<u>MPL Experiment 2</u>

Name: Sneha Patra   **Class:** D15A   **Roll no:**40

Aim: To design Flutter UI by including common widgets.

Theory:

Designing a Flutter UI involves using common widgets effectively to create a structured and interactive interface. Layout widgets like Container, Column, Row, and GridView help organize elements, while interactive widgets like GestureDetector, InkWell, and TextField enhance user engagement.
For displaying content, widgets like Text, Image, Card, and ListView are essential. Navigation widgets such as BottomNavigationBar, Drawer, and Navigator enable seamless movement between screens. Managing state using setState, Provider, or advanced solutions like Riverpod ensures smooth UI updates.
 For a JioMart-like home screen, combining a ListView with a CarouselSlider, GridView for categories, Card for trending items, and an unchanged BottomNavigationBar can create a user-friendly experience.

Code:

```
import 'package:flutter/material.dart';
import '../screens/sign_in_page.dart';
import '../screens/cart_page.dart';
import '../widgets/category_list.dart';
import '../widgets/product_grid.dart';

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

class MyApp extends StatelessWidget {
  const MyApp({Key? key}) : super(key: key);

  @override
  Widget build(BuildContext context) {
   return MaterialApp(
     debugShowCheckedModeBanner: false,
     home: const HomeScreen(),
   );
  }
}
```

```dart
class HomeScreen extends StatefulWidget {
  const HomeScreen({Key? key}) : super(key: key);

  @override
  _HomeScreenState createState() => _HomeScreenState();
}

class _HomeScreenState extends State<HomeScreen> {
  int _currentIndex = 0;
  final List<Widget> _pages = [
    HomeContent(),
    CategoryList(),
    ProductGrid(),
    SignInPage(),
  ];

  @override
  Widget build(BuildContext context) {
    return Scaffold(
      appBar: AppBar(
        backgroundColor: Colors.blueAccent,
        title: Row(
          children: [
            Expanded(
              child: TextField(
                decoration: InputDecoration(
                  hintText: 'Search',
                  border: InputBorder.none,
                  prefixIcon: Icon(Icons.search, color: Colors.white),
                ),
              ),
            ),
            DropdownButton<String>(
              icon: Icon(Icons.arrow_drop_down, color: Colors.white),
              items: ["Mumbai", "Delhi", "Bangalore"]
                  .map((String value) => DropdownMenuItem<String>(
                value: value,
                child: Text(value),
              ))
                  .toList(),
              onChanged: (String? newValue) {},
            ),
          ],
        ),
```

```dart
      actions: [
        IconButton(
          icon: Icon(Icons.shopping_cart, color: Colors.white),
          onPressed: () {
            Navigator.push(
                context, MaterialPageRoute(builder: (context) => CartPage()));
          },
        ),
      ],
    ),
    body: _pages[_currentIndex],
    bottomNavigationBar: BottomNavigationBar(
      currentIndex: _currentIndex,
      type: BottomNavigationBarType.fixed,
      selectedItemColor: Colors.blueAccent,
      unselectedItemColor: Colors.grey,
      onTap: (index) {
