NAME: SUSMITA SANTI   **ROLL NO.:52**
SUBJECT: MAD LAB   **CLASS:D15A/BATCH C**

EXP 2

AIM: To design Flutter UI by including common widgets.

THEORY:
Designing a Flutter UI involves using a variety of widgets – the basic building blocks of a Flutter application. Widgets in Flutter are organized into a tree, which can be thought of as the blueprint for the UI.

Designing a Flutter UI involves using a variety of widgets – the basic building blocks of a Flutter application. Widgets in Flutter are organized into a tree, which can be thought of as the blueprint for the UI. Here's a theoretical overview to help you understand the process:

Widgets:

Flutter uses widgets for everything. They describe what their view should look like given their current configuration and state.

Types of Widgets:

- **Stateless Widgets**: Unchanging widgets that do not depend on any data change or user interaction.
- **Stateful Widgets**: Dynamic widgets that manage state and can change during runtime based on user interaction or data changes.

Basic Widgets:

- Text: For displaying a string of text with style.
- Column and Row: For creating flexible layouts in the vertical and horizontal directions respectively.
- Container: A multi-purpose widget which can be used for padding, margins, borders, or to give a specific height/width to a widget.
- Image: For displaying images.
- Icon: To show icons from a predefined set of icons like Material or Cupertino.
- Form, TextField: For input forms and text fields.
- Buttons (FlatButton, RaisedButton, IconButton, etc.): For user interactions.

App Structure Widgets:

Scaffold: Provides the basic material design visual layout structure.

CODE:

// main.dart

```dart
import 'package:flutter/material.dart';
import 'package:flutter_application/pages/home.dart';

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

class MyApp extends StatelessWidget {
  const MyApp({super.key});

  @override
  Widget build(BuildContext context) {
    return MaterialApp(
      title: 'Discord',
      themeMode: ThemeMode.dark,
      theme: ThemeData(
        primarySwatch: Colors.blue,
        visualDensity: VisualDensity.adaptivePlatformDensity,
      ),
      darkTheme: ThemeData(
        primarySwatch: Colors.blue,
        visualDensity: VisualDensity.adaptivePlatformDensity,
        scaffoldBackgroundColor: const Color.fromARGB(255, 21, 21, 21),
        appBarTheme: const AppBarTheme(
          color: Colors.black,
        ),
      ),
      home: const HomePage(),
    );
  }
}
```

// home.dart

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

class HomePage extends StatelessWidget {
  const HomePage({super.key});

  @override
  Widget build(BuildContext context) {
    // Get screen width
    double screenWidth = MediaQuery.of(context).size.width;

    return Scaffold(
      body: SingleChildScrollView(
        child: Column(
          children: [
            // Profile Banner Image
            Container(
              width: screenWidth,
              height: 200,
              decoration: const BoxDecoration(
                image: DecorationImage(
                  image: AssetImage('assets/images/banner1.jpg'),
                  fit: BoxFit.cover,
                ),
              ),
              child: Stack(
                children: [
                  Container(
                    // Profile Image
                    padding: const EdgeInsets.fromLTRB(10, 50, 10, 10),
                    alignment: Alignment.bottomLeft,
                    child: const CircleAvatar(
                      backgroundImage:
                          AssetImage('assets/images/profile_image.jpg'),
                      radius: 40,
                    ),
                  ),

                  // Settings Icon
```

```
              Positioned(
                top: 10,
                right: 10,
                child: Container(
                  decoration: BoxDecoration(
                    color: Colors.grey[400],
                    shape: BoxShape.circle,
                  ),
                  child: IconButton(
                    icon: const Icon(Icons.settings, color: Colors.white),
                    onPressed: () {},
                  ),
                ),
              ),
            ],
          ),
        ),

        // Bio Section
        Container(
          margin: const EdgeInsets.all(16.0),
          padding: const EdgeInsets.all(16.0),
          decoration: BoxDecoration(
            color:
                const Color.fromARGB(255, 39, 38, 38), // Dark shade color
            borderRadius: BorderRadius.circular(10.0), // Rounded borders
          ),
          alignment: Alignment.centerLeft,
          child: Column(
            crossAxisAlignment: CrossAxisAlignment.start,
            children: [
              const Text(
                'Susmita Santi',
                style: TextStyle(
                  fontSize: 20,
                  color: Colors.white,
                  fontWeight: FontWeight.bold,
                ),
              ),
```

