

Python Test, 08.00 - 10.00

Rules

- You must pass all exercises to pass the test,
- Aids: Paper, pen, your laptop, VS Code, the website `docs.python.org/3/library/`.
- No documentation of the code is needed.

Preparations

Create a new folder in Visual Studio Code entitled **python.test** and store all Python test related files in that project. Close all other files!

Exercise 1

Create a Python program called **year.py** having a function `date_converter(s)` that takes a string `s` containing a date in American format (MM/DD/YY) and converts it to the Swedish YYYY-MM-DD that it returns as a string. The main part of the program should ask for the date and pass it to the function after which it will print the resulting Swedish date.

```
Write an American date: (MM/DD/YY): 10/07/22
Swedish date: 2022-10-07
```

Exercise 2

Create a program `increasing.py` containing a function `is_increasing(lst)` that returns True if the integer list `lst` is a *strictly increasing* sequence of integers, otherwise False. That is, `[1, 3, 4, 7, 8]` returns True whereas both `[1, 3, 1, 5]` and `[2, 2, 2, 7]` return False. Also, add program code that demonstrates how the function can be used.

Exercise 3

Create a program **number_triangle.py** reading a positive integer n from the keyboard, and then prints a right-hand number triangle. An error message should be presented if n is outside the range 1-9. See below for an example run:

```
Number of rows in the triangle in range 1-9: 5
      1
     1 2
    1 2 3
   1 2 3 4
  1 2 3 4 5
```