

## Experiment 02

**Aim :** To design Flutter UI by including common widgets.

### Theory:

Flutter is Google's UI toolkit for crafting beautiful, natively compiled iOS and Android apps from a single code base. To build any application we start with widgets – The building block of flutter applications. Widgets describe what their view should look like given their current configuration and state. It includes a text widget, row widget, column widget, container widget, and many more.

**Widgets:** Each element on a screen of the Flutter app is a widget. The view of the screen completely depends upon the choice and sequence of the widgets used to build the apps. And the structure of the code of an apps is a tree of widgets.

### Types of Widgets:

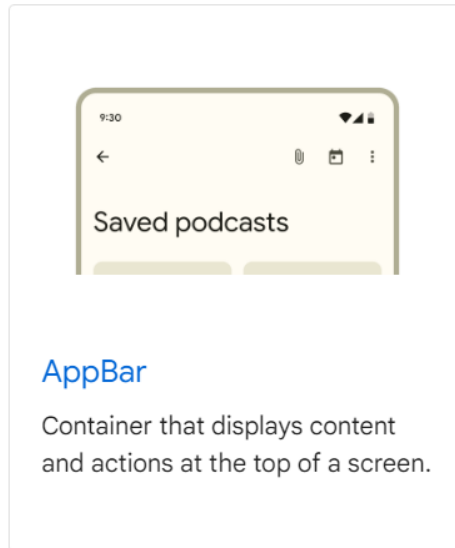
There are broadly two types of widgets in the flutter:

Stateless Widget

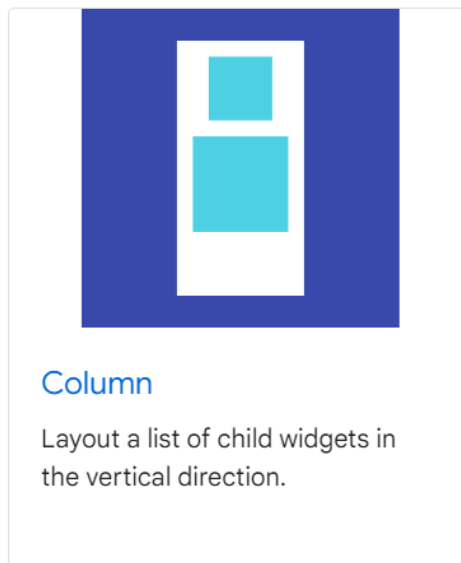
Stateful Widget

### Common Widgets in Flutter :

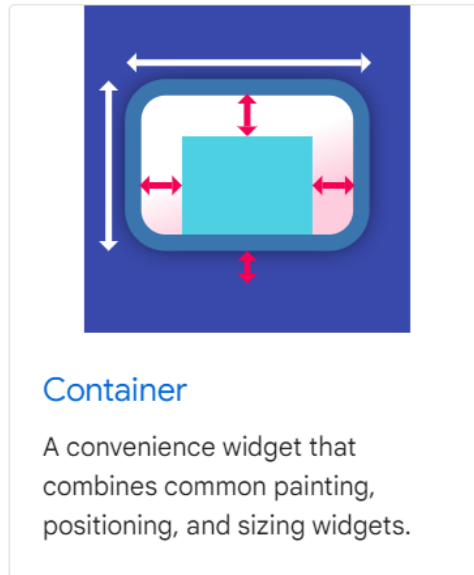
**AppBar:** AppBar is a material design widget used for representing the top app bar. It typically contains the app's title, leading and trailing widgets, and actions.



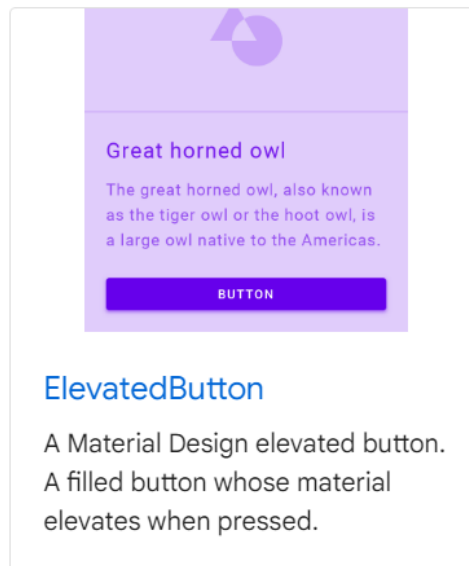
**Column:** Column is a layout widget that arranges its children vertically in a single column. It is commonly used to create vertical layouts.