```dart
        const SizedBox(height: 4),
        const Text(
          'susmitasanti04',
          style: TextStyle(
            fontSize: 16,
            color: Colors.grey,
          ),
        ),
      ),
      const SizedBox(height: 10),
      const Text(
        'This is a short bio of myself. It like listening to music.',
        style: TextStyle(
          fontSize: 16,
          color: Colors.grey,
        ),
      ),
      const SizedBox(height: 10),
      Row(
        children: [
          Expanded(
            child: ElevatedButton.icon(
              onPressed: () {},
              icon: const Icon(Icons.edit),
              label: const Text('Edit Status'),
              style: ElevatedButton.styleFrom(
                backgroundColor: Colors.grey.shade300,
                foregroundColor: Colors.black,
              ),
            ),
          ),
          const SizedBox(width: 10),
          Expanded(
            child: ElevatedButton.icon(
              onPressed: () {},
              icon: const Icon(Icons.person),
              label: const Text('Edit Profile'),
              style: ElevatedButton.styleFrom(
                backgroundColor: Colors.grey.shade300,
                foregroundColor: Colors.black,
```

```
            ),
          ),
        ),
      ],
    ),
  ],
),
),


// About Me Section
Container(
  margin: const EdgeInsets.only(
      left: 16.0, right: 16.0, top: 8.0, bottom: 16.0),
  padding: const EdgeInsets.all(16.0),
  decoration: BoxDecoration(
    color: const Color.fromARGB(255, 39, 38, 38),
    borderRadius: BorderRadius.circular(10.0),
  ),
  alignment: Alignment.centerLeft,
  child: const Column(
    crossAxisAlignment: CrossAxisAlignment.start,
    children: [
      Text(
        'About Me',
        style: TextStyle(
          fontSize: 20,
          color: Colors.grey,
        ),
      ),
      SizedBox(height: 10),
      Text(
        'This is a short bio of myself. It like listening to music.',
        style: TextStyle(
          fontSize: 16,
          color: Colors.grey,
        ),
      ),
      SizedBox(height: 10),
    ],
```

```dart
          ),
        ),

        // Picture and It's Description Section
        Container(
          margin: const EdgeInsets.only(
              left: 16.0, right: 16.0, top: 8.0, bottom: 16.0),
          padding: const EdgeInsets.all(16.0),
          decoration: BoxDecoration(
            color: const Color.fromARGB(255, 39, 38, 38),
            borderRadius: BorderRadius.circular(10.0),
          ),
          child: Row(
            crossAxisAlignment: CrossAxisAlignment.start,
            children: [
              // Picture
              Container(
                width: 100.0,
                height: 100.0,
                decoration: BoxDecoration(
                  image: const DecorationImage(
                    image: AssetImage('assets/images/banner1.jpg'),
                    fit: BoxFit.cover,
                  ),
                  borderRadius: BorderRadius.circular(8.0),
                ),
              ),

              const SizedBox(width: 16.0),

              // Picture Description
              const Expanded(
                child: Column(
                  crossAxisAlignment: CrossAxisAlignment.start,
                  children: [
                    Text(
                      'Picture Title',
                      style: TextStyle(
                        fontSize: 18.0,
```

```dart
                              fontWeight: FontWeight.bold,
                              color: Colors.white,
                            ),
                          ),
                          SizedBox(height: 8.0),
                          Text(
                            'The description of Rose in the corresponding
picture.',
                            style: TextStyle(
                              fontSize: 16.0,
                              color: Colors.white,
                            ),
                          ),
                        ],
                      ),
                    ),
                  ],
                ),
              ),
            ],
          ),
        ),
      ),

