Coding in Python: Understanding How Everything Fits Together

Dr Siân Brooke
s.j.broooke@lse.ac.uk

Local Machine

Your computer

Virtual Enviroment

Keeps dependencies required by different projects separate by creating isolated spaces for them.

Anaconda Navigator

A desktop graphical user interface (GUI) included in Anaconda distribution

Jupyter Notebook

An easy-to-use, interactive development environment (IDE) to create .ipynbs

Kernel

Executes the code. In Jupyter this is IPython kernel.

Python

An interpreted high-level general-purpose programming language

- **Modules** are files with the '.py' extension containing Python code.
- **Libraries** are a set of useful functions that eliminate the need for writing codes from scratch.
- **Packages** are namespaces which contain multiple packages and modules themselves.
- **Classes** is an outline for creating a new object. An object is anything that you wish to manipulate or change while working through the code.
- An **Object** is pretty much everything in python, including the collection of data and functions.
- **Functions** are a group of related statements that performs a specific task.

Terminal

Allows coders to accomplish and automate tasks without the use of a graphical user interface.

- Terminals, also known as **command lines** or **consoles**, allow us to accomplish and automate tasks on a computer without the use of a graphical user interface (**GUIs**) or integrated developer environments (**IDEs**).
- Through the terminal we can do *anything* we can do with the computer through clicking.

Conda Prompt

Conda is a powerful package manager and environment manager that you use with command line commands

- **Anaconda command prompt** is just like command prompt, but it makes sure that you can use anaconda and conda commands from the prompt, without having to change directories or your path.
- Here you can create **virtual environments** for your python code.

GitHub.com

A distributed version-control platform where users can collaborate on or adopt open-source code projects

- GitHub works like a combination of cloud storage and tracked changes for code.
- It is both a code sharing and publishing service, or that it's a social networking site for programmers.
- A **Repository** (**repo**) A directory or storage space where your projects can live.
- GitHub is built on **Git**, an open-source project started by Linux creator Linus Torvalds
- Git is a **version control system**, which manages and stores revisions of projects.
- Git could be used to manage any other type of file, such as Word documents.
- GitHub provides access control and several collaboration features, such as a wikis and basic task management tools for every project.