

13-03-25 (Thursday)

Mobile application Development:

Q: What is Emulator?

Emulator:

An emulator is a software program that mimics the behavior of a physical device, such as smartphones or tablet, on a computer.

Emulator in Flutter:

In the context of flutter, an emulator is used to test and run flutter apps on a virtual device, without the need for physical device.

Purpose of Emulators in Flutter:

- 1- Testing
- 2- Debugging
- 3- Development
- 4- Demonstration

Types:

- 1- Android Emulator
- 2- iOS Simulator
- 3- Google Chrome OS Emulator

Q:2

What is widget?

Widget:

In flutter, a widget is a small, reusable piece of code that represents a part of a user interface (UI). Widgets are the building blocks of a flutter app's UI, and they can be combined to create complex layouts and interfaces.

Q: 3

What are Stateless and Stateful widgets?

Stateless Widgets:

A stateless widget is a widget that does not change over time. It is immutable, meaning its properties can't be changed once it is created.

Stateful Widgets:

A stateful widget is a widget that

can be changed over time. It is mutable, meaning its properties can be changed after it is created.

Mobile Application Development:

Shared Preferences: (local storage)

Shared preferences is a simple key-value pair storage mechanism in flutter that allows you to store and retrieve a small amount of data such as string, integers and booleans. It is commonly used for storing user preferences, authentication tokens, or a small piece of data that does not require a database.

Space Limit in Shared Preferences:

- SharedPreference is backed by the device's local storage.

There is no hard limit on the size but it is recommended to store

only small data. (a few MBs at most). * Android \rightarrow 1 MB }

* iOS \rightarrow 0.5 MB }

Data Structured Used in Shared Preferences:

Internally, shared preferences used key-value pairs similar to a "Map<string> dynamic"

* Android:

It is implemented using XML files stored in the device internal storage.

* iOS:

It uses 'NSUserDefaults' which is apple's equivalent of Shared Preferences.

Supported Data Types:

int, double, string, bool, List<string>.

Add, Fetch, remove data in Shared Preferences:

SharedPreferences in flutter is used to store simple key-value pairs persistently.

(1) Adding Data:

To store data, use the `setString()`, `setInt()`, `setBool()`, `setDouble()`, or `setStringList()` methods.

(2) Fetching Data:

To read stored values, use `getString()`, `getInt()`, `getBool()`, `getDouble()`, or `getStringList()`.

(3) Removing Data:

To remove a specific key-value pair, use `remove()`.

To clear all stored data, use `clear()`.