the number. The answers are: 6 and 1

Additionally, the program should be designed to work for any positive integer value assigned to *num*.

Exercise 3. Submit it as file name: ex01-03.py

At the beginning of the file create three variables:

$$a = 7$$

$$v = 20.3$$

$$t = 10$$

whereas *a* ($\frac{m}{s^2}$) denotes acceleration (of a car moving in a straight line), *v* ($\frac{m}{s}$) is its initial speed.

Print to the screen the location of the car after *t* seconds. (initial position is 0)

Additionally, the program should be designed to work for all 3 real numbers, not just the ones in the example above.

Exercise 4. Submit it as file name: ex01-04.py

At the beginning of the file, create three variables of type integer (*int*):

$$a = 15$$

$$b = 7$$

$$c = 30$$

The program must print the numbers to the screen in ascending order (from smallest to largest), then in descending order (from largest to smallest).

Additionally, the program should be designed to work for all 3 integers, not just the ones in the example above.

Please use only else/elif/if conditions, without commands that we have not yet learned.