        setState(() {
          _currentIndex = index;
        });
      },
      items: [
        BottomNavigationBarItem(icon: Icon(Icons.home), label: 'Home'),
        BottomNavigationBarItem(icon: Icon(Icons.category), label: 'Categories'),
        BottomNavigationBarItem(icon: Icon(Icons.shopping_bag), label: 'Orders'),
        BottomNavigationBarItem(icon: Icon(Icons.person), label: 'Profile'),
      ],
    ),
  );
  }
}

class HomeContent extends StatelessWidget {
  @override
  Widget build(BuildContext context) {
    return SingleChildScrollView(
      child: Column(
        crossAxisAlignment: CrossAxisAlignment.start,
        children: [
          Padding(
            padding: const EdgeInsets.all(8.0),
            child: Row(
              children: [
                Icon(Icons.location_on, color: Colors.black54),
```

```dart
        SizedBox(width: 5),
        Text("Mumbai 400020", style: TextStyle(fontSize: 16)),
        Spacer(),
        Icon(Icons.arrow_drop_down, color: Colors.black54),
      ],
    ),
  ),
  SizedBox(height: 10),
  Container(
    height: 150,
    margin: EdgeInsets.symmetric(horizontal: 10),
    decoration: BoxDecoration(
      borderRadius: BorderRadius.circular(10),
      image: DecorationImage(
        image: AssetImage('assets/banner.jpg'),
        fit: BoxFit.cover,
      ),
    ),
  ),
  SizedBox(height: 10),
  Padding(
    padding: const EdgeInsets.symmetric(horizontal: 10.0),
    child: Text(
      "BEST DEALS",
      style: TextStyle(fontSize: 18, fontWeight: FontWeight.bold),
    ),
  ),
  SizedBox(height: 20),
  Wrap(
    spacing: 16,
    runSpacing: 16,
    alignment: WrapAlignment.center,
    children: [
      _dealCard(context, 'Up to 50% Off', 'Biscuits,Drinks', 'assets/biscuits.png'),
      _dealCard(context, 'Up to 30% Off', 'Cooking Essentials', 'assets/tea.png'),
      _dealCard(context, 'Up to 25% Off', 'Fruit & Vegetable', 'assets/juices.png'),
      _dealCard(context, 'Up to 25% Off', 'Personal Care', 'assets/juices.png'),
      _dealCard(context, 'Up to 25% Off', 'Beauty Products', 'assets/juices.png'),
      _dealCard(context, 'Up to 25% Off', 'Home Care', 'assets/juices.png'),
    ],
  ),
  SizedBox(height: 20),
],
),
```

```dart
    );
  }

  Widget _dealCard(BuildContext context, String discount, String title, String asset) {
    return GestureDetector(
      onTap: () {
        Navigator.push(
          context, MaterialPageRoute(builder: (context) => ProductGrid()));
      },
      child: Column(
        children: [
          Container(
            height: 80,
            width: 80,
            decoration: BoxDecoration(
              image: DecorationImage(image: AssetImage(asset), fit: BoxFit.cover),
            ),
          ),
          SizedBox(height: 5),
          Text(discount, style: TextStyle(color: Colors.green, fontSize: 12)),
          Text(title, style: TextStyle(fontSize: 14, fontWeight: FontWeight.bold)),
        ],
      ),
    );
  }
}

class CartPage extends StatelessWidget {
  @override
  Widget build(BuildContext context) {
    return Scaffold(
      appBar: AppBar(title: Text("My Cart")),
      body: Center(child: Text("Your cart is empty")),
    );
  }
}




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

