Software Engineering

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# Academic Onboarding Session

# Lecture – Housekeeping

- The use of disrespectful language is prohibited in the questions, this is a supportive, learning environment for all - please engage accordingly.
- No question is daft or silly - **ask them!**
- There are Q&A sessions throughout and at the end of the session, should you wish to ask any follow-up questions.
- For all non-academic questions, please submit a query: www.hyperiondev.com/support
- Report a safeguarding incident: http://hyperiondev.com/safeguardreporting

# Objectives

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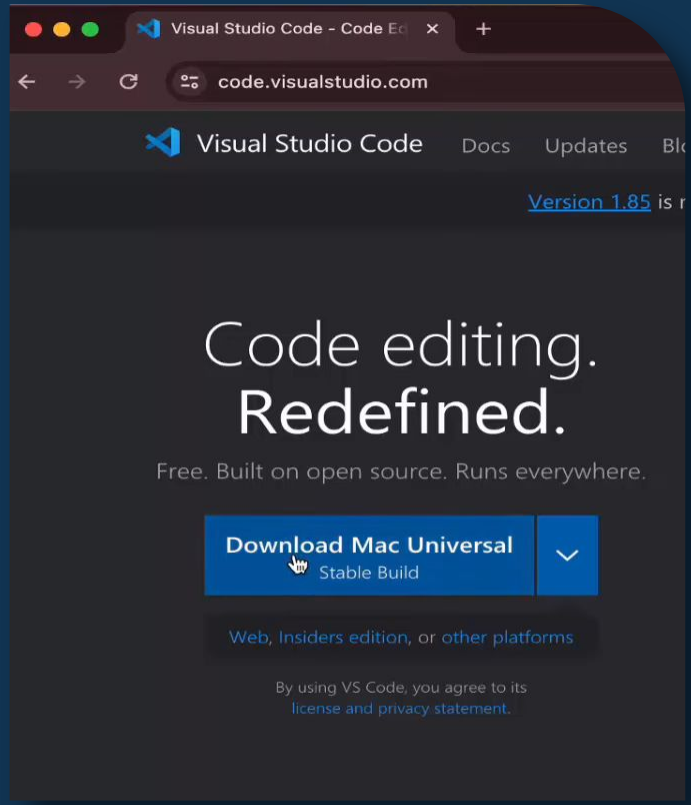
1. **Visual Studio Code**
    - What is **VSCode**?
    - Installation
2. **Package Managers**
    - Windows ↔ **Chocolatey**
    - MacOS (and Linux) ↔ **Homebrew**
3. **Python 3**
    - Installation
    - Virtual Environments (**venv**)
4. **GitHub**

# Installing VSCode

- https://code.visualstudio.com/
- https://code.visualstudio.com/docs
  - Intro Videos
  - Setup
  - User Interface