**Container:** Container is a versatile widget used to contain other widgets and apply various styling properties like padding, margin, background color, etc.



**ElevatedButton:** ElevatedButton is a button widget that displays a material design button with elevation. It's typically used for actions like submitting forms or initiating important actions.



**FlutterLogo:** FlutterLogo is a widget that displays the Flutter logo. It's commonly used as a placeholder for apps during development or as a decorative element.



### FlutterLogo

The Flutter logo, in widget form.  
This widget respects the  
IconTheme.

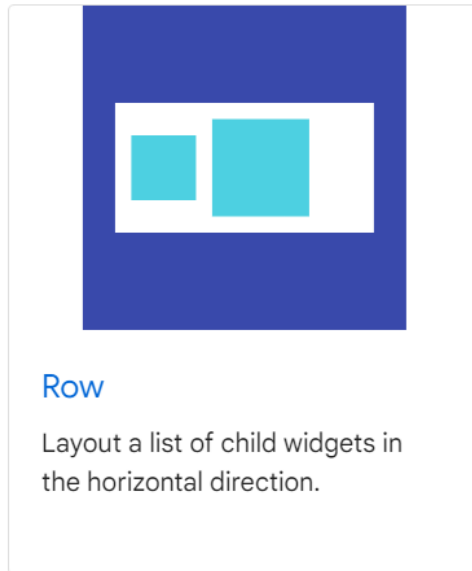
**Placeholder:** Placeholder is a widget used as a temporary visual placeholder for widgets that are under development or will be replaced later.



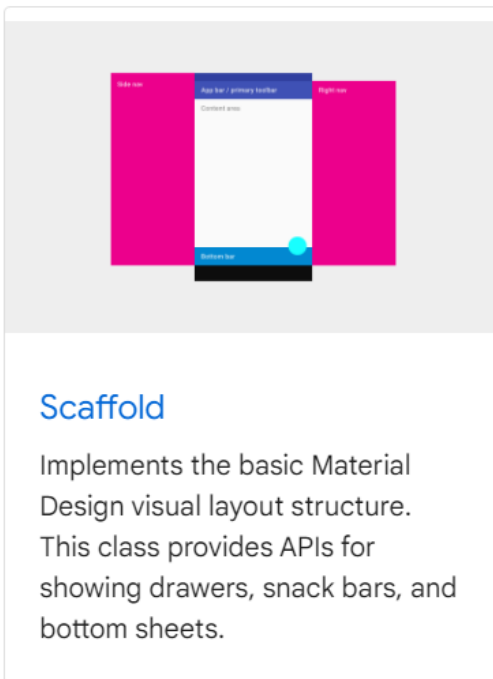
### Placeholder

A widget that draws a box that  
represents where other widgets  
will one day be added.

**Row:** Row is a layout widget that arranges its children horizontally in a single row. It's often used to create horizontal layouts.



**Scaffold:** Scaffold is a layout widget that provides a basic structure for material design apps. It typically contains an app bar, a body, floating action buttons, and other standard app elements.



**Code:**

```
import 'package:flutter/material.dart';

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),

        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'),  
        ),  
      ],  
    ),  
  ],  
),  
),  
);  
}  
}  
  
void main() {  
  runApp(MaterialApp(  
    home: MobileLoginPage(),  
  ));  
}
```



**Explanation:**

We have used Scaffold as the main container for the login page with an AppBar displaying the title "Login".

Inside the body, we have used Padding for adding spacing around the content.

