Name : Sanika Rane Class : D15B Roll No.57

EXPERIMENT NO.02

Aim: To design Flutter UI by including common widgets.

Theory :

In Flutter, widgets are the building blocks used to create user interfaces. Everything in Flutter is a widget, including the structural elements like rows and columns, as well as the stylistic elements like colors and fonts. Widgets are used to define the structure and appearance of the UI, and they can be combined and nested to create complex and interactive layouts.Whenever we are going to code for building anything in Flutter, it will be inside a widget. The central purpose is to build the app out of widgets. It describes how our app view should look like with their current configuration and state. When you made any alteration in the code, the widget rebuilds its description by calculating the difference of previous and current widget to determine the minimal changes for rendering in UI of the app.

Widgets are nested with each other to build the app. It means the root of your app is itself a widget, and all the way down is a widget also. For example, a widget can display something, can define design, can handle interaction, etc.

Here are common widgets used in flutter,

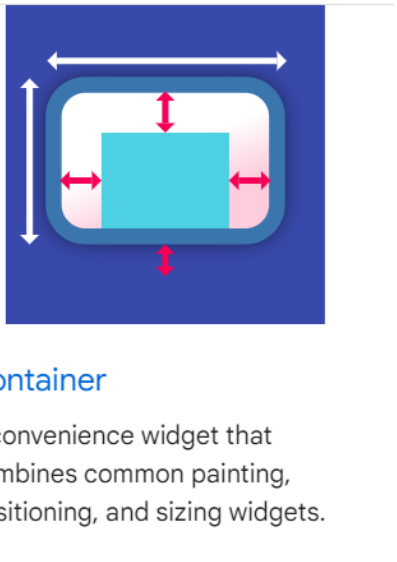
1.Text :

The Text widget in Flutter is used to display a short piece of text. It is a simple and commonly used widget for rendering text in various styles. Here are some examples of using the Text

2.Container :

The Container widget in Flutter is a versatile and commonly used widget that can contain other widgets and apply styling. It provides a simple box model to control the layout and appearance of its child widgets. Here are the key properties and functionalities of the Container widget.

Name : Sanika Rane Class : D15B Roll No.57

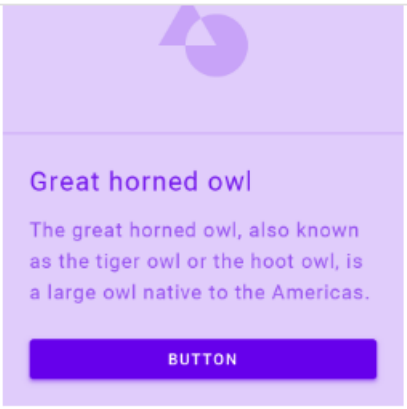


Container

A convenience widget that combines common painting, positioning, and sizing widgets.

3. ElevatedButton :

The ElevatedButton widget in Flutter is a material design raised button. It is commonly used to initiate an action when pressed. Here are the key properties and functionalities of the ElevatedButton widget.

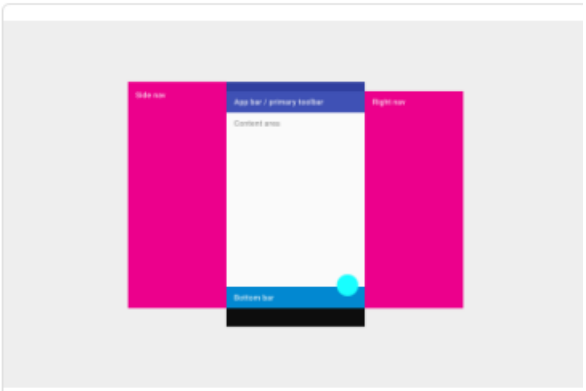


ElevatedButton

A Material Design elevated button. A filled button whose material elevates when pressed.

4.Scaffold :

The Scaffold widget in Flutter is a basic structure that provides a visual scaffold or structure for a material design app. It defines the basic structure of the visual interface, including an app bar, body, floating action button, drawer, and more.



Scaffold

Implements the basic Material Design visual layout structure. This class provides APIs for showing drawers, snack bars, and bottom sheets.

5. Checkbox :

The Checkbox widget in Flutter is a material design widget used to represent a binary choice (checked or unchecked). It is commonly used in forms or settings where the user needs to make a yes/no or true/false selection.

6. **Image** :

The Image widget in Flutter is used to display images in your application. It supports various image sources, including network images, asset images, and memory images.

