Assignment No.: 1  
Title: Installation and Configuration of Flutter Environment

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**Aim:** To install and configure the Flutter development environment on a Windows system.

**Theory:**

Flutter is an open-source UI software development kit created by Google. It is used to develop cross-platform applications for Android, iOS, Linux, macOS, Windows, and the web from a single codebase. To develop apps using Flutter, it's essential to install and configure the SDK and its supporting tools properly.

**Procedure:**

**1. Install the Flutter SDK**

**Step 1:**  
Download the Flutter SDK from the official Flutter website:  
<https://docs.flutter.dev/get-started/install>  
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**Step 2:**  
Click on the **Windows** icon to download the latest Flutter SDK for Windows.  
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**Step 3:**  
Extract the downloaded ZIP file and move the extracted folder to a preferred location (e.g., C:\Flutter).  
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**Step 4:**  
Add the Flutter bin directory to the system PATH.

* **Step 4.1:** Go to This PC → Right-click → Properties → Advanced System Settings → Environment Variables.
* **Step 4.2:** Under "System variables", find and select Path, then click on Edit.
* **Step 4.3:** Click New, then paste the path to the Flutter bin folder (e.g., C:\Flutter\bin). Click OK to close all dialogs.  
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**Step 5:**  
Open the Command Prompt and run:

flutter doctor

This command checks for the necessary dependencies and shows their installation status.  
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**2. Install Android SDK and Android Studio**

If flutter doctor reports that Android SDK is missing:

**Step 6:**  
Download Android Studio from the official site and run the installer.  
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**Step 7:**  
Follow the installation wizard. After installation:

* Click on **“Do not import settings”** when prompted.
* Start Android Studio.

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In Android Studio, install the necessary components and then run:

flutter doctor --android-licenses

Accept all licenses.

**3. Set Up Android Emulator**

**Step 9:**

* Open Android Studio → Tools → Device Manager → Create Device.
* Select a hardware profile and click **Next**.
* Download a recommended system image and proceed.
* Verify the configuration and click **Finish**.
* Launch the emulator to confirm it's working.

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**4. Install Flutter and Dart Plugins in Android Studio**

**Step 10:**

* Go to File → Settings → Plugins.
* Search for **Flutter** plugin and click **Install**.
* It will prompt you to install the **Dart** plugin as well – accept and install it.
* Restart Android Studio after installation.

**Conclusion:**

The Flutter SDK and Android development environment were successfully installed and configured. All required components such as SDK, emulator, and plugins were set up to enable Flutter application development.