How to start a python virtual environment

It is very useful to be able to set up a working environment that is isolated from the rest of your machine. This enables you to install packages that may clash with those on your operating system. This is very easy to do in linux. In a terminal window (obviously my uid is collngdj):

```
 [collngdj@djcxps2 tmp]$ python -m venv mypy
```

You can

```
([collngdj@djcxps2 tmp]$ source mypy/bin/activate
(mypy) [collngdj@djcxps2 tmp]$ which python
~/tmp/mypy/bin/python
```

You can then install packages the packages that you need e.g.:

```
(mypy) [collngdj@djcxps2 tmp]$ pip install numpy
Collecting numpy
 Using cached numpy-1.21.2-cp39-cp39-
manylinux_2_12_x86_64.manylinux2010_x86_64.whl (15.8 MB)
Installing collected packages: numpy
Successfully installed numpy-1.21.2

(mypy) [collngdj@djcxps2 tmp]$ install matplotlib
install: missing destination file operand after 'matplotlib'
Try 'install --help' for more information.
(mypy) [collngdj@djcxps2 tmp]$ pip install matplotlib
Collecting matplotlib
 Using cached matplotlib-3.4.3-cp39-cp39-manylinux1_x86_64.whl
(10.3 MB)
Collecting kiwisolver>=1.0.1
 Using cached kiwisolver-1.3.2-cp39-cp39-
manylinux_2_12_x86_64.manylinux2010_x86_64.whl (1.6 MB)
Collecting pillow>=6.2.0
 Using cached Pillow-8.3.2-cp39-cp39-
manylinux_2_17_x86_64.manylinux2014_x86_64.whl (3.0 MB)
Collecting cycler>=0.10
 Using cached cycler-0.10.0-py2.py3-none-any.whl (6.5 kB)
```

```
Collecting python-dateutil>=2.7
 Using cached python_dateutil-2.8.2-py2.py3-none-any.whl (247 kB)
Requirement already satisfied: numpy>=1.16 in
./mypy/lib/python3.9/site-packages (from matplotlib) (1.21.2)
Collecting pyparsing>=2.2.1
 Using cached pyparsing-2.4.7-py2.py3-none-any.whl (67 kB)
Collecting six
 Using cached six-1.16.0-py2.py3-none-any.whl (11 kB)
Installing collected packages: six, python-dateutil, pyparsing,
pillow, kiwisolver, cycler, matplotlib
Successfully installed cycler-0.10.0 kiwisolver-1.3.2 matplotlib-
3.4.3 pillow-8.3.2 pyparsing-2.4.7 python-dateutil-2.8.2 six-
1.16.0
```

Once you have finished working with this environment then you can simply:

```
(mypy) [collngdj@djcxps2 tmp]$ deactivate

[collngdj@djcxps2 tmp]$
```

You can also also use conda if you like (https://conda.io/projects/conda/en/latest/user-guide/tasks/manage-environments.html)