Practical-5

**Prac – 5 (A) (Custom message)**

Code:

import 'package:flutter/material.dart';

void main() {

runApp(const CustomMessageApp());

}

class CustomMessageApp extends StatelessWidget {

const CustomMessageApp({Key? key}) : super(key: key);

@override

Widget build(BuildContext context) {

return MaterialApp(

title: 'Practical for Custom Message App',

theme: ThemeData(

primarySwatch: Colors.purple,

),

home: const CustomMessageScreen(),

);

}

}

class CustomMessageScreen extends StatefulWidget {

const CustomMessageScreen({Key? key}) : super(key: key);

@override

\_CustomMessageScreenState createState() => \_CustomMessageScreenState();

}

class \_CustomMessageScreenState extends State<CustomMessageScreen> {

String \_message = 'The message will come here';

final TextEditingController \_controller = TextEditingController();

void \_updateMessage() {

setState(() {

\_message = \_controller.text;

});

\_controller.clear(); // Clear the text field after submitting

}

@override

Widget build(BuildContext context) {

return Scaffold(

appBar: AppBar(

title: const Text('Practical for Custom Message App'),

),

body: Padding(

padding: const EdgeInsets.all(16.0),

child: Column(

mainAxisAlignment: MainAxisAlignment.center,

children: [

TextField(

controller: \_controller,

decoration: const InputDecoration(

border: OutlineInputBorder(),

labelText: 'Enter your message',

),

),

const SizedBox(height: 20),

ElevatedButton(

onPressed: \_updateMessage,

child: const Text('Display Message'),

),

const SizedBox(height: 40),

Text(

\_message,

style: const TextStyle(

fontSize: 24,

fontWeight: FontWeight.bold,

),

textAlign: TextAlign.center,

),

],

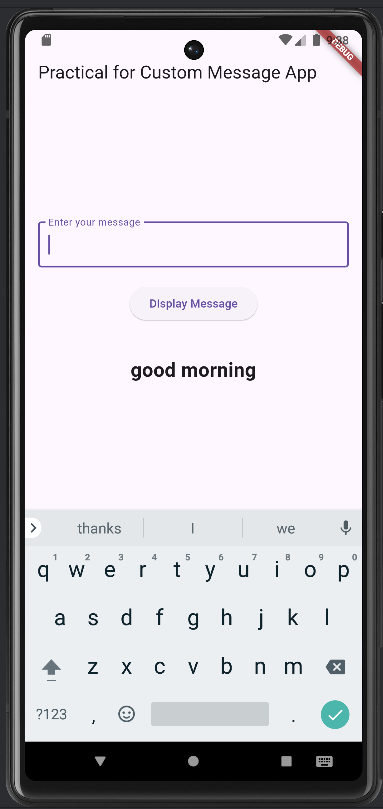
),

),

);

}

}



**Prac – 5 (B) (Simple Calculator)**

Code:

import 'package:flutter/material.dart';

void main() {

runApp(const CalculatorApp());

}

class CalculatorApp extends StatelessWidget {

const CalculatorApp({Key? key}) : super(key: key);

@override

Widget build(BuildContext context) {

return MaterialApp(

title: 'Practical for Simple Calculator',

theme: ThemeData(

primarySwatch: Colors.purple,

),

home: const CalculatorScreen(),

);

}

}

class CalculatorScreen extends StatefulWidget {

const CalculatorScreen({Key? key}) : super(key: key);

@override

\_CalculatorScreenState createState() => \_CalculatorScreenState();

}

class \_CalculatorScreenState extends State<CalculatorScreen> {

String \_output = '0';

String \_operand = '';

double \_num1 = 0;

double \_num2 = 0;

void \_buttonPressed(String buttonText) {

setState(() {

if (buttonText == 'C') {

\_output = '0';

\_num1 = 0;

\_num2 = 0;

\_operand = '';

} else if (buttonText == '+' || buttonText == '-' || buttonText == '×' || buttonText == '÷') {

\_num1 = double.parse(\_output);

