MPL EXP 2

Aim: To design Flutter UI by including common widgets

Theory:
Flutter UI is built using widgets, which are the basic building blocks of the application. Widgets in Flutter are classified into two types:

- Stateless Widgets – Do not change state once built. Example: Text, Icon, Container.
- Stateful Widgets – Can change state dynamically. Example: TextField, Checkbox, Switch

Common Widgets in Flutter:

1.Container
Used to hold other widgets and apply styling like padding, margin, and decoration.
2.Text
Displays text in the application with different styles.
3.Image
Displays images from assets, network, or memory.
4.Button Widgets
Includes ElevatedButton, TextButton, and OutlinedButton.
5.ListView
Used for displaying a scrollable list of widgets.
6.GridView
Used for displaying a collection of items in a grid format.

Syntax for Common Widgets:

1.   Container
```
Widget Container(
  width: 200,
  height: 100,
  color:
  Colors.blue, child:
  Center(
    child: Text('Hello Flutter!', style: TextStyle(color: Colors.white)),
  ),
)
```

2.   Text
```
Widget Text(
  'Welcome to Flutter',
  style: TextStyle(fontSize: 20, fontWeight: FontWeight.bold),
)
```

3.   Image Widget
Image.asset('assets/flutter_logo.png', width: 100, height: 100)

4.   ElevatedButton
Widget ElevatedButton(
onPressed: () {
   print('Button Pressed');
 },
 child: Text('Click Me'),
)

5.   ListView
Widget ListView(
 children: [
   ListTile(title: Text('Item 1')),
   ListTile(title: Text('Item 2')),
   ListTile(title: Text('Item 3')),
 ],
)

6.   GridView
Widget
GridView.count(
crossAxisCount: 2,
children: [
   Container(color: Colors.red, height: 100),
   Container(color: Colors.green, height: 100),
   Container(color: Colors.blue, height: 100),
   Container(color: Colors.yellow, height: 100),
 ],
)

Code:

main.dart:

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


void main() {
  runApp(MyApp()); // Use MyApp instead of directly calling MaterialApp
}


class MyApp extends StatelessWidget {
  @override
```

```dart
  Widget build(BuildContext context) {
    return MaterialApp(
      debugShowCheckedModeBanner: false, // Removes the debug banner
      home: LoginPage(), // Set LoginPage as the initial screen
    );
  }
}
```

home.dart:

```dart
import 'package:flutter/material.dart';
import 'wishlist.dart'; // Import WishlistPage
import 'categories.dart'; // Import CategoriesPage
import 'profile.dart'; // Import ProfilePage
import 'cart.dart'; // Import CartPage

class HomePage extends StatefulWidget {
  @override
  _HomePageState createState() => _HomePageState();
}

class _HomePageState extends State<HomePage> {
  int _selectedIndex = 0;
  int _selectedCategory = 0;
  int _currentBannerIndex = 0;
  final PageController _bannerController = PageController();

  final List<String> _banners = [
    'assets/banner1.jpg',
    'assets/banner2.jpg',
    'assets/banner3.jpg',
    'assets/banner4.jpg',
  ];

  final List<String> _latestCollection = [
    'assets/latest1.jpg',
    'assets/latest2.jpg',
    'assets/latest3.jpg',
```

```dart
];

final List<Map<String, String>> _bestsellers = [
  {
    'image': 'assets/bestseller1.jpg',
    'name': 'Premium Cotton T-Shirt',
    'category': 'Men's Wear',
    'mrp': '₹999',
    'tax': 'Incl. of all taxes'
  },
  {
    'image': 'assets/bestseller2.jpg',
    'name': 'Comfy Hoodie',
    'category': 'Winter Collection',
    'mrp': '₹1,499',
    'tax': 'Incl. of all taxes'
  },
  {
    'image': 'assets/bestseller3.jpg',
    'name': 'Classic Denim Jacket',
    'category': 'Jackets',
    'mrp': '₹2,199',
    'tax': 'Incl. of all taxes'
  },
];

void _onItemTapped(int index) {
  if (index == 1) {
    // Navigate to Wishlist when Wishlist icon is tapped
    Navigator.pushReplacement(
      context,
      MaterialPageRoute(builder: (context) => WishListPage()),
    );
  } else if (index == 0) {
    // Navigate to Home when Home icon is tapped
    Navigator.pushReplacement(
      context,
      MaterialPageRoute(builder: (context) => HomePage()),
```

