Experiment 2

Aim: To design Flutter UI by including common widgets.

Theory:

Widgets: Each element on a screen of the Flutter app is a widget. The view of the screen completely depends upon the choice and sequence of the widgets used to build the apps. The structure of the code of an app is a tree of widgets.

- Flutter Scaffold: Scaffold is a layout structure provided by Flutter that provides a framework for implementing the basic material design visual layout structure of the Flutter app.

- Flutter Container: Container is a widget that allows you to customize its appearance using properties like color, padding, margin, and more. It's a basic building block for creating layouts in Flutter.

- Flutter Row & Column: Row and Column are layout widgets used for arranging child widgets horizontally (Row) or vertically (Column).

- Flutter Text: Text widget is used to display a string of text with a single style.

- Flutter Buttons: Buttons are interactive widgets that trigger actions when tapped. Flutter provides various button widgets like RaisedButton, FlatButton, IconButton, etc.

- Flutter Icons: Icons widget is used to display Material icons.

- Flutter Images: Image widget is used to display images.

- Bottom Navigation Bar: BottomNavigationBar widget is used to provide navigation between top-level views in the app.

The code in main.dart:

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

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

class UdemyApp extends StatelessWidget {
  @override
  Widget build(BuildContext context) {
    return MaterialApp(
      theme: ThemeData(
        scaffoldBackgroundColor: Colors.black, // Set Scaffold background color
to black
        appBarTheme: AppBarTheme(
          backgroundColor: Colors.black, // Set AppBar background color to
black
        ),
      ),
      home: HomePage(),
    );
  }
}

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

class _HomePageState extends State<HomePage> {
  int _selectedIndex = 0;

  void _onItemTapped(int index) {
    setState(() {
      _selectedIndex = index;
    });
  }
```

```dart
@override
Widget build(BuildContext context) {
  return Scaffold(
    appBar: AppBar(
      title: Text(
        'Welcome, Aaditi Vaibhav Surve',
        style: TextStyle(color: Colors.white), // Set text color to white
      ),
    ),
    body: SingleChildScrollView(
      child: Column(
        crossAxisAlignment: CrossAxisAlignment.start,
        children: [
          Image.asset(
            'images/home.jpg', // Path to your image asset
            height: 440, // Adjust height as needed
            width: MediaQuery.of(context).size.width, // Set width to match
screen width
            fit: BoxFit.cover, // Adjust image fit as needed
          ),
          // Add texts below the image
          SizedBox(height: 10),
          Padding(
            padding: EdgeInsets.only(left: 16.0), // Add distance from left
side
            child: Text(
              'Learning that fits',
              style: TextStyle(
                color: Colors.white,
                fontFamily: 'Montserrat',
                fontSize: 18, // Adjust font size as needed
                fontWeight: FontWeight.bold, // Make text bold
              ),
            ),
          ),
          SizedBox(height: 7),
          Padding(
            padding: EdgeInsets.only(left: 16.0), // Add distance from left
side
            child: Text(
              'Skills for your present (and future)',
              style: TextStyle(color: Colors.white),
            ),
          ),
          SizedBox(height: 10),
          Padding(
            padding: EdgeInsets.only(left: 16.0), // Add distance from left
side
```

