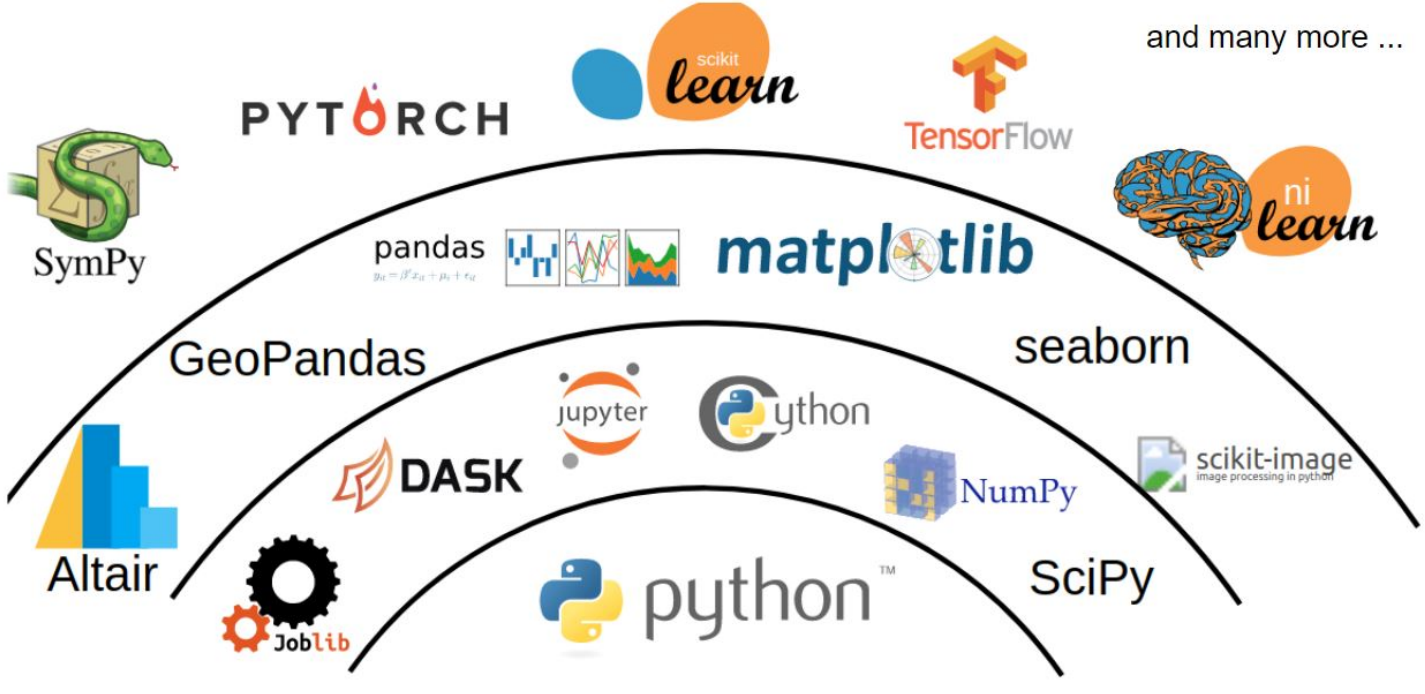
python™

PYTHON DATA SCIENCE LANDSCAPE



INSTALLING PYTHON

- Official Python Website
- Anaconda is recommended for Data Science
- However, even more recommended is Miniconda (a minimal version of Anaconda)
- Make sure to add the conda installation to your PATH environment variable