# Package Managers

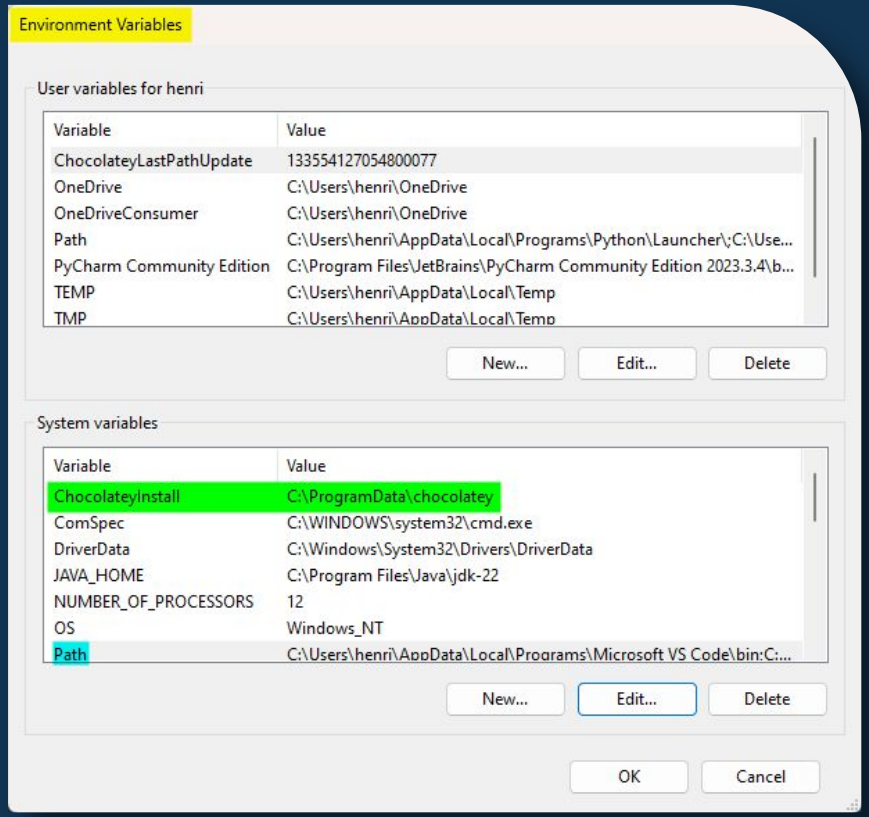
# Package Managers

- **Windows** ↔ Chocolatey
- **MacOS** (and **Linux**) ↔ Homebrew

# PMs › Useful Links

- **Chocolatey**
  https://chocolatey.org/install
- **Homebrew**
  https://brew.sh/
- ~~**apt-get**~~ → **apt**
  https://ubuntu.com/server/docs/package-management
- ~~**yum**~~ → **dnf**
  https://docs.fedoraproject.org/en-US/quick-docs/dnf/

# Windows › Chocolatey




**YouTube Video:** 📚

*How to Check Environment Variables in Windows 11* (Royal Technology)