```dart
      );
    } else if (index == 2) {
      // Navigate to Categories when Categories icon is tapped
      Navigator.pushReplacement(
        context,
        MaterialPageRoute(builder: (context) => CategoriesPage()),
      );
    } else if (index == 4) {
      // Navigate to Profile when Profile icon is tapped
      Navigator.pushReplacement(
        context,
        MaterialPageRoute(builder: (context) => ProfilePage()),
      );
    } else {
      setState(() {
        _selectedIndex = index;
      });
    }
  }

  @override
  Widget build(BuildContext context) {
    double screenHeight = MediaQuery.of(context).size.height;
    double bannerHeight = screenHeight * 0.7;

    return Scaffold(
      backgroundColor: Colors.white,
      appBar: AppBar(
        backgroundColor: Colors.white,
        elevation: 0,
        leading: IconButton(
          icon: Icon(Icons.menu, color: Colors.black, size: 28),
          onPressed: () {},
        ),
        title: Image.asset(
          'assets/logo.jpg',
          height: 50,
        ),
```

```dart
              centerTitle: true,
              actions: [
                IconButton(
                  icon: Icon(Icons.search, color: Colors.black, size: 28),
                  onPressed: () {},
                ),
                IconButton(
                  icon: Icon(Icons.shopping_cart, color: Colors.black, size:
28),
                  onPressed: () {
                    Navigator.push(
                      context,
                      MaterialPageRoute(builder: (context) => CartPage()),
                    );
                  },
                ),
              ],
            ),
        body: SingleChildScrollView(
          child: Column(
            crossAxisAlignment: CrossAxisAlignment.start,
            children: [
              Padding(
                padding: const EdgeInsets.symmetric(vertical: 10),
                child: Row(
                  mainAxisAlignment: MainAxisAlignment.spaceEvenly,
                  children: ['MEN', 'WOMEN',
'KIDS'].asMap().entries.map((entry) {
                    int index = entry.key;
                    String category = entry.value;
                    return GestureDetector(
                      onTap: () => setState(() => _selectedCategory =
index),
                      child: Column(
                        children: [
                          Text(
                            category,
                            style: TextStyle(
                              fontSize: 16,
```

```dart
                      fontWeight: FontWeight.w500,
                      color: Colors.black,
                    ),
                  ),
                  if (_selectedCategory == index)
                    Container(
                      margin: EdgeInsets.only(top: 4),
                      height: 3,
                      width: 50,
                      color: Colors.teal,
                    ),
                ],
              ),
            );
          }).toList(),
        ),
      ),

      SizedBox(
        height: bannerHeight,
        child: PageView.builder(
          controller: _bannerController,
          onPageChanged: (index) => setState(() =>
_currentBannerIndex = index),
          itemCount: _banners.length,
          itemBuilder: (_, index) => Padding(
            padding: EdgeInsets.symmetric(horizontal: 8),
            child: ClipRRect(
              borderRadius: BorderRadius.circular(10),
              child: Image.asset(
                _banners[index],
                fit: BoxFit.cover,
                width: double.infinity,
              ),
            ),
          ),
        ),
      ),

      SizedBox(height: 10),
```

```dart
          Row(
            mainAxisAlignment: MainAxisAlignment.center,
            children: List.generate(_banners.length, (index) {
              return Container(
                margin: EdgeInsets.symmetric(horizontal: 4),
                width: 10,
                height: 10,
                decoration: BoxDecoration(
                  shape: BoxShape.circle,
                  color: _currentBannerIndex == index ?
Colors.grey[700] : Colors.grey[400],
                ),
              );
            }),
          ),
          SizedBox(height: 20),
          Padding(
            padding: EdgeInsets.symmetric(horizontal: 16),
            child: Text(
              "LATEST COLLECTION",
              style: TextStyle(fontSize: 18, fontWeight:
FontWeight.bold),
            ),
          ),
          SizedBox(height: 10),
          SizedBox(
            height: 150,
            child: ListView.builder(
              scrollDirection: Axis.horizontal,
              itemCount: _latestCollection.length,
              itemBuilder: (_, index) => Padding(
                padding: EdgeInsets.symmetric(horizontal: 8),
                child: ClipRRect(
                  borderRadius: BorderRadius.circular(10),
                  child: Image.asset(
                    _latestCollection[index],
                    width: 150,
                    height: 150,
```

