DATA.ML.100 Introduction to Pattern Recognition and Machine Learning
TAU Computing Sciences
Exercise - Week 1: *Setting up Python*

This exercise you need to be able to do without any help. This is a test to make sure that your programming skills are sufficient for this course.

1. **Using Python** (10 points)

   (a) Install Python to your computer.

   You may install Python as you wish. However, a popular choice in Linux, MacOS and Windows is via the *Anaconda* environment manager. Anaconda makes it easier to work on multiple projects that use different versions of the same packages.

   Go to https://www.anaconda.com and pick the correct installer for your OS. The following instructions are tested in Linux and MacOS.

   If you want to switch off the automatic Anaconda startup give the following command in terminal

   ```
   $ conda config --set auto_activate_base false
   ```

   Create a new environment for the DATA.ML.100 course

   ```
   $ conda create --name dataml100
   $ conda activate dataml100
   ```

   Start by installing a suitable version of Python

   ```
   (dataml100)$ conda install python=3.10
   ```

   (b) Install IDE

   Many people prefer to use an integrated development environment (IDE) for writing and debugging Python programs. You may browse the different option and choose your favourite. Popular choices are 1) VS code, 2) PyCharm and 3) Spyder.

   (c) Test Python setup

   Write a Python program that asks numbers from the user, sorts them and then outputs a sorted list of numbers (you may write your own sorting method or use Python ready-made)

   ```
   (dataml100) $ python my_sort.py
   Give a list of integers separated by space:-1 13 -666 666
   Given numbers sorted: [-666, -1, 13, 666]
   (dataml100) $
   ```

   Return the following items:

   - Python code: <surname>_my_sort.py
   - A full desktop screenshot that includes a terminal window where code is executed: <surname>_my_sort_screenshot.py