How to get your Jupyter notebooks running

Throughout this course we will be working with Jupyter notebooks for the exercises. They provide an interactive way of running snippets of python code, viewing plots and are ideal to quickly test code. You can also write in markdown, which allows us to directly write the questions (including LaTeX) within the notebook. In fact, this tutorial is written as a notebook!

1. Installing Python and VS Code

We recommend using VS Code to view and edit the Jupyter notebooks. You are of course free to choose any other editor. For VS Code, follow [this link](#) to learn how to install Python and VSCode.

If you are working on **Mac**, they recommend using homebrew. To install it, run

```
/bin/bash -c "$(curl -fsSL
https://raw.githubusercontent.com/Homebrew/install/HEAD/install.sh)"
```
in your terminal. You can then install python with `brew install python3`.

2. Installing extensions

To work smoothly with VS Code, we recommend installing the following extenstions:

- Python (Microsoft)
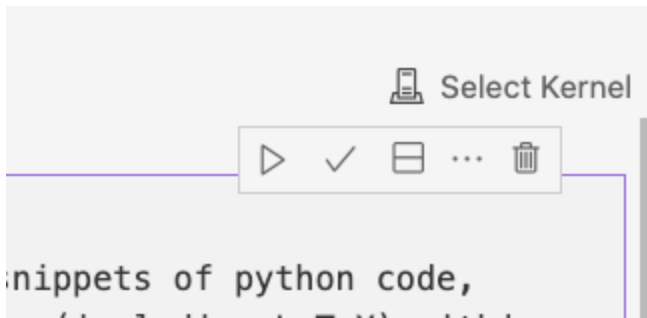- Jupyter (Microsoft)

optional, but makes your life easier

- GitHub Copilot (GitHub)

3. Setting up a virtual environment

Once you installed Python and VS Code, open a new workspace and follow the tutorial to create a new python `virtual environment`. This will help us keeping dependencies organized. Whenever we install a package, it is installed into this environment, this way you don't risk interfering with other projects.

4. Installing dependencies

You are now ready to actually run this notebook! For this, open the `.ipynb` version of this file in your VS Code workspace. At the top right, click on Select Kernel

and choose the virtual environment that you just created. You should now be able to run the following cell to install the necessary packages

```
In [ ]: %pip install --upgrade pip numpy matplotlib scipy
```

5. Run your first python code

Now we are ready to start coding!

```
In [ ]: print("Hello world!")
```