Day 1 Assessment **12-May-2025**

Python Venv

Definition :

- It is used to create isolated workspace to install & manage specific packages & dependencies for a project without affecting global python installation.

How it Works :

- It creates a copy of **python interpreter**.
- It creates a **Scripts/** directory with pip specifically for this folder
- It creates a separate **sites-package.**

Advantage :

- Isolation :
  -- It separates and isolates the dependencies between the project.
  -- It does not conflict with the global python dependencies.

- Easy To Share :
  -- The project setup can be easily shared to different machine using the requirements.txt.

- Clean Uninstallation :
  -- To remove all the dependencies for clean setup or to restart from scratch, the .venv folder can simply be deleted for a fresh start.
- Testing :
  -- It is easy for testing multiple versions of dependencies to find the most compatible package version for out package.

Disadvantages :

- Storage Overload :

-- Since the interpreter is copied and the packages are loaded again into the venv it creates a storage overload.

- Manual Activation :
  -- It needs to be manually activated every time unless specifically setup using code editors like VS Code.

How to create :

```
> python –m venv myvenv
> myvenv\Scripts\activate
(myvenv) C:\Users\UserName\Project >
> pip freeze > requirements.txt
> pip install requirements
> deactivate
```