\_operand = buttonText;

\_output = '0';

} else if (buttonText == '=') {

\_num2 = double.parse(\_output);

if (\_operand == '+') {

\_output = (\_num1 + \_num2).toString();

} else if (\_operand == '-') {

\_output = (\_num1 - \_num2).toString();

} else if (\_operand == '×') {

\_output = (\_num1 \* \_num2).toString();

} else if (\_operand == '÷') {

\_output = (\_num1 / \_num2).toString();

}

\_num1 = 0;

\_num2 = 0;

\_operand = '';

} else {

if (\_output == '0') {

\_output = buttonText;

} else {

\_output += buttonText;

}

}

});

}

Widget \_buildButton(String buttonText) {

return Expanded(

child: Padding(

padding: const EdgeInsets.all(8.0),

child: ElevatedButton(

onPressed: () => \_buttonPressed(buttonText),

child: Text(

buttonText,

style: const TextStyle(

fontSize: 24.0,

fontWeight: FontWeight.bold,

),

),

),

),

);

}

@override

Widget build(BuildContext context) {

return Scaffold(

appBar: AppBar(

title: const Text('Practical for Simple Calculator'),

backgroundColor: Colors.purpleAccent,

),

body: Column(

children: <Widget>[

Expanded(

child: Container(

padding: const EdgeInsets.all(24.0),

alignment: Alignment.centerRight,

child: Text(

\_output,

style: const TextStyle(

fontSize: 48.0,

fontWeight: FontWeight.bold,

),

),

),

),

Column(

children: <Widget>[

Row(

children: <Widget>[

\_buildButton('7'),

\_buildButton('8'),

\_buildButton('9'),

\_buildButton('÷'),

],

),

Row(

children: <Widget>[

\_buildButton('4'),

\_buildButton('5'),

\_buildButton('6'),

\_buildButton('×'),

],

),

Row(

children: <Widget>[

\_buildButton('1'),

\_buildButton('2'),

\_buildButton('3'),

\_buildButton('-'),

],

),

Row(

children: <Widget>[

\_buildButton('0'),

\_buildButton('C'),

\_buildButton('='),

\_buildButton('+'),

],

),

],

),

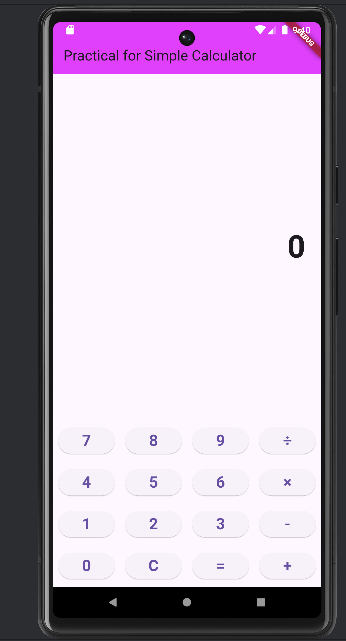
],

),

);

}

}



Practical-6

**Part – 6 (ListView)**

Code:

import 'package:flutter/material.dart';

void main() {

runApp(const ListViewApp());

}

class ListViewApp extends StatelessWidget {

const ListViewApp({Key? key}) : super(key: key);

@override

Widget build(BuildContext context) {

return MaterialApp(

title: 'Practical for ListView with Separator',

theme: ThemeData(

primarySwatch: Colors.blue,

),

color: Colors.greenAccent,

debugShowCheckedModeBanner: false,

home: const ListViewScreen(),

);

}

}

class ListViewScreen extends StatelessWidget {

const ListViewScreen({Key? key}) : super(key: key);

