Week 3 Quiz 1

1. What is a dependency in the context of software development?

   - A tool for debugging.

   - A type of bug in the code.

   - An unnecessary piece of code.

   - ==A library or module that a project relies on to function correctly.==

   A dependency is a library or module that a project requires to function properly, leveraging existing code to build applications more efficiently.

2. What is the purpose of using virtual environments in Python?

   - To increase code complexity.

   - To remove the need for dependencies.

   - To create an environment that hosts direct dependencies while excluding transitive dependencies

   - ==To isolate dependencies for different projects.==

   Virtual environments allow developers to manage dependencies for specific projects without affecting other projects, preventing conflicts.

3. What is the purpose of pinning versions of dependencies?

   - To make the code run more quickly with the specified dependencies

   - To remove dependencies from the project.

   - ==To fix which versions of a dependency your project uses, avoiding unexpected updates.==

   - To ensure that the latest versions are always used.

   Pinning versions ensures that specific versions of dependencies are used, preventing unexpected updates that could introduce issues.

4. What useful functionality do the pip-compile and pip-sync commands provide?

   - pip-compile: processes a provided requirements.in file to remove any unused libraries

     pip-sync: updates all libraries to their newest released versions

   - pip-compile: processes a provided requirements.in file to remove any unused libraries

     pip-sync: syncs your current environment's libraries to exactly match those in a provided requirements.txt file

   - pip-compile: creates a list of all your project's dependencies, including transitive dependencies (dependencies' of your dependencies)

     pip-sync: updates all libraries to their newest released versions

- <mark>pip-compile: processes a requirements.in file to create a list of all your project's dependencies, including transitive dependencies (dependencies' of your dependencies)</mark>

  <mark>pip-sync: syncs your current environment's libraries to exactly match those in a provided requirements.txt file</mark>

pip-compile compiles a list of all direct and transitive dependencies, stored in a file called requirements.txt. Meanwhile pip-sync will sync an environment to install a set of libraries exactly matching those in a requirements.txt file.

5. How can an LLM assist with dependency management?

- <mark>By recommending and providing information about dependencies.</mark>

- By automatically fixing all dependency issues.

- By writing code without dependencies.

- By replacing the need for dependencies.

ChatGPT can help by recommending appropriate dependencies and providing information about them, such as their latest versions and potential issues.