

Experiment 02

AIM: To design Flutter UI by including common widgets.

THEORY:

- ❖ Introduction to Flutter Widgets:
 - Define what Flutter widgets are and their significance in building user interfaces.
 - Mention how Flutter widgets are the basic building blocks of Flutter applications and how they contribute to creating interactive UI components.
- ❖ Overview of Common Widgets:
 - Provide an overview of the most commonly used widgets in Flutter.
 - Categorize them based on their functionality such as layout, text, input, interaction, etc.
- ❖ Layout Widgets:
 - Explain layout widgets like Container, Row, Column, Stack, and ListView.
 - Discuss how each layout widget works and its typical use cases.
 - Demonstrate how to use them to create different UI layouts.
- ❖ Text Widgets:
 - Introduce text widgets like Text, RichText, and TextField.
 - Explain how to style text, handle text overflow, and implement text editing functionalities.
- ❖ Input Widgets:
 - Discuss input widgets such as TextField, Checkbox, Radio, and Switch.
 - Describe how to handle user input events and validate input data.
- ❖ Interaction Widgets:
 - Explore interaction widgets like GestureDetector, InkWell, Draggable, and Slider.
 - Illustrate how to handle gestures and implement custom touch interactions.
- ❖ Material Design Widgets:
 - Introduce material design widgets like AppBar, BottomNavigationBar, FloatingActionButton, and SnackBar.
 - Explain how to implement common material design components in Flutter apps

```

import 'package:flutter/material.dart';

void main() {
  runApp(MyApp());
}

class MyApp extends StatelessWidget {
  @override
  Widget build(BuildContext context) {
    return MaterialApp(
      title: 'Text Display App',
      theme: ThemeData(
        primarySwatch: Colors.blue,
        backgroundColor: Colors.yellow[100], // Change background color
        textTheme: TextTheme(
          bodyText1: TextStyle(
            fontFamily: 'Roboto', // Change font family
            fontSize: 16,
            color: Colors.black, // Change text color
          ),
        ),
      ),
      home: TextDisplayScreen(),
    );
  }
}

class TextDisplayScreen extends StatefulWidget {
  @override
  _TextDisplayScreenState createState() => _TextDisplayScreenState();
}

class _TextDisplayScreenState extends State<TextDisplayScreen> {
  String _enteredText = "";
  int _characterCount = 0;

  void _updateEnteredText(String newText) {
    setState(() {
      _enteredText = newText;
      _characterCount = newText.length;
    });
  }

  @override

```

```

Widget build(BuildContext context) {
  return Scaffold(
    appBar: AppBar(
      title: Text('Enter Text'),
    ),
    body: Center(
      child: Column(
        mainAxisAlignment: MainAxisAlignment.center,
        children: <Widget>[
          TextField(
            decoration: InputDecoration(
              hintText: 'Enter your text here',
            ),
            onChanged: (text) {
              _updateEnteredText(text);
            },
          ),
          SizedBox(height: 20),
          Text(
            'Character Count: $_characterCount',
            style: TextStyle(fontSize: 16),
          ),
          SizedBox(height: 20),
          ElevatedButton(
            onPressed: () {
              // Action to be performed when button is pressed
              // For now, we'll just print the entered text
              print(_enteredText);
            },
            child: Text('Display Text'),
          ),
        ],
      ),
    ),
  );
}

```

Output:

Enter Text

Darash

Character Count: 6

Display Text