@override

Widget build(BuildContext context) {

// List of items (with leading, title, subtitle, trailing)

final List<Map<String, dynamic>> items = [

{

'leading': Icons.person,

'title': 'Item1',

'subtitle': 'MyDesc',

'trailing': Icons.add,

},

{

'leading': Icons.person,

'title': 'Item2',

'subtitle': 'MyDesc',

'trailing': Icons.add,

},

{

'leading': Icons.person,

'title': 'Item3',

'subtitle': 'MyDesc',

'trailing': Icons.add,

},

{

'leading': Icons.person,

'title': 'Item4',

'subtitle': 'MyDesc',

'trailing': Icons.add,

},

{

'leading': Icons.person,

'title': 'Item5',

'subtitle': 'MyDesc',

'trailing': Icons.add,

},

{

'leading': Icons.person,

'title': 'Item6',

'subtitle': 'MyDesc',

'trailing': Icons.add,

},

];

return Scaffold(

appBar: AppBar(

title: const Text('Practical for ListView with Separator'),

backgroundColor: Colors.greenAccent,

),

body: ListView.separated(

itemCount: items.length,

itemBuilder: (context, index) {

return ListTile(

leading: Icon(items[index]['leading']),

title: Text(items[index]['title']),

subtitle: Text(items[index]['subtitle']),

trailing: Icon(items[index]['trailing']),

onTap: () {

// Handle item tap if needed

print('Clicked and Tapped on ${items[index]['title']}');

},

);

},

separatorBuilder: (context, index) {

return const Divider(

color: Colors.grey,

thickness: 1.0,

);

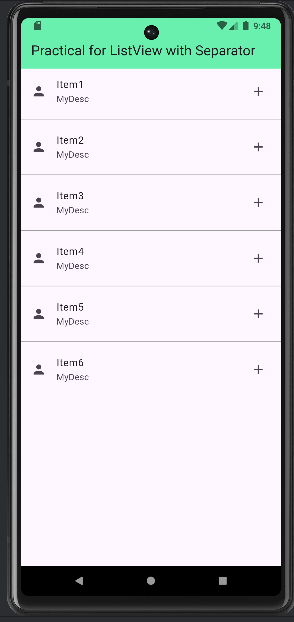
},

),

);

}

}



Practical-7

**Part – 7 (Grid Layout)**

Code:

import 'package:flutter/material.dart';

void main() {

runApp(const LayoutApp());

}

class LayoutApp extends StatelessWidget {

const LayoutApp({Key? key}) : super(key: key);

@override

Widget build(BuildContext context) {

return MaterialApp(

title: 'Custom Layout',

home: const LayoutScreen(),

);

}

}

class LayoutScreen extends StatelessWidget {

const LayoutScreen({Key? key}) : super(key: key);

@override

Widget build(BuildContext context) {

return Scaffold(

appBar: AppBar(

title: const Text('Practical for Layout'),

),

body: Column(

children: [

// First half of the layout

Expanded(

child: Row(

children: [

// Large box on the left

Expanded(

flex: 1,

child: Container(

color: Colors.pinkAccent,

child: const Center(

child: Text(

'1',

style: TextStyle(

fontSize: 48,

color: Colors.white,

),

),

),

),

),

// Right grid layout (2x2)

Expanded(

child: Column(

children: [

Expanded(

child: Row(

children: [

Expanded(

child: Container(

color: Colors.green,

child: const Center(

child: Text(

'2',

style: TextStyle(

fontSize: 24,

color: Colors.white,

),

),

),

),

),

Expanded(

child: Container(

color: Colors.orange,

child: const Center(

child: Text(

'3',

style: TextStyle(

fontSize: 24,

color: Colors.white,

),

),

),

),

),

Expanded(

child: Container(

color: Colors.red,

child: const Center(

child: Text(

'4',

style: TextStyle(

fontSize: 24,

color: Colors.white,

),

),

),

),

),

],

),

),

Expanded(

child: Row(

children: [

Expanded(

flex: 2,

child: Container(

color: Colors.purple,

child: const Center(

child: Text(

'5',

style: TextStyle(

fontSize: 24,

color: Colors.white,

),

),

),

),

),

Expanded(

child: Container(

color: Colors.blue,

child: const Center(

child: Text(

'6',

style: TextStyle(

fontSize: 24,

color: Colors.white,

),

),

),

),

),

],

),

),

],

),

),

],

),

),

// Second half of the layout (mirror of the first)