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# Python 3

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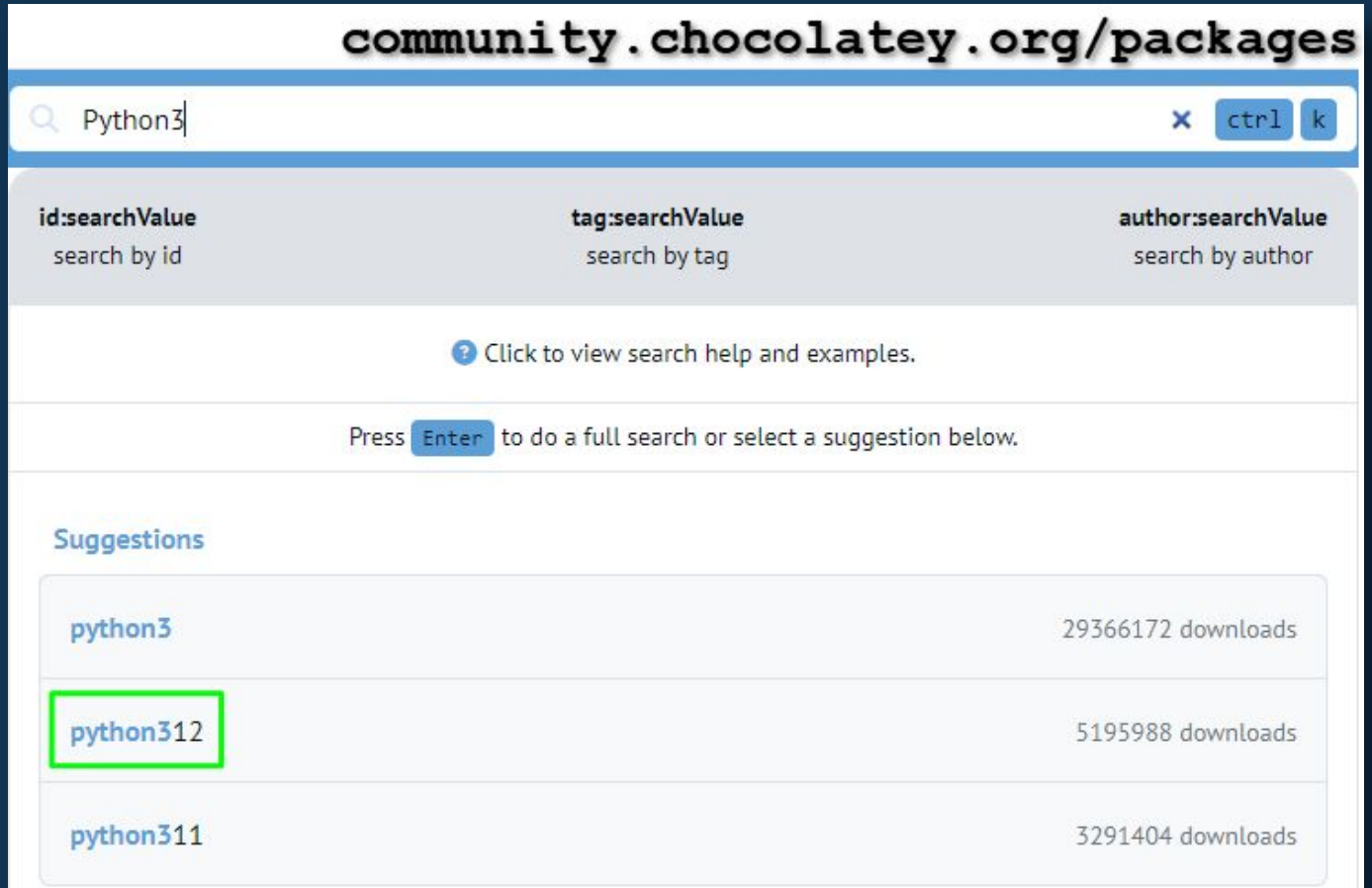
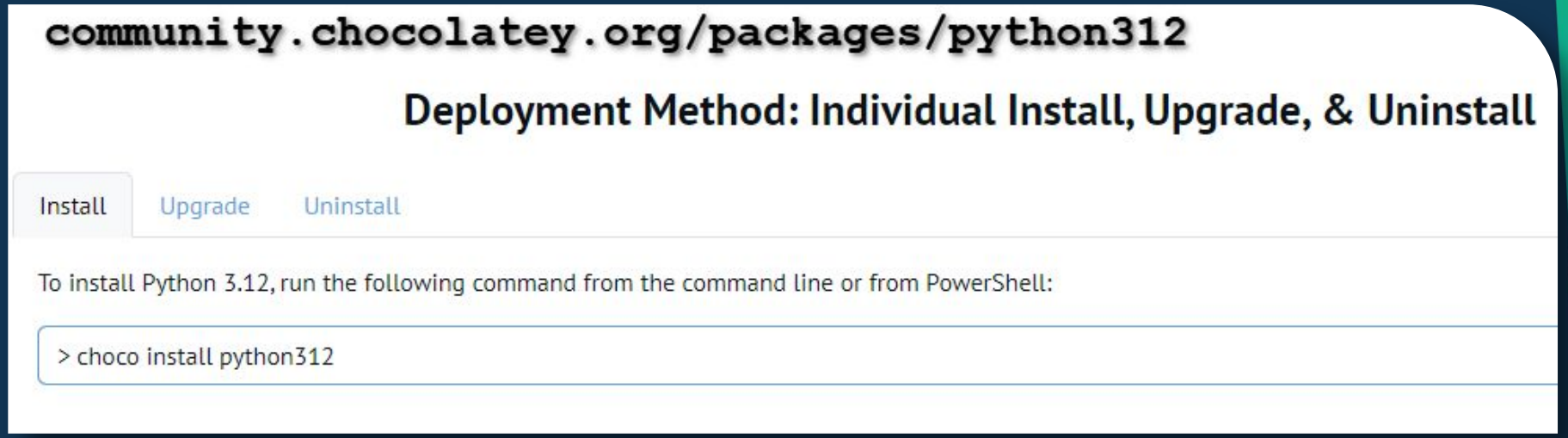
# Python 3 > Official Website