```dart
                child: Text(
                  'Learning for your career?',
                  style: TextStyle(
                    color: Colors.white,
                    fontSize: 18, // Adjust font size as needed
                    fontWeight: FontWeight.bold, // Make text bold
                  ),
                ),
              ),
            ),
            SizedBox(height: 7),
            Padding(
              padding: EdgeInsets.only(left: 16.0), // Add distance from left
side
              child: Text(
                'Answer two quick questions for recommendations that match your
career goals.',
                style: TextStyle(color: Colors.white),
              ),
            ),
          ),
        ],
      ),
    ),
  ),
  bottomNavigationBar: BottomNavigationBar(
    backgroundColor: Colors.black,
    selectedIconTheme: IconThemeData(color: Colors.white),
    selectedLabelStyle: TextStyle(color: Colors.white), // Set selected
label color to white
    unselectedIconTheme: IconThemeData(color: Colors.grey),
    unselectedLabelStyle: TextStyle(color: Colors.grey), // Set unselected
label color to grey
    iconSize: 26.0,
    selectedFontSize: 14.0,
    unselectedFontSize: 12.0,
    currentIndex: 0,
    onTap: _onItemTapped,
    type: BottomNavigationBarType.fixed,
    items: [
      BottomNavigationBarItem(
        icon: Icon(Icons.home),
        label: 'Featured',
      ),
      BottomNavigationBarItem(
        icon: Icon(Icons.search),
        label: 'Search',
      ),
      BottomNavigationBarItem(
        icon: Icon(Icons.star),
        label: 'Featured',
      ),
```
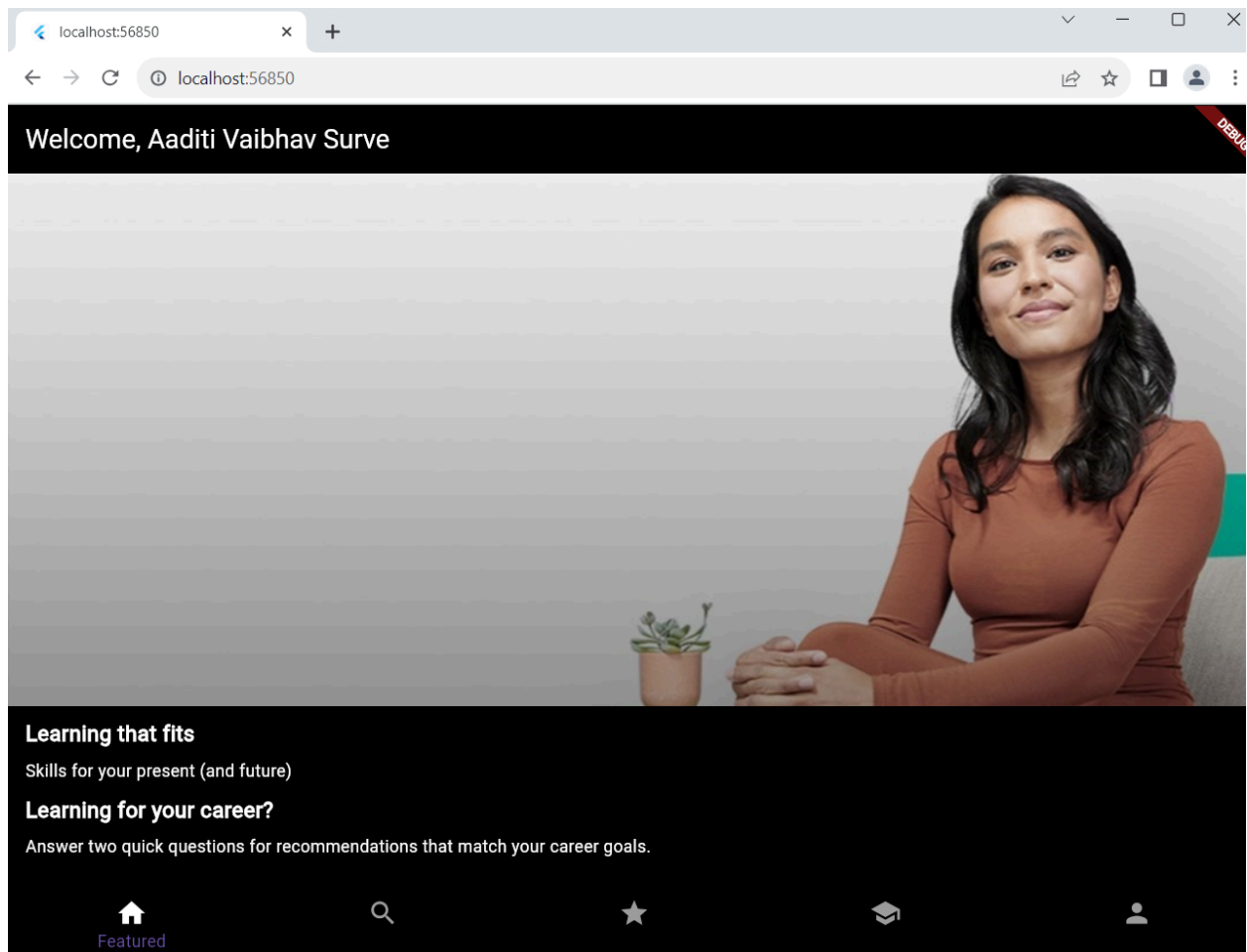
```
        BottomNavigationBarItem(
          icon: Icon(Icons.school),
          label: 'My Learning',
        ),
        BottomNavigationBarItem(
          icon: Icon(Icons.person),
          label: 'Profile',
        ),
      ],
    ),
  );
}
}
```

Output:

In the code, the following widgets are used:

1] MaterialApp: Provides the root widget for the Flutter application. Defines the overall theme of the application.

2] Scaffold: A layout structure widget that provides a framework for implementing the basic material design visual layout structure of the app.

3] AppBar: Represents the app bar at the top of the screen. Displays the title 'Welcome, Aaditi Vaibhav Surve' with white text color.

4] SingleChildScrollView: Enables scrolling when the content of the column exceeds the available screen space.

5] Column: A layout widget that arranges its children in a vertical array.

6] Image: Widget used to display images.

7] SizedBox: A box with a specified size. In this case, used to add spacing between widgets vertically.

8] Padding: Adds padding around its child widget to create space. Used to add left padding to the text widgets.

9] Text: Widget used to display a string of text with a single style.

10] BottomNavigationBar: Widget used to display a horizontal row of several items, typically icons or text labels, that can be selected.