Module 1: Introduction to Mobile Development and Flutter

Theory Assignments:

Q1. Explain the benefits of using Flutter over other cross-platform frameworks.

- Single Codebase: You only write one code for both Android and iOS. This saves a lot of time and money.
- Fast Performance: Flutter does not need a "bridge" to talk to the phone. It draws its own graphics, so it is very smooth.
- Hot Reload: When you change the code, you see the result on the screen instantly without waiting.
- Great Widgets: It comes with many ready-to-use parts (widgets) that make the app look professional.

Q2. Describe the role of Dart in Flutter. What are its advantages for mobile development?

- The Language: Dart is the programming language used to build Flutter apps.
- Fast Running: It turns code into native machine code, which makes the app run very fast.
- Easy to Learn: The grammar of the language is simple and easy for beginners to understand.
- Stable: It helps developers avoid common mistakes while writing code.

Q3. Outline the steps to set up a Flutter development environment.

- Step 1: Download the Flutter SDK from the official website.
- Step 2: Add the Flutter "bin" folder to your computer's "Path" in Environment Variable settings.
- Step 3: Download a code editor like VS Code or Android Studio.
- Step 4: Install the Flutter and Dart Extension inside the editor.
- Step 5: Run the command `flutter doctor` to check if everything is installed correctly.

Practical Assignment

1: Set up the Flutter environment and verify with flutter doctor

To finish this assignment, follow these simple steps:

- **Step 1: Download Flutter** Go to the official Flutter website and download the Flutter SDK folder for your computer (Windows or Mac).
- **Step 2: Extract the Folder** Unzip the file and move the `flutter` folder to a safe place on your hard drive (like `C:\src\flutter`).
- **Step 3: Update the Path** In your computer settings, find "Environment Variables." Add the path of the `flutter/bin` folder so your computer knows where Flutter is.
- **Step 4: Install an Editor** Download **VS Code**. Inside VS Code, go to the "Extensions" tab and install the **Flutter** and **Dart** plugins.
- **Step 5: Run the Command** Open your terminal or command prompt and type:
`flutter doctor`