```dart
class CategoryList extends StatelessWidget {
  const CategoryList({Key? key}) : super(key: key);

  @override
  Widget build(BuildContext context) {
    return Scaffold(
      appBar: AppBar(
        backgroundColor: Colors.blue,
        title: const TextField(
          decoration: InputDecoration(
            hintText: "Search JioMart",
            hintStyle: TextStyle(color: Colors.white70),
            prefixIcon: Icon(Icons.search, color: Colors.white),
            border: InputBorder.none,
          ),
          style: TextStyle(color: Colors.white),
        ),
        actions: [
          IconButton(
            icon: const Icon(Icons.shopping_cart),
            onPressed: () {},
          ),
        ],
      ),
      body: SingleChildScrollView(
        child: Padding(
          padding: const EdgeInsets.all(16.0),
          child: Column(
            crossAxisAlignment: CrossAxisAlignment.start,
            children: [
              // Shopping List card

              // Try something new section
              const Text(
                "Try something new",
                style: TextStyle(fontSize: 18, fontWeight: FontWeight.bold),
              ),
              const SizedBox(height: 10),
              Wrap(
                spacing: 8.0,
                runSpacing: 8.0,
                children: [
                  _buildChip("oil"),
```

```dart
        _buildChip("sugar"),
        _buildChip("biscuits"),
        _buildChip("ghee"),
        _buildChip("atta"),
        _buildChip("surf excel powder"),
        _buildChip("mustard oil"),
        _buildChip("maggi"),
        _buildChip("rice"),
        _buildChip("soap"),
      ],
    ),
    const SizedBox(height: 30),
    // Most trending categories section
    const Text(
      "Most trending categories",
      style: TextStyle(fontSize: 18, fontWeight: FontWeight.bold),
    ),
    const SizedBox(height: 10),
    GridView.builder(
      shrinkWrap: true,
      physics: const NeverScrollableScrollPhysics(),
      gridDelegate: const SliverGridDelegateWithFixedCrossAxisCount(
        crossAxisCount: 4,
        mainAxisSpacing: 16,
        crossAxisSpacing: 16,
      ),
      itemCount: 8,
      itemBuilder: (context, index) {
        return Column(
          children: [
            CircleAvatar(
              radius: 30,
              backgroundImage: NetworkImage(
                "https://via.placeholder.com/100", // Replace with your image URL
              ),
            ),
            const SizedBox(height: 8),
            Text(
            ["Groceries", "Electronics", "Fashion", "Jewellery", "Toys", "Furniture",
"Books", "Beauty"][index],
              style: const TextStyle(fontSize: 14),
            ),
          ],
        );
```

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

Widget _buildChip(String label) {
  return Chip(
    label: Text(label),
    backgroundColor: Colors.grey[200],
  );
}
}




import 'package:flutter/material.dart';

class ProductGrid extends StatelessWidget {
  const ProductGrid({Key? key}) : super(key: key);

  @override
  Widget build(BuildContext context) {
    return Scaffold(
      appBar: AppBar(
        backgroundColor: Colors.blue,
        title: const TextField(
          decoration: InputDecoration(
            hintText: "Search JioMart",
            hintStyle: TextStyle(color: Colors.white70),
            prefixIcon: Icon(Icons.search, color: Colors.white),
            border: InputBorder.none,
          ),
          style: TextStyle(color: Colors.white),
        ),
        actions: [
          IconButton(
            icon: const Icon(Icons.shopping_cart),
```

```
      onPressed: () {
        // Add action for cart icon
      },
    ),
   ],
 ),
body: Padding(
  padding: const EdgeInsets.all(8.0),
  child: GridView.builder(
    gridDelegate: const SliverGridDelegateWithFixedCrossAxisCount(
      crossAxisCount: 2,
      crossAxisSpacing: 8.0,
      mainAxisSpacing: 8.0,
      childAspectRatio: 0.75,
    ),
    itemCount: 10,  // Example count
    itemBuilder: (context, index) {
     return Card(
       shape: RoundedRectangleBorder(
        borderRadius: BorderRadius.circular(10),
       ),
       elevation: 4,
       child: Column(
        children: [
          Expanded(
            child: Container(
              decoration: BoxDecoration(
                borderRadius: const BorderRadius.only(
                  topLeft: Radius.circular(10),
                  topRight: Radius.circular(10),
                ),
                image: DecorationImage(
                  image: NetworkImage("https://via.placeholder.com/150"), // Example
image
                  fit: BoxFit.cover,
                ),
              ),
            ),
          ),
            const Padding(
              padding: EdgeInsets.all(8.0),
              child: Text(
                "Product Name",
                style: TextStyle(
```

```
          fontSize: 16,
          fontWeight: FontWeight.bold,
        ),
        textAlign: TextAlign.center,
      ),
    ),
    const Text(
      "₹999",
      style: TextStyle(
        fontSize: 14,
        color: Colors.green,
      ),
    ),
  ],
),
);
},
),
),
);
}
```

Output:

Search

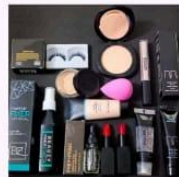# BEST DEALS

Up to 50% Off
Biscuits,Drinks

Up to 30% Off
Dairy Items

Up to 25% Off
Fruit & Vegetable

Up to 25% Off
Personal Care

Up to 20% Off
Beauty Products

Up to 20% Off
Home Care

Home

Categories

Orders

Profile

←   🔍   Search JioMart   🛒

Try something new

oil	sugar	biscuits	ghee	atta

surf excel powder	mustard oil	maggi	rice

soap

Most trending categories

Groceries   Electronics   Fashion   Jewellery

Toys   Furniture   Books   Beauty

Search JioMart

Product Name

₹999

Product Name

₹999

Product Name

₹999

Product Name

₹999

Product Name

₹999

Product Name

₹999