```dart
                fit: BoxFit.cover,
              ),
            ),
          ),
        ),
        SizedBox(height: 20),
        Padding(
          padding: EdgeInsets.symmetric(horizontal: 16),
          child: Text(
            "SOULFUL BESTSELLERS",
            style: TextStyle(fontSize: 18, fontWeight:
FontWeight.bold),
          ),
        ),
        SizedBox(height: 10),
        SizedBox(
          height: 270,
          child: ListView.builder(
            scrollDirection: Axis.horizontal,
            itemCount: _bestsellers.length,
            itemBuilder: (_, index) => Padding(
              padding: EdgeInsets.symmetric(horizontal: 8),
              child: Column(
                crossAxisAlignment: CrossAxisAlignment.start,
                children: [
                  ClipRRect(
                    borderRadius: BorderRadius.circular(10),
                    child: Image.asset(
                      _bestsellers[index]['image']!,
                      width: 120,
                      height: 180,
                      fit: BoxFit.cover,
                    ),
                  ),
                  SizedBox(height: 5),
                  Text(_bestsellers[index]['name']!,
                      style: TextStyle(fontSize: 14, fontWeight:
```

```dart
                              FontWeight.bold)),
                        Text(_bestsellers[index]['category']!,
                            style: TextStyle(fontSize: 12, color:
Colors.grey)),
                        Text(_bestsellers[index]['mrp']!, style:
TextStyle(fontSize: 14)),
                        Text(_bestsellers[index]['tax']!, style:
TextStyle(fontSize: 12)),
                    ],
                  ),
                ),
              ),
            ),
          ],
        ),
      ),
    ),
    bottomNavigationBar: BottomNavigationBar(
      currentIndex: _selectedIndex,
      onTap: _onItemTapped,
      selectedItemColor: Colors.teal,
      unselectedItemColor: Colors.black,
      items: [
        BottomNavigationBarItem(icon: Icon(Icons.home), label:
"Home"),
        BottomNavigationBarItem(icon: Icon(Icons.favorite), label:
"Wishlist"),
        BottomNavigationBarItem(icon: Icon(Icons.category), label:
"Categories"),
        BottomNavigationBarItem(icon: Icon(Icons.card_membership),
label: "Membership"),
        BottomNavigationBarItem(icon: Icon(Icons.person), label:
"Profile"),
      ],
    ),
  );
  }
}
```

register.dart:

```dart
import 'package:flutter/material.dart';
import 'login.dart'; // Importing login page for navigation

class RegisterPage extends StatefulWidget {
  @override
  _RegisterPageState createState() => _RegisterPageState();
}

class _RegisterPageState extends State<RegisterPage> {
  DateTime? selectedDate;
  String? selectedGender;

  @override
  Widget build(BuildContext context) {
    return Scaffold(
      backgroundColor: Colors.white,
      appBar: AppBar(
        backgroundColor: Colors.white,
        elevation: 0,
        leading: IconButton(
          icon: Icon(Icons.arrow_back, color: Colors.black),
          onPressed: () => Navigator.pushReplacement(
            context,
            MaterialPageRoute(builder: (context) => LoginPage()),
          ),
        ),
      ),
      body: SingleChildScrollView(
        padding: EdgeInsets.symmetric(horizontal: 20),
        child: Column(
          crossAxisAlignment: CrossAxisAlignment.start,
          children: [
            Center(
              child: Column(
                children: [
                  Text(
                    "Looks like you are new",
```

```dart
              style: TextStyle(fontSize: 18, fontWeight:
FontWeight.bold, color: Colors.red),
              ),
              SizedBox(height: 5),
              Text(
                "Get 10% additional cashback as TSS points on every
purchase.",
                textAlign: TextAlign.center,
                style: TextStyle(fontSize: 14, color: Colors.grey),
              ),
            ],
          ),
        ),
        SizedBox(height: 20),