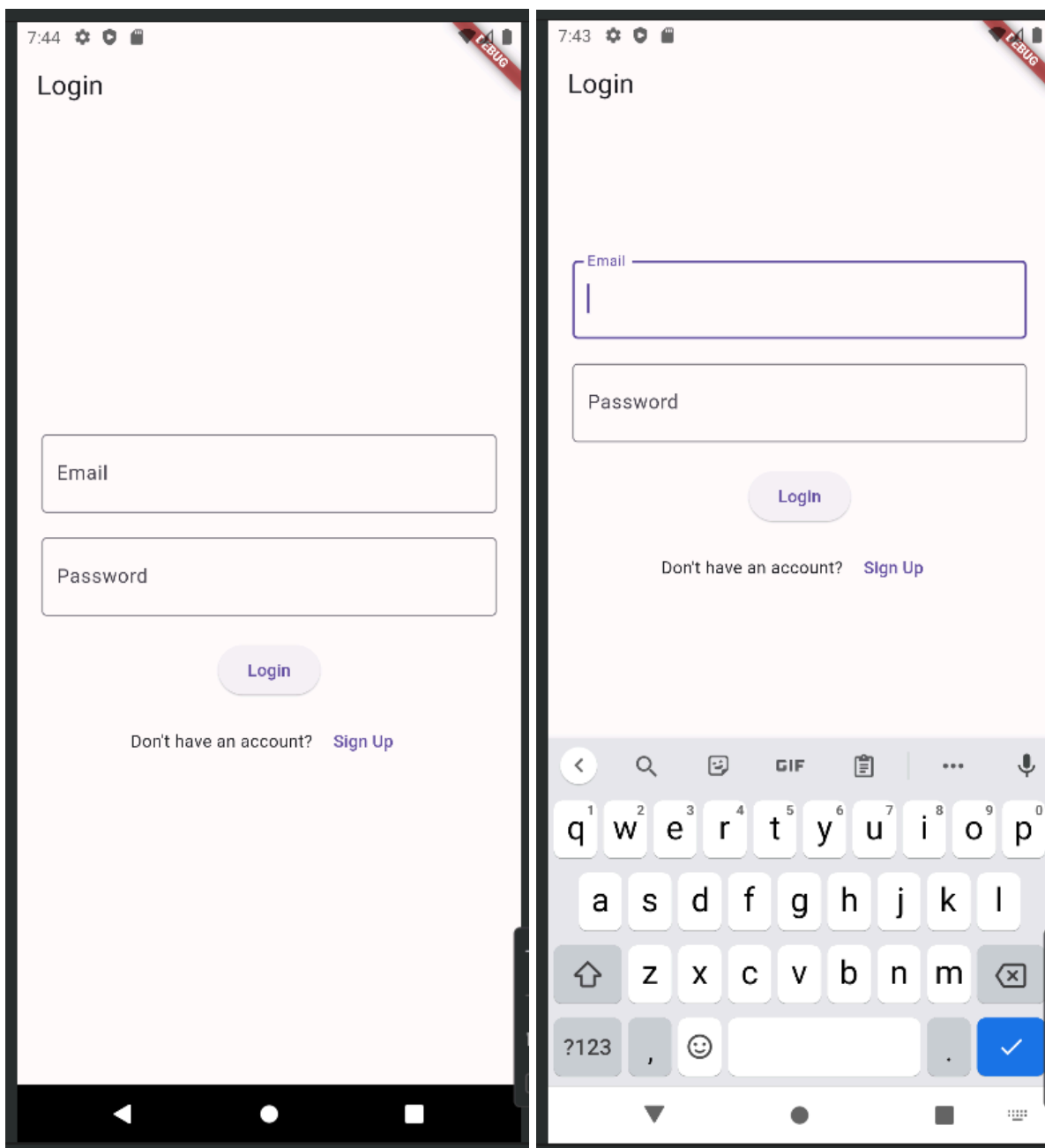
The login form elements (email and password inputs) are contained within Container widgets to add styling.

The TextFormField widget is used to create a text input field for users to enter their email and password.

For the password field, we added the obscureText: true property to obscure the text as the user types for security reasons.

The login button is an ElevatedButton with the text "Login".

Below the login button, we have a Row containing text for "Don't have an account?" and a TextButton for "Sign Up".

**Conclusion:**

We have created a simple Flutter UI. For that we used some common widgets like Scaffold, padding, container, TextFormField, ElevatedButton, Row ,etc.