Expanded(

child: Row(

children: [

// Left grid layout (2x2)

Expanded(

child: Column(

children: [

Expanded(

child: Row(

children: [

Expanded(

flex: 2,

child: Container(

color: Colors.purple,

child: const Center(

child: Text(

'5',

style: TextStyle(

fontSize: 24,

color: Colors.white,

),

),

),

),

),

Expanded(

child: Container(

color: Colors.blue,

child: const Center(

child: Text(

'6',

style: TextStyle(

fontSize: 24,

color: Colors.white,

),

),

),

),

),

],

),

),

Expanded(

child: Row(

children: [

Expanded(

child: Container(

color: Colors.green,

child: const Center(

child: Text(

'2',

style: TextStyle(

fontSize: 24,

color: Colors.white,

),

),

),

),

),

Expanded(

child: Container(

color: Colors.orange,

child: const Center(

child: Text(

'3',

style: TextStyle(

fontSize: 24,

color: Colors.white,

),

),

),

),

),

Expanded(

child: Container(

color: Colors.red,

child: const Center(

child: Text(

'4',

style: TextStyle(

fontSize: 24,

color: Colors.white,

),

),

),

),

),

],

),

),

],

),

),

// Large box on the right

Expanded(

flex: 1,

child: Container(

color: Colors.pinkAccent,

child: const Center(

child: Text(

'1',

style: TextStyle(

fontSize: 48,

color: Colors.white,

),

),

),

),

),

],

),

),

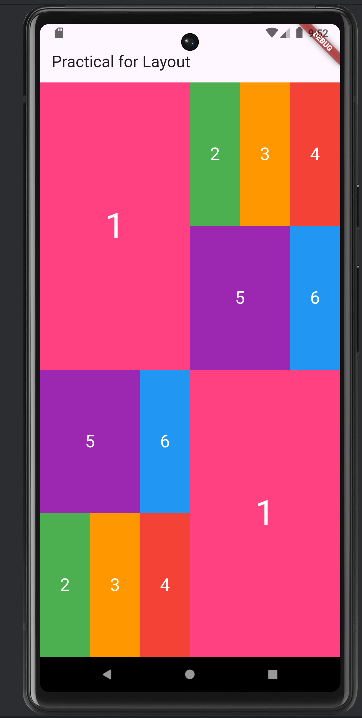
],

),

);

}

}



Practical-8

**Part – 8 (A) (Container with ScrollView)**

Code:

import 'package:flutter/material.dart';

void main() {

runApp(const ScrollApp());

}

class ScrollApp extends StatelessWidget {

const ScrollApp({Key? key}) : super(key: key);

@override

Widget build(BuildContext context) {

return MaterialApp(

title: 'ScrollView Example',

home: const ScrollScreen(),

);

}

}

class ScrollScreen extends StatelessWidget {

const ScrollScreen({Key? key}) : super(key: key);

// Define a list of custom colors as a constant

static const List<Color> customColors = [

Colors.red,

Colors.blue,

Colors.green,

Colors.orange,

Colors.purple,

Colors.teal,

Colors.indigo,

Colors.yellow,

Colors.brown,

Colors.cyan,

];

@override

Widget build(BuildContext context) {

return Scaffold(

appBar: AppBar(

title: const Text('Practical for ScrollView with Containers'),

),

body: SingleChildScrollView(

child: Column(

children: List.generate(10, (index) {

return Container(

width: 100,

height: 100,

margin: const EdgeInsets.all(10),

color: customColors[index % customColors.length], // Use custom colors

child: Center(

child: Text(

'Container ${index + 1}',

style: const TextStyle(

fontSize: 18,

color: Colors.white,

),

),

),

);

