Introduction to Python programming

February 6-8, 2023
Cineca – Bologna

General overview and installation instructions

The course takes 3 days, in which both theoretical part and exercises will be presented. During the course it will be required to install a Python distribution on your laptop, in order to be able to execute the Python exercises and read the slides.

If you're running a Linux-based OS on your laptop you can install the latest version of Python 3 package available on your package manager. You can do the same if you're using Homebrew in order to install packages on your macOS.

If you're running either Windows or macOS (without Homebrew), we suggest to install Miniconda from the following link:

https://docs.conda.io/en/latest/miniconda.html

PLEASE NOTE CAREFULLY: During the Miniconda installation you will be prompted to choose between admin and non-admin installation. We strongly suggest to install everything as normal user (i.e. non-admin user).

- on Windows you can run "Anaconda Powershell" from your start menu and type "conda list"; you should see a list of packages on the terminal;
- on macOS you can check in the end if everything was right by typing "conda list" inside your terminal; you should see a list of packages on the terminal;

If possible, please try to execute the steps above before the course; however, if not possible, we will complete all the steps together (and try to fix any inconvenience) during the first day morning session.

Cloud environment

In addition to your local installation, at the beginning of the course you will receive some credentials for a remote interface, where you will find an alternative environment to run the course material via browser, just as an emergency backup in case of issues with your local environment.

Agenda

Monday, February 6

Fabio Pitari, Caterina Caravita, Renato Assante

9.30-11.15
- Introduction
- Environment
- Interpreter

11.30-13.00
- Python program file
- Built-in types and operations

13:00 Lunch break

14:30-16:15
- Built-in containers

16.30-18.00
- Control flow

Tuesday, February 7

Caterina Caravita, Tiziana Bassi, Fabio Pitari, Renato Assante

9.30-11.15
- Functions
- Input/Output
- Error handling

11.30-13.00
- String formatting

13:00 Lunch break

14.30-16.15
- Introspection
- Modules

16.30-18.00
- Classes

Wednesday, February 8

Fabio Pitari, Renato Assante

9.30-11.15
- Standard Library

11.30-13.00
- Scientific Modules

13:00 Lunch break

14.30-17.00
- Free exercises with support

NB: the agenda may be subject to changes that will be communicated to the students as soon as possible.