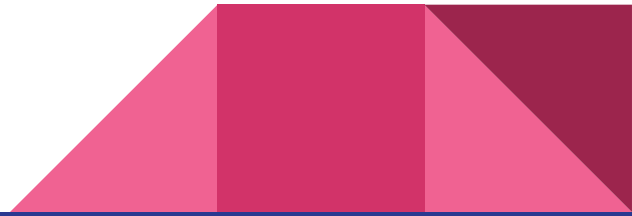
Setting up a Quantum Computing Development Environment

UT Austin Quantum Computing Collective 6:00 CST

Overview

1. Python
2. Virtual Environments
3. Qiskit Quantum Computing Module



One of many ways

Python

Installing Python3

A dynamically typed, intuitive, and popular programming language

- Windows:
  - https://www.python.org/downloads/windows/
- Mac:
  - https://www.python.org/downloads/mac-osx/
- Unix:
  - https://www.python.org/downloads/source/

Important

- Download the latest stable release.

- Add to path if using graphical installer

Virtual Environments

First let’s talk about software

Virtual Environment

Python Package Installer (pip)

- Our main way of getting ahold of publicly available software
- Comes with Python

Miniconda

- **Windows:** https://conda.io/projects/conda/en/latest/user-guide/install/windows.html
- **MacOS:** https://conda.io/projects/conda/en/latest/user-guide/install/macos.html
- **Unix:** https://conda.io/projects/conda/en/latest/user-guide/install/linux.html

Now The Quantum Part!

- Developed by IBM, widely used and open source
- Accompanying textbook on Quantum Computing which we will use for the following labs
- https://qiskit.org/documentation/install.html

Conclusion

- This is just one of the many ways you can set up a quantum computing development environment and although in future semesters we will utilize other modules and frameworks, this configuration will be used for all of the intermediate labs for Spring 2021.