Image

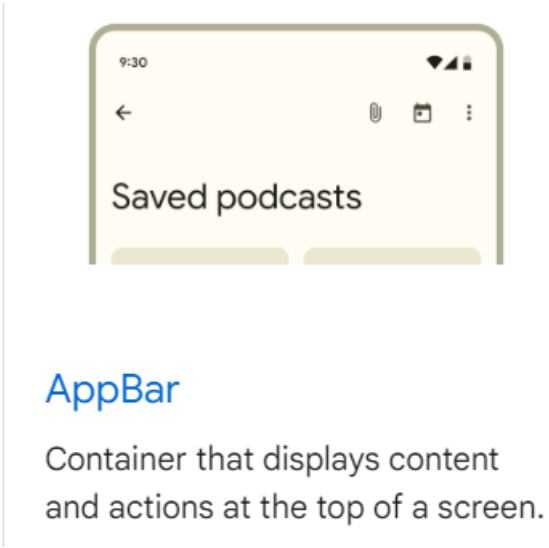
A widget that displays an image.

7. Listview :

The ListView widget in Flutter is a scrollable list of widgets. It's used when you want to display a scrollable list of items, and it's highly customizable. The ListView can have a fixed number of children or dynamically generate children based on the provided builder function.

8 . AppBar :

The AppBar widget in Flutter is a material design widget that represents the top of a screen. It typically contains the app's title, leading and trailing icons, and may also include actions, such as buttons or a search icon.



9.BoxDecoration :

The BoxDecoration widget in Flutter is used to decorate a box, typically used as the background decoration for various widgets like Container, Card, or ListView.

10. MaterialApp :

The MaterialApp widget in Flutter is a top-level widget that represents the basic structure of a Material Design application. It provides several key features and configurations for building a typical mobile app, including navigation, theming, and more.

Name : Sanika Rane Class : D15B Roll No.57

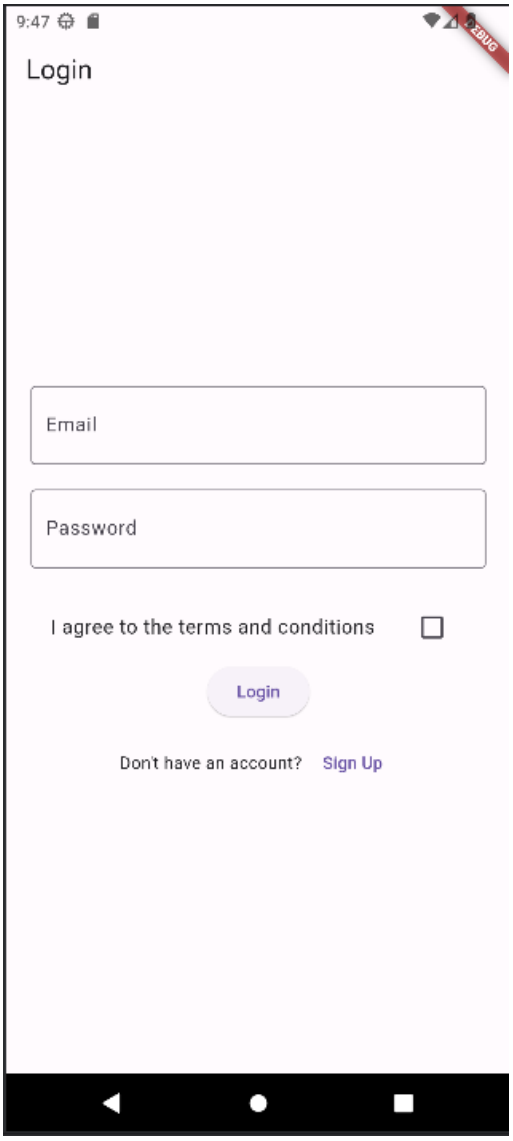
Code :

```
import 'package:flutter/material.dart';
void main() {
runApp(MaterialApp(
home: MobileLoginPage(),
));
}

class MobileLoginPage extends StatelessWidget {
@override
Widget build(BuildContext context) {
return Scaffold(
appBar: AppBar(
title: Text('Login'),
),
body: Padding(
padding: const EdgeInsets.all(20.0),
child: Column(
mainAxisAlignment: MainAxisAlignment.center,
children: [
TextFormField(
decoration: InputDecoration(
labelText: 'Email',
border: OutlineInputBorder(),
),
),
SizedBox(height: 20),
TextFormField(
decoration: InputDecoration(
labelText: 'Password',
border: OutlineInputBorder(),
),
obscureText: true,
```

```
),
SizedBox(height: 20),

CheckboxListTile(
  value: true,
title: Text('I agree to the terms and conditions'),
onChanged: (value) {
print('Checkbox value changed to: $value');
},
),

ElevatedButton(
onPressed: () {
// Add login functionality
},
child: Text('Login'),
),
SizedBox(height: 10),
Row(
// mainAxisAlignment: MainAxisAlignment.center,
children: [
Text('Don\'t have an account?'),
SizedBox(width: 5),

TextButton(
onPressed: () {
// Add navigation to sign up page
},
child: Text('Sign Up'),
),
],
),
],
```

```
),
),
);
}
}
```

Output :


9:47
DEBUG
Login
Email
Password
I agree to the terms and conditions
Login
Don't have an account? Sign Up