# Python 3 (Chocolatey)

# Python 3 (Chocolatey)



# Python 3 (Chocolatey)



# Python 3 (Chocolatey) > Summary

- Open **Powershell** as **Administrator**
- choco install python312
- python --version OR python3 --version

# Python 3 (brew)

- Open the **Terminal**
- brew install python
- python --version OR python3 --version

# Avoid Apple & Windows Distros of Python

- Old Versions
- System Dependency Risks
- Lack of Control

# The PATH

- **PATH** ↔ Box of Maps
- **Map** ↔ Points to the Location of a Program

**Where to find programs** you want to run

# PATH › Windows Example

- C:\Program Files**Python312****Scripts**\
  C:\Program Files**Python312**\
- C:\Program Files**nodejs**\
- C:\Program Files**Git****cmd**\

# PATH › MacOS & Linux Example

- /home/linuxbrew/.linuxbrew/opt/**python@3.12**/bin
- /home/linuxbrew/.linuxbrew/opt/**node@18**/bin
- /home/linuxbrew/.linuxbrew/opt/**git**/bin

# PATH › Why we need it?

- C:\Program Files\Python312\python.exe **my_script.py**

  /home/linuxbrew/.linuxbrew/bin/python3 **my_script.py**

😭💔😓

- python3 **my_script.py**

😀👏🎉

# PIP packages

```
import numpy as np      →    pip3 install numpy

import pandas as pd     →    pip3 install pandas

import requests         →    pip3 install requests
```

# Python Virtual Environment (venv)

- **Tool** ↔ **Python Package**
- **Shed** ↔ **Python Project**
- **PIP** ↔ **Fetches Package(s)**

- **Organise** each set of *tools* in a different *shed*

- **Isolate** our Python Projects

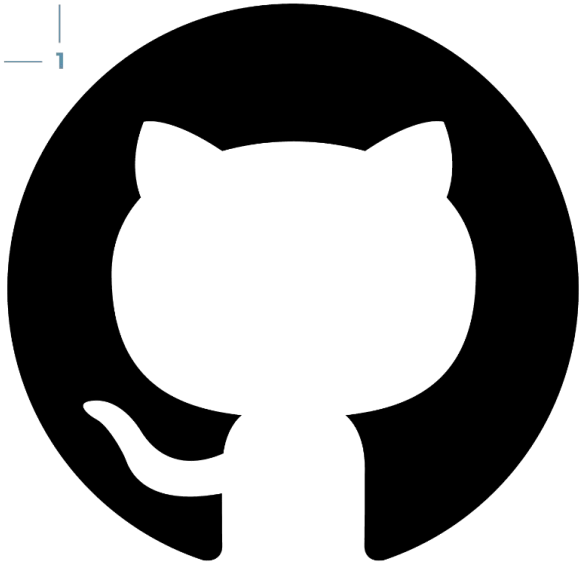
- Mixing them up → Messy 😜

# venv > Summary

- python -m venv .env
- Activate the Virtual Environment
  - **Command Prompt**
    .env\Scripts\activate
  - **Powershell**
    .\.env\Scripts\activate
- deactivate

# Summary

- **Visual Studio Code**
- **Package Managers**:
  - Windows ↔ **Chocolatey**
  - MacOS (Linux) ↔ **Homebrew**
  - Python3 ↔ **PIP3**
- **Python3**
  - Virtual Environments (venv)
- **PATH** variable
  - Is Python in our PATH



# GitHub

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# Q&A Section

**Please use this time to ask any questions relating to the topic explained, should you have any**

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# Thank you for joining us

**Take regular breaks.**
**Stay hydrated.**
**Avoid prolonged screen time.**

**Remember to have fun (^_^)**