        // First Name & Last Name
        Row(
          children: [
            Expanded(
              child: Column(
                crossAxisAlignment: CrossAxisAlignment.start,
                children: [
                  Text("First Name", style: TextStyle(fontSize: 14,
color: Colors.black)),
                  TextField(
                    decoration: InputDecoration(
                      hintText: "First Name *",
                      hintStyle: TextStyle(color: Colors.grey),
                      border: OutlineInputBorder(),
                    ),
                  ),
                ],
              ),
            ),
            SizedBox(width: 10),
            Expanded(
              child: Column(
                crossAxisAlignment: CrossAxisAlignment.start,
                children: [
```

```
                       Text("Last Name", style: TextStyle(fontSize: 14,
color: Colors.black)),
                       TextField(
                         decoration: InputDecoration(
                           hintText: "Last Name *",
                           hintStyle: TextStyle(color: Colors.grey),
                           border: OutlineInputBorder(),
                         ),
                       ),
                     ],
                   ),
                 ),
               ],
             ),
             SizedBox(height: 15),


             // Mobile Number
             TextField(
               keyboardType: TextInputType.phone,
               decoration: InputDecoration(
                 hintText: "+91 *",
                 hintStyle: TextStyle(color: Colors.grey),
                 border: OutlineInputBorder(),
               ),
             ),
             SizedBox(height: 15),


             // Email ID
             Text("Email ID", style: TextStyle(fontSize: 14, color:
Colors.black)),
             TextField(
               keyboardType: TextInputType.emailAddress,
               decoration: InputDecoration(
                 hintText: "Email ID *",
                 hintStyle: TextStyle(color: Colors.grey),
                 border: OutlineInputBorder(),
               ),
             ),
```

```dart
        SizedBox(height: 15),


        // Password
        Text("Password", style: TextStyle(fontSize: 14, color:
Colors.black)),

        TextField(
          obscureText: true,
          decoration: InputDecoration(
            hintText: "Password *",
            hintStyle: TextStyle(color: Colors.grey),
            border: OutlineInputBorder(),
            suffixIcon: Icon(Icons.visibility_off, color:
Colors.grey),
          ),
        ),
        SizedBox(height: 15),


        // Birthdate
        Text("Birthdate", style: TextStyle(fontSize: 14, color:
Colors.black)),

        TextField(
          readOnly: true,
          decoration: InputDecoration(
            hintText: "DD-MM-YYYY *",
            hintStyle: TextStyle(color: Colors.grey),
            border: OutlineInputBorder(),
            suffixIcon: Icon(Icons.calendar_today, color:
Colors.grey),
          ),
          onTap: () async {
            DateTime? pickedDate = await showDatePicker(
              context: context,
              initialDate: DateTime.now(),
              firstDate: DateTime(1900),
              lastDate: DateTime.now(),
              builder: (context, child) {
                return Theme(
                  data: ThemeData.light().copyWith(
                    primaryColor: Colors.grey,
```

```dart
              colorScheme: ColorScheme.light(primary:
Colors.grey),
              buttonTheme: ButtonThemeData(textTheme:
ButtonTextTheme.primary),
            ),
            child: child!,
          );
        },
      );


      if (pickedDate != null) {
        setState(() {
          selectedDate = pickedDate;
        });
      }
    },
  ),
  SizedBox(height: 5),


  // Birthday Discount Note
  Text(
    "Avail 10% birthday discount as a member",
    style: TextStyle(fontSize: 12, color: Colors.grey),
  ),
  SizedBox(height: 20),


  // Gender Selection
  Row(
    mainAxisAlignment: MainAxisAlignment.spaceBetween,
    children: [
      _genderOption("Male"),
      _genderOption("Female"),
      _genderOption("Other"),
    ],
  ),
  SizedBox(height: 20),


  // Register Button
```

```dart
            SizedBox(
              width: double.infinity,
              child: ElevatedButton(
                style: ElevatedButton.styleFrom(
                  backgroundColor: Color(0xFF31827C), // New Darker
Teal Color

                  shape: RoundedRectangleBorder(
                    borderRadius: BorderRadius.circular(8),
                  ),
                ),
                onPressed: () {
                  // Register button functionality
                },
                child: Padding(
                  padding: EdgeInsets.symmetric(vertical: 14),
                  child: Text("REGISTER", style: TextStyle(fontSize:
16, color: Colors.white)),
                ),
              ),
            ),
            SizedBox(height: 10),

