Programming in Python[1]

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Lecture V: Using the “naked” interpreter

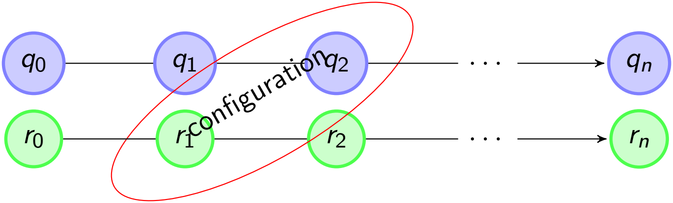
The pieces of software

- Python 3.9+, with pip and the IDLE editor (on MS Windows they are bundled together): https://www.python.org/downloads/
- Git 2.30+ https://git-scm.com/downloads
- (optional, Win and Mac only) Github desktop https://desktop.github.com/

Homework assigments will be available via Github Classroom (you will need a Github account).
When you push (hand in) your solution, a suite of tests is run.

Software Configuration Management

Software Configuration Management like git are tools designed to track all the revisions of some set of software artifacts (files).



The system configuration itself evolves in different versions.

One can have multiple branches of evolution.

A motivating talk on why you should use tools like these in your scientific work.

Git

git is a powerful tool to manage all this complexity in a very efficient (and distributed) way. It is not an easy tool, however. A good tutorial is here. But for this course we use a very simplistic workflow:

1. Clone (copy) on your machine a repository `git clone ...`;
2. Work on the artifacts
3. Add the modified artifacts to the changeset you want to "publish" `git add ...`
4. Commit the changeset `git commit -m"message"` providing a comment about what have you done
5. Push the changeset on Github `git push`
6. (If someone else is working on the same artifacts you can sync with `git pull`)

All these steps are very easy (almost hidden, especially authentication) if you use Github desktop.

IDLE

Programs are data! File extension is conventionally .py

- To edit Python programs you need a text editor: something like Notepad, not Word (a word processor)
- IDLE is the "standard" one provided by the Python distribution itself: it is easy to use and it provides an easy way for executing programs without getting to the command line
- Other good choices: VS Code Atom Notepad++ or any other universal text editor like EMACS or vi