How to create a virtual environment on Mac

References

The Complete Guide to Python Virtual Environments!
Teclado
https://www.youtube.com/watch?v=KxvKCSwlUv8&t=947s

How To Create Python Virtual Environments On A Mac
https://www.youtube.com/watch?v=MzuGMSw8la0&t=167s

Notes

1. There are two key parts to a virtual environment:
   - The python version that it runs on and,
   - a folder containing third party libraries that you've installed in the virtual environment.

2. A virtual environment creates a copy of python. It's not using the same python as the rest of the system.

3. The virtual environment should be created inside the project folder. You then go inside the project folder before activating the virtual environment.

4. You don't need to be inside the virtual environment folder itself in order to activate it.

Steps to create the virtual environment

1. Check what python versions are installed on the Mac.
This command will show all available python versions e.g. python3.7, python2.3 etc.
`$ python (then press tab)`

2. We will create this virtual environment on the desktop.
Normally it's created inside a project folder.
`$ cd Desktop`

2. Create the virtual environment using one of your available python versions that were listed above. The name of the virtual environment will be myvenv.

```
$ python3.7 -m venv myvenv
```

3. Activate the virtual environment

```
$ source myvenv/bin/activate
```

4. Side note: If you were inside the virtual environment folder you could activate it like this:

```
$ source bin/activate
```

5. Check the python version that the virtual environment is using.

```
(myvenv) $ python --version
```

6. Now when you pip install a library, that library will be installed inside the virtual environment. It will be stored in a folder called site-packages:
myvenv/lib/python3.7/site-packages/the_library_you_installed

7. How to deactivate the virtual environment:

```
(myvenv) $ deactivate
```

Misc

1. How to install all packages listed in a requirements.txt file:
You need to be in the same folder as the requirements.txt file.

```
(myvenv) $ pip install -r requirements.txt
```

2. How to automatically create a requirements.txt file:
This will create a list of all packages and their versions.

```
$ pip freeze > requirements.txt
```

3. How to print the path variable on mac:

```
$ echo $PATH
```

Or in python:

```
import sys
print(sys.path)
```