HELLO WORLD

In the Terminal

- Open a terminal and start the Python interpreter

```
python
```

- Inside the interpreter, run the following code

```
print("hello world")
```

- Close the interpreter with

```
exit()
```

HELLO WORLD

With a Script

- Create a new file and add the same print statement

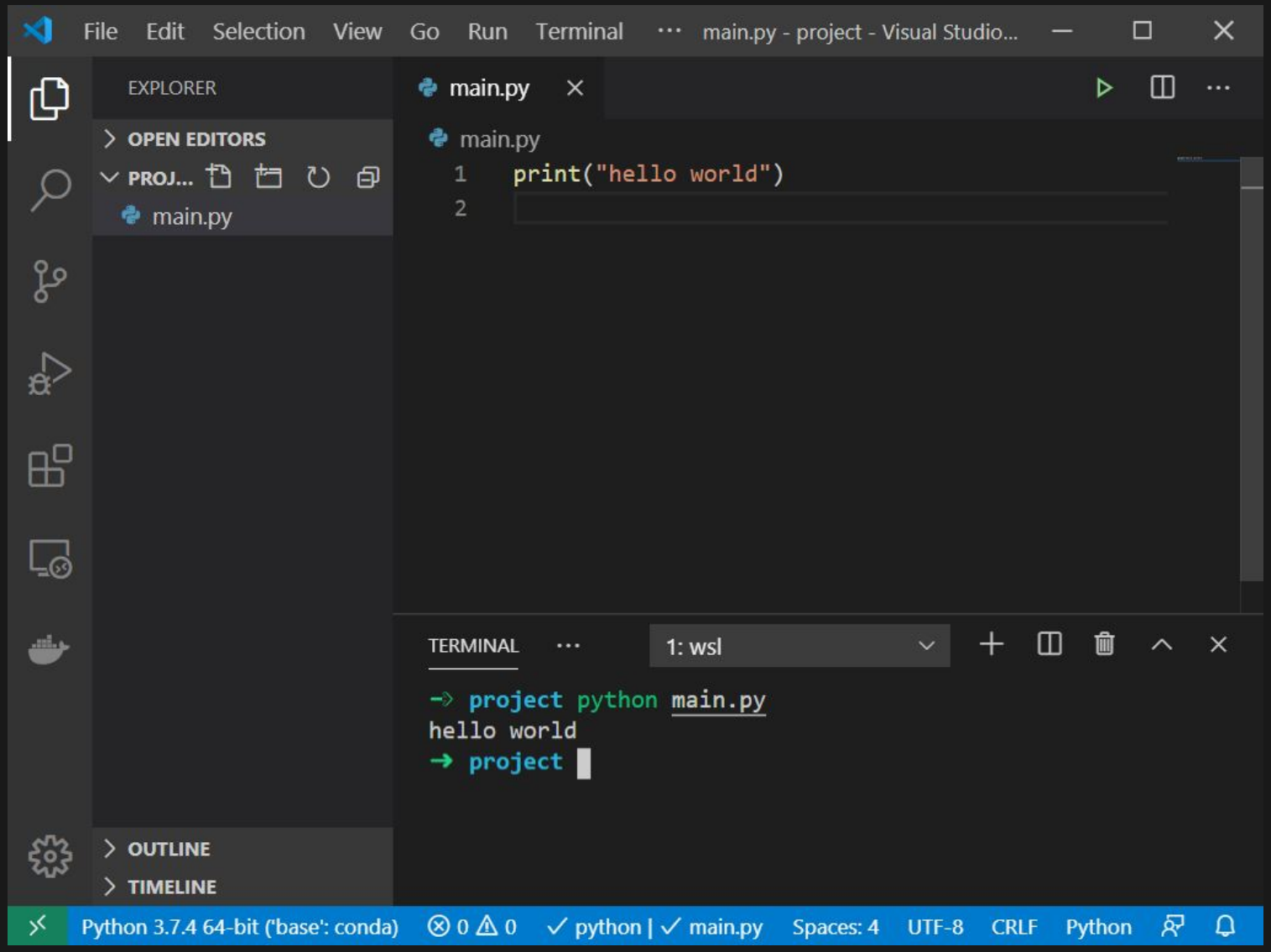
```
echo "print('hello world')" > main.py
```

- Python scripts have the extension .py
- To run a script, from the terminal

```
python main.py
```

VS CODE

- VS Code is a lightweight IDE with great Python support
- Install form here
- Install Python extension
- Also: great git integration, docker integration, and more ...


File Edit Selection View Go Run Terminal ··· main.py - project - Visual Studio...
EXPLORER
OPEN EDITORS
PROJ...
main.py
main.py
1 print("hello world")
2
TERMINAL
1: wsl
→ project python main.py
hello world
→ project
OUTLINE
TIMELINE
Python 3.7.4 64-bit ('base': conda) ⊗ 0 ⚠ 0 ✓ python | ✓ main.py Spaces: 4 UTF-8 CRLF Python

INSTALLING PYTHON LIBRARIES

- Using pip

```
pip install numpy pandas
```

- Using conda

```
conda install numpy pandas
```

PYTHON ENVIRONMENTS

- We can create environments to isolate, export and share dependencies of projects
- Create a new environment

```
conda create -n myenv
```

- You can create environments with a specific python version

```
conda create -n myenv python=3.5
```

PYTHON ENVIRONMENTS

- Work in an environment with

```
conda activate myenv
```

- Exit an environment with

```
conda deactivate
```

- Delete an environment with

```
conda remove -n myenv --all
```

JUPYTER NOTEBOOKS

- Jupyter Notebooks are web-based documents that can contain code, text, equations and visualizations
- Install with conda

```
conda install jupyter
```

- Start Jupyter

```
jupyter notebook
```

GOOGLE COLAB

- Google Colab is a service provided by Google to create, run and share notebooks on their cloud platform
- We have the most common libraries pre-installed
- We have access to a GPU/TPU for intensive workflows (Deep Learning)
- We use it from now on, but everything can also be done locally (you should install the required libraries) with Jupyter Notebooks or Python scripts

LET'S LEARN PYTHON !

RESOURCES

- Python basics
- Advanced Python
- Scientific Computation with Numpy
- Data Structures and Analysis with Pandas
- Plot graphs with Matplotlib
- Machine Learning with Scikit-Learn

python™