}),

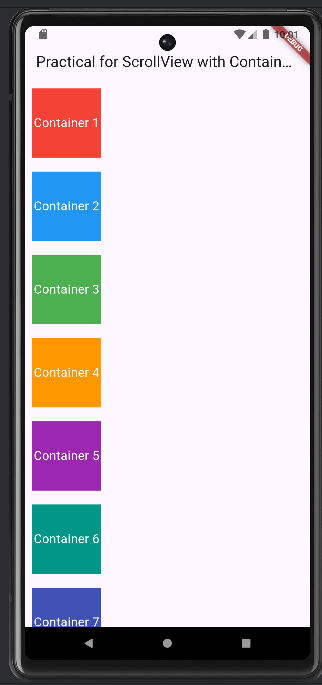
),

),

);

}

}



**Part – 8 (B) (Custom font)**

\*first download the font from google fonts\*

\*extract it to ‘fonts’ folder of the project\*

\*if ‘fonts’ not exist create it\*

\*change under main.dart\*

Code:

import 'package:flutter/material.dart';

void main() {

runApp(MyApp());

}

class MyApp extends StatelessWidget {

@override

Widget build(BuildContext context) {

return MaterialApp(

title: 'Custom Font Demo',

theme: ThemeData(

primarySwatch: Colors.blue,

),

home: MyHomePage(),

);

}

}

class MyHomePage extends StatelessWidget {

@override

Widget build(BuildContext context) {

return Scaffold(

appBar: AppBar(

title: Text('Practical for Custom Font Demo'),

),

body: Center(

child: Text(

'Custom Font! '

'Poppins',

style: TextStyle(

color: Colors.blue,

fontFamily: 'Poppins',

fontSize: 20,

fontWeight: FontWeight.bold,

),

),

),

);

}

}

pubspec.yaml

flutter:

fonts:

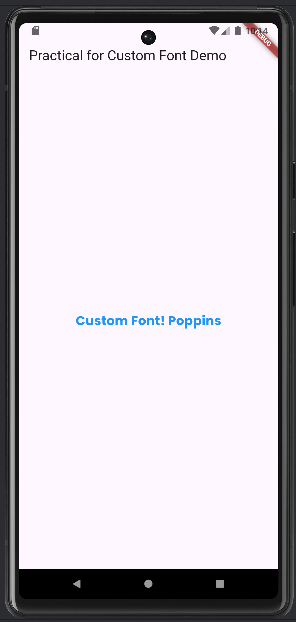
- family: Poppins

fonts:

- asset: fonts/Poppins-Regular.ttf

- asset: fonts/Poppins-Bold.ttf

weight: 600



Practical-9e

**Part – 9 (A) (Login page)**

Code:

import 'package:flutter/material.dart';

void main() {

runApp(MyApp());

}

class MyApp extends StatelessWidget {

@override

Widget build(BuildContext context) {

return MaterialApp(

title: 'Login App',

theme: ThemeData(

primarySwatch: Colors.yellow,

),

home: LoginPage(),

);

}

}

class LoginPage extends StatefulWidget {

@override

\_LoginPageState createState() => \_LoginPageState();

}

class \_LoginPageState extends State<LoginPage> {

final TextEditingController \_usernameController = TextEditingController();

final TextEditingController \_passwordController = TextEditingController();

String \_message = '';

void \_login() {

// Replace with your actual username and password

const String correctUsername ='admin';

const String correctPassword = 'pass';

String username = \_usernameController.text;

String password = \_passwordController.text;

setState(() {

if (username == correctUsername && password == correctPassword) {

\_message = 'Yayy!!Login Successful!';

} else {

\_message = 'SorryLogin Failed! Incorrect username or password.';

}

});

