Introduction to Python programming

April 8-11, 2025
Cineca

General overview and installation instructions

The course is divided into four sessions, in which both the theoretical part and exercises will be presented. The theoretical and practical part will be both covered in the first three days, whereas the fourth day will be a free session in which you are invited to:

- complete a project that will be presented during the course, and/or...
- further explore together with the teachers the topics in which you are most interested, and/or...
- ask for insights related to your research activity and interests, and/or...
- anything else you might find useful to improve your Python skills.

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.

Agenda

Tuesday, April 8

Teachers: Tiziana Bassi (t.bassi@cineca.it), Federico Lombardi (f.lombardi@cineca.it), Jonathan Frassineti (j.frassineti@cineca.it), Moreno Guernelli (m.guernelli@cineca.it)

9.30-13.00
- Introduction
- Environment
- Interpreter
- Built-in types and operations

14.00-17.30
- Built-in containers
- Control flow

Wednesday, April 9

Teachers: Caterina Caravita (c.caravita@cineca.it), Federico Lombardi (f.lombardi@cineca.it), Renato Assante (r.assante@cineca.it), Jonathan Frassineti (j.frassineti@cineca.it)

9.30-13.00
- Input/output
- Functions

14.00-17.30
- Classes
- Modules

Thursday, April 10

Teachers: Federico Lombardi (f.lombardi@cineca.it), Tiziana Bassi (t.bassi@cineca.it), Lorenzo Varrassi (l.varrassi@cineca.it), Francesco Talpo (f.talpo@cineca.it)

9.30-13.00
- Standard Library
- Error handling

14.00-17.30
- Scientific Modules
- Decorators

Friday, April 11

Teachers: Renato Assante (r.assante@cineca.it), Francesco Talpo (f.talpo@cineca.it)

9:30-13:00
- Free session (see description above)

14:00-16:00
- Free session (see description above)

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