# App development Tasks:

# Framework: Flutter and Dart

Why flutter?  
Flutter is a cross-platform mobile development framework that allows you to build native-like apps for iOS and Android from a single codebase. It is also possible to use Flutter to build web apps and desktop apps.

Reference link 1: <https://developers.google.com/learn/pathways/intro-to-flutter>

What are widgets?  
In Flutter, a widget is a building block for your user interface. It is a description of what a part of your UI should look like and how it should behave. Widgets are arranged in a tree-like structure, with each widget having one or more children. The root widget of the tree is the entire UI of your app.

Reference link 2 :[Basic widgets | Flutter](https://docs.flutter.dev/ui/widgets/basics)

Task 0:

Setup Guides and Tools

For setting up your development environment and using the required tools, you can refer to the following links based on your operating system:

macOS Setup Guide:

https://flutter.io/setup-macos

Windows Setup Guide:

https://flutter.io/setup-windows

Linux Setup Guide:

https://flutter.io/setup-linux

Visual Studio Code:

https://code.visualstudio.com/

Visual Studio Code Flutter Extension:

https://marketplace.visualstudio.com/items?itemName=Dart-Code.flutter

Android Studio: <https://developer.android.com/studio/>

**"The best way to learn Flutter is to find a project that you are passionate about and start building it." - flutter community**

Now create a flutter project by running “flutter create project1” in your terminal

Create Flutter project that creates a simple click counter application using the MaterialApp, StatefulWidget, and setState concepts. This app displays a counter on the screen, and each time the user taps the floating action button (the plus button), the counter increases by one. And include (the minus button) which decrease the counter

## Task 1: Online ide -Dart pad

<https://dartpad.dev/?id=6b31b681217f80ba0208c07e8c9d11d8>

**Dart Tutorial: Introduction and Basics**

To learn the basics of Dart programming language and its 12 modules, you can visit the following link:

<https://dart-tutorial.com/introduction-and-basics/>

Official documentation (optional)

<https://dart.dev/language>

## Task 2: Playing with Dice

Design a dice game where the user can click to roll the dice, and a random number will be displayed. Use the following images to represent the displayed numbers:

Keep the design simple and use some linear gradients.

The user wins the game if they get 6. Declare the winner.

Use the Google Fonts package to change the font of "Roll Dice" to Lato.

Reference link:

https://pub.dev/

Note: There are many ways to add packages in Flutter. You can choose any method and try to learn more about package

## Task 3 Credit Card View In Flutter

<https://medium.flutterdevs.com/credit-card-view-in-flutter-f415f9578e03>

Read the blog provided in the link and understand the basics of how to create a credit card widget.

Come up with a unique UI design for your credit card application. This could involve using different colors, fonts, and shapes.

Implement your UI design in Flutter. You can use the flutter\_credit\_card package to create the credit card widget.

Test your application and make sure that it works as expected.

## Task 4 (optional task): Play with APIs.

Try to fetch data from this API:

<https://app.balldontlie.io/#getting-started>.

Reference docs: <https://docs.flutter.dev/cookbook/networking/fetch-data>.

(Note: This task is meant to give you knowledge about what an API is and how it is used in daily life. You can also try to learn more about APIs by reading other documentation or articles.)

## Task 5:

Make a basic to-do application more interactive. This is the final task, where you have to make the application more functional. Refer to the video here:

<https://youtu.be/mMgr47QBZWA>.

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