            // Already Registered? LOG IN
            Center(
              child: GestureDetector(
                onTap: () {
                  Navigator.pushReplacement(
                    context,
                    MaterialPageRoute(builder: (context) =>
LoginPage()),
                  );
                },
                child: RichText(
                  text: TextSpan(
                    text: "Already Registered? ",
                    style: TextStyle(color: Colors.grey, fontSize: 14),
                    children: [
                      TextSpan(
                        text: "LOG IN",
```

```dart
                    style: TextStyle(
                      color: Colors.red,
                      fontWeight: FontWeight.bold,
                      decoration: TextDecoration.underline,
                    ),
                  ),
                ],
              ),
            ),
          ),
        ),
        SizedBox(height: 20),
      ],
    ),
  ),
);
}


// Gender Option Widget
Widget _genderOption(String text) {
  return Row(
    children: [
      Radio(
        activeColor: Color(0xFF31827C), // New Teal Color for
Selected Option
        value: text,
        groupValue: selectedGender,
        onChanged: (value) {
          setState(() {
            selectedGender = value.toString();
          });
        },
      ),
      Text(text, style: TextStyle(fontSize: 14)),
    ],
  );
}
}
```

Output:

≡   🔍 🛒

● ● ● ●

LATEST COLLECTION

Unable to load asset: "assets/latest1.jpg".
Exception: Asset not found

Unable to load
Excep

SOULFUL BESTSELLERS

Unable to load asset: "assets/bestseller1.jpg".
Exception: Asset not found

Unable to
Premium Cotton T-Shirt   Comfy Ho
Men's Wear   Winter Colle
₹999   ₹1,499
Incl. of all taxes   Incl. of all ta

🏠   ❤   🔺   🖥   👤
Home

≡   🔍 🛒

MEN   WOMEN   KIDS

Topwear

Bottomwear   All Topwear   Shirts

Footwear

Bestsellers   T-Shirts   Summer Shirts

Accessories

Collections   Oversized   Polos

Jackets

🏠   ❤   🔺   🖥   👤
                    Categories

← **MY ACCOUNT**   🛒¹

EESHA CHAVAN
(MEMBER)

Profile	⟩
My Orders	⟩
Address Book	⟩
Gift Voucher	⟩
TSS Points (Active TSS Points: 0)	⟩
TSS Money (Available : ₹ 0)	⟩
My Membership	⟩
Delete My Account	⟩

LOG OUT

🏠 Home   ♡ WishList   ⊞ Categories   🏆 Membership   👤 Profile

---

←   **Cart**   ♡
          2 Items

MY BAG —————— ADDRESS —————— PAYMENT

You are getting 10% additional cashback as TSS
points on this order

Please Select Address   **ADD ADDRESS**

% Your **Member Savings** on this order are Rs.
200

Kanso: Beige
Women Low Top Sneakers

Size: UK 4 ▾   Qty: 1 ▾

Hurry! Only 1 in stock

₹ 2899.0 ~~₹ 3099.0~~
Member Savings ₹ 200.0
MRP incl. of all taxes

Remove | Move to Wishlist

The Souled Store Membership
12 months of membership

₹ 299.0
MRP incl. of all taxes

Remove

←   **Cart**

2 Items   ♡

Galactic 2.0	Souled Socks: E...	Naruto (Pack
Men Perfumes	Socks	Iron On Patches
₹849.0 ADD NOW	₹249.0 ADD NOW	₹249.0

🏷   Apply Coupon   ⌄

👜   Gift Voucher   ⌄

👜   Gift Wrap (₹ 25)   ☐

💳   TSS Money / TSS Points   ⌄

Price Details (2 items)

Cart Total	₹ 2910.17
Member Savings	- ₹ 200.00
GST	₹ 487.83
Shipping Charges	~~₹ 50.00~~ Free

Total Amount	**₹ 3198**
Cashback Earned	319.80 Points

₹ 3198
VIEW DETAILS   **CONTINUE**

WishList

Image	**Textured Shirt: Sky Blue**
	MOVETOCART

🏠   ♡
Home   WishList