Lesson 0: Getting Started

Git, Anaconda and Python installation

Installing git

What is Git?

- b. 2005
- Git is a distributed version control system that tracks the changes of computer files
- Allows tracking changes to code over time while collaborating with others
- Essential tool for developers to track project history

What is Github?

- b. 2008
- A platform that uses git software to provide additional project management features: bug tracking, access control, public or private profiles, wikis for projects, etc

Downloads

- Windows: https://git-scm.com/download/win
- Mac: https://git-scm.com/download/mac
- Linux: Use package manager (apt, yum, etc)

Installing anaconda

What is Anaconda?

- b. 2012
- Distribution of Python and R programming languages
- Comes with over 200 popular data science packages pre-installed
- Includes a GUI, Anaconda Navigator, which contains popular development environments like Jupyter Notebook, RStudio, and VSCode
- Simplifies Python and R package management

Downloads

- Windows: https://www.anaconda.com/products/individual#windows
- Mac: https://www.anaconda.com/products/individual#macos
- Linux: https://www.anaconda.com/products/individual#linux

Installing Python

- b. 1991
- Used for web development, data science, AI, and more
- Features simple syntax, vast libraries and tools
- Dynamically typed and garbage collected
- Python 3.x comes preinstalled with Anaconda distribution
- To verify:
  - Launch Jupyter Notebook
  - In notebook, run: import sys print(sys.version)
  - Confirm Python 3.x
- Can launch Python interpreter to run commands:
  - Type "python" in Anaconda Prompt
  - Test with basic commands like "print("Hello World")"

Installing bash

- b. 1989
- Bourne Again SHell command line interpreter
- Bash is useful for running shell scripts in notebooks
- What are shell scripts?
  - Text files with series of Bash commands
  - Automate tasks like file operations (we'll see this later in the course!)
  - Can control system functions and apps
  - Useful for workflows and prototyping
- Pre-installed on Mac and linux
- Install via conda command on Windows
  - Open anaconda prompt
  - "conda install -c conda-forge bash_kernel"
  - "jupyter kernelspec list" (verigy installation)
- Can now run Bash scripts and commands alongside Python
  - enables creating notebooks with "Python 3 + bash" option