

Mini-Lesson 1: VSCode, Quarto, and Jupyter

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Downloading and Installing

- VSCode: <https://code.visualstudio.com/>
- Quarto: <https://quarto.org/docs/get-started/>
- Jupyter: `pip install jupyter`

```
pip install jupyter pandas altair
```

- Helpful startup guides:
 - Installing VSCode on **Mac** and **Windows**
 - Setting up **python** for VSCode

Basics

- How to use VSCode:
 1. Open a folder the folder for your github repo in VSCode
 2. Install the Python, Quarto, and Jupyter VSCode extensions
- Quarto Syntax:
 1. Preamble: Format selection using YAML (like R Markdown)
 2. Content: Markdown (like R markdown)
 3. Code chunks: Python, R, etc. (like R markdown)

Compilation and Code Chunks

- Compilation
 - Keyboard shortcut: Ctrl+Shift+K
 - Render button in VSCode (top right corner)
 - Command line: `quarto render document.qmd`
 - Automatically compiles into output format from preamble
- Code Chunk Options
 - `echo: true` - Show code
 - `eval: true` - Run code

Jupyter in VSCode

- Interactive Python development
- Run code chunks individually
- View output in-line

```
import pandas as pd

df = pd.DataFrame({
    'A': [1, 2, 3],
    'B': [4, 5, 6]
})
print("Here is some output!")
df.head(1)
```

Here is some output!

	A	B
0	1	4

This Class: Repository Structure and Usage

- Student repo contents:
 1. .qmd files in lecture folders
 2. Compiled HTML/PDF files
 3. Data and figure folders
- In-class workflow:
 1. Open compiled HTML/PDF to follow along
 2. Have .qmd open in VSCode for exercises
 3. Use Jupyter for interactive coding