}

@override

Widget build(BuildContext context) {

return Scaffold(

body: Container(

decoration: BoxDecoration(

gradient: LinearGradient(

colors: [Colors.yellow[300]!, Colors.yellow[800]!],

begin: Alignment.topLeft,

end: Alignment.bottomRight,

),

),

child: Center(

child: Padding(

padding: const EdgeInsets.all(32.0),

child: Card(

elevation: 8,

shape: RoundedRectangleBorder(

borderRadius: BorderRadius.circular(16),

),

child: Padding(

padding: const EdgeInsets.all(24.0),

child: Column(

mainAxisSize: MainAxisSize.min,

children: [

Text(

'Login Application',

style: TextStyle(fontSize: 24, fontWeight: FontWeight.bold),

),

SizedBox(height: 20),

TextField(

controller: \_usernameController,

decoration: InputDecoration(

labelText: 'Enter Username',

border: OutlineInputBorder(),

filled: true,

fillColor: Colors.white,

),

),

SizedBox(height: 12),

TextField(

controller: \_passwordController,

decoration: InputDecoration(

labelText: 'Enter Password',

border: OutlineInputBorder(),

filled: true,

fillColor: Colors.white,

),

obscureText: true,

),

SizedBox(height: 20),

ElevatedButton(

onPressed: \_login,

child: Text('Login'),

style: ElevatedButton.styleFrom(

minimumSize: Size(double.infinity, 40),

padding: EdgeInsets.symmetric(horizontal: 16),

),

),

SizedBox(height: 20),

Text(

\_message,

style: TextStyle(

color: \_message.startsWith('Yayy!!Login Successful!') ? Colors.green : Colors.red,

),

),

],

),

),

),

),

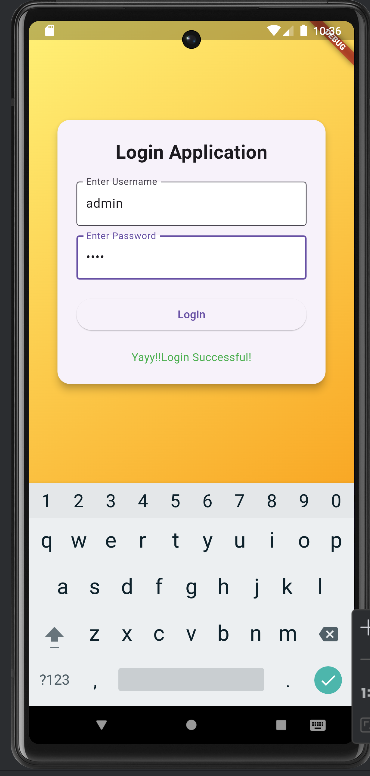
),

),

);

}

}



**Part – 9 (B) (First -> second screen)**

Code:

import 'package:flutter/material.dart';

void main() {

runApp(MyApp());

}

class MyApp extends StatelessWidget {

@override

Widget build(BuildContext context) {

return MaterialApp(

title: 'Data Pass App',

theme: ThemeData(

primarySwatch: Colors.yellow,

),

home: FirstScreen(),

);

}

}

class FirstScreen extends StatelessWidget {

final TextEditingController \_controller = TextEditingController();

@override

Widget build(BuildContext context) {

return Scaffold(

appBar: AppBar(

title: Text('User Screen One'),

),

body: Padding(

padding: const EdgeInsets.all(16.0),

child: Center(

child: Column(

mainAxisAlignment: MainAxisAlignment.center,

children: [

Text(

'Enter the data that you want to see to the next screen',

style: TextStyle(fontSize: 18),

textAlign: TextAlign.center,

),

SizedBox(height: 20),

TextField(

controller: \_controller,

decoration: InputDecoration(

labelText: 'User Data',

border: OutlineInputBorder(),

filled: true,

fillColor: Colors.white,

prefixIcon: Icon(Icons.input),

),

),

SizedBox(height: 20),

ElevatedButton(

onPressed: () {

if (\_controller.text.isNotEmpty) {

Navigator.push(

context,

MaterialPageRoute(

builder: (context) => SecondScreen(data: \_controller.text),

),

);

} else {

ScaffoldMessenger.of(context).showSnackBar(

SnackBar(content: Text('Please enter some data')),

);

}

},

child: Text('Pass User Data to User Screen Two'),

style: ElevatedButton.styleFrom(

backgroundColor: Colors.yellow, // Set button color to yellow

foregroundColor: Colors.black, // Set text color to black

minimumSize: Size(double.infinity, 50),

),

),

],

),

),

),

);

}

}

class SecondScreen extends StatelessWidget {

final String data;