      // Bottom navigation bar
      bottomNavigationBar: BottomNavigationBar(
        type: BottomNavigationBarType.fixed,
        backgroundColor: Colors.black87,
        selectedItemColor: Colors.white,
        unselectedItemColor: Colors.grey,
        showSelectedLabels: false,
        showUnselectedLabels: false,
        items: const [
          BottomNavigationBarItem(
            icon: Icon(Icons.cloud),
            label: 'Servers',
          ),
          BottomNavigationBarItem(
            icon: Icon(Icons.message),
            label: 'Messages',
```
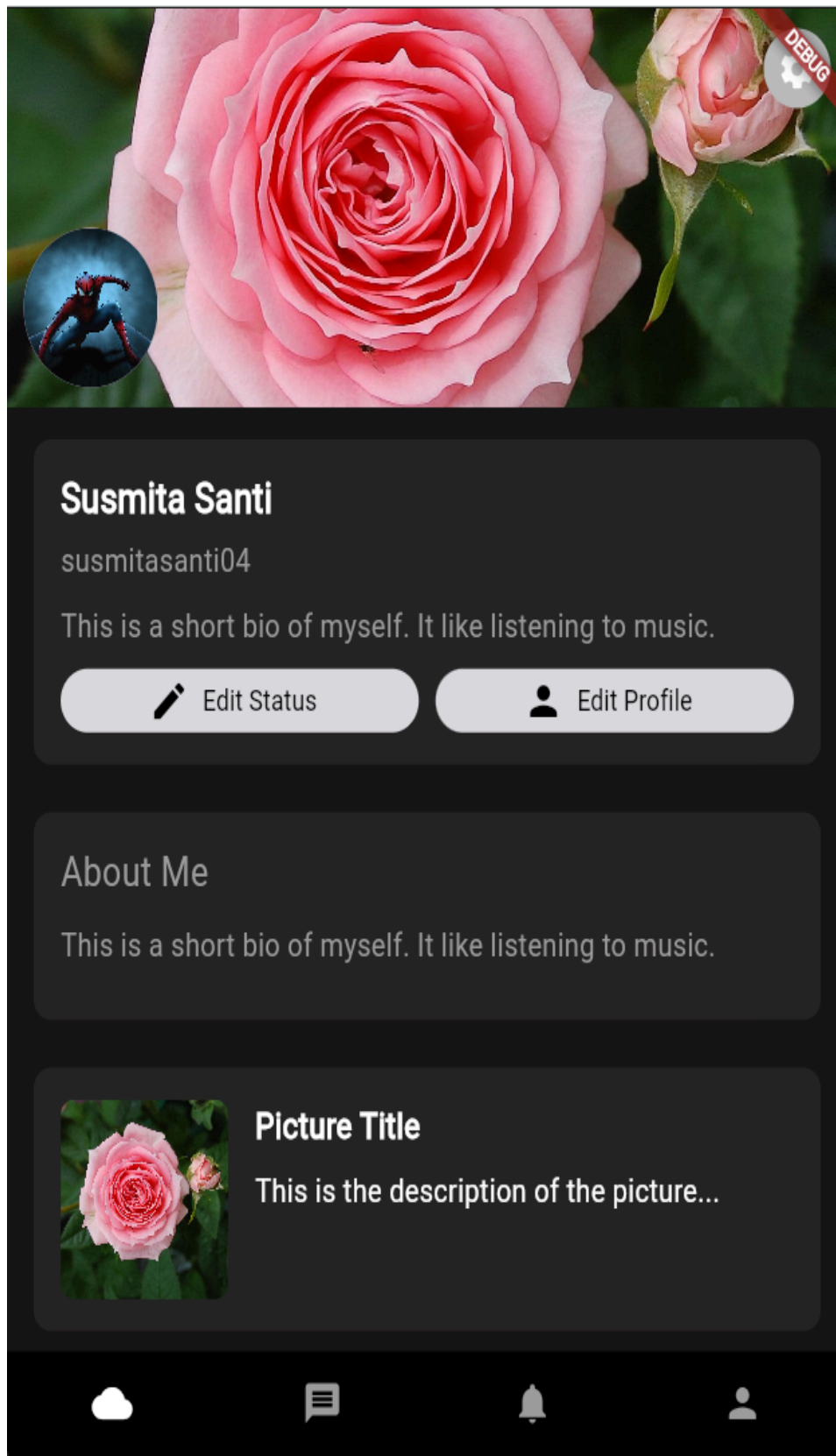
```dart
        ),
        BottomNavigationBarItem(
          icon: Icon(Icons.notifications),
          label: 'Notifications',
        ),
        BottomNavigationBarItem(
          icon: Icon(Icons.person),
          label: 'You',
        ),
      ],
    ),
  );
  }
}
```

SCREENSHOT:

CONCLUSION:

Flutter's widget-based architecture offers great flexibility for building complex UIs. Understanding key widgets and concepts is essential for effective Flutter development.