SecondScreen({required this.data});

@override

Widget build(BuildContext context) {

return Scaffold(

appBar: AppBar(

title: Text('User Screen Two'),

),

body: Center(

child: Padding(

padding: const EdgeInsets.all(16.0),

child: Card(

elevation: 8,

shape: RoundedRectangleBorder(

borderRadius: BorderRadius.circular(16),

),

child: Padding(

padding: const EdgeInsets.all(24.0),

child: Column(

mainAxisSize: MainAxisSize.min,

children: [

Text(

'User Data received here is as follows:',

style: TextStyle(fontSize: 20, fontWeight: FontWeight.bold),

),

SizedBox(height: 20),

Text(

data,

style: TextStyle(fontSize: 20),

textAlign: TextAlign.center,

),

],

),

),

),

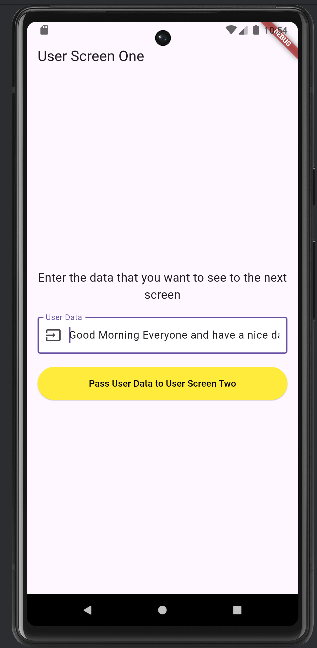
),

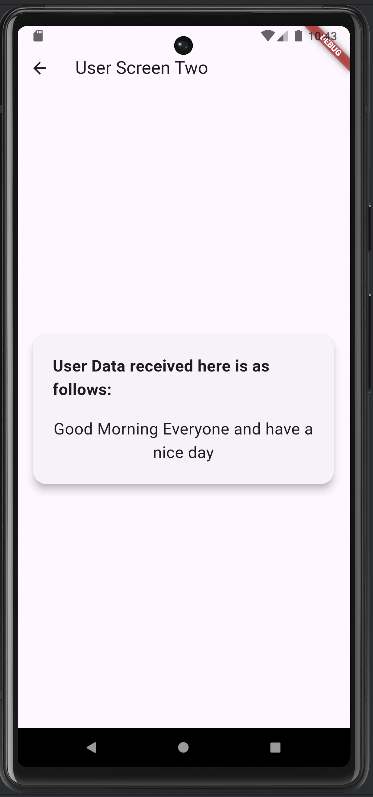
),

);

}

}





Practical-10

**Part – 10 (Hero Animation)**

\*change in main.dart\*

Code:

import 'package:flutter/material.dart';

void main() {

runApp(MyApp());

}

class MyApp extends StatelessWidget {

@override

Widget build(BuildContext context) {

return MaterialApp(

title: 'Practical for Hero Animation',

theme: ThemeData(

primarySwatch: Colors.yellow,

),

home: FirstPage(),

);

}

}

class FirstPage extends StatelessWidget {

@override

Widget build(BuildContext context) {

return Scaffold(

appBar: AppBar(

title: Text('Practical for Hero Animation'),

),

body: Center(

child: GestureDetector(

onTap: () {

Navigator.of(context).push(

MaterialPageRoute(

builder: (context) => SecondPage(),

),

);

},

child: Hero(

tag: 'hero-image',

child: Image.asset(

'assets/image2.jpg',

width: 100,

height: 100,

),

),

),

),

);

}

}

class SecondPage extends StatelessWidget {

@override

Widget build(BuildContext context) {

return Scaffold(

appBar: AppBar(

title: Text('Hero Animation!!!'),

),

body: Center(

child: Hero(

tag: 'hero-image',

child: Image.asset('assets/image3.jpg'),

),

),

);

}

}

pubsec.yaml file

flutter:

uses-material-design: true

assets:

- assets/image1.jpg

- assets/image2.jpg

- assets/image3.jpg

