EXPERIMENT NO.5

Aim : To apply navigation , routing and gestures in Flutter app

Theory:

Navigation:

- Navigation refers to the process of moving between different screens or "routes" within the app.
- Flutter provides the Navigator class, which manages a stack of routes and facilitates navigation between them.
- You can push new routes onto the stack using Navigator.push() and remove routes using Navigator.pop().
- Named routes can be pre-defined in the app's route table, making it easier to navigate to specific screens by providing their names.
- Nested navigation allows for hierarchical navigation structures, such as tab-based navigation or modal dialogs.

Routing:

- Routing involves defining and managing the routes or paths that users can take through the app.
- Routes are logical representations of screens or pages within the app and are associated with unique identifiers (route names or route keys).
- Route management includes defining routes, specifying transitions between routes, passing data between routes, and handling route navigation events.

Gestures:

- Gestures enable users to interact with the app's UI elements through touch-based interactions.
- Flutter provides a wide range of gesture recognizers, such as GestureDetector, InkWell, Draggable, LongPressGestureDetector, etc., to detect and respond to user gestures.
- Gesture recognizers can detect taps, swipes, drags, pinches, and other touch-based actions, allowing for rich and intuitive user interactions. ● You can customize gesture behaviors, such as sensitivity, velocity, and directionality, to meet specific app requirements.

By implementing navigation, routing, and gestures effectively in your Flutter app, you can create a smooth and engaging user experience, enabling users to navigate between screens, interact with UI elements, and perform actions with ease

Code:

```
import 'package:blogapp/screens/AdvertisementScreen.dart';
import 'package:flutter/material.dart';
import 'package:blogapp/screens/add_post.dart';
import 'package:blogapp/screens/detail_screen.dart';
import 'package:blogapp/screens/option_screen.dart';
// import 'package:blogapp/screens/advertisement_screen.dart'; // Import your
AdvertisementScreen
import 'package:firebase_auth/firebase_auth.dart';
import 'package:firebase_database/firebase_database.dart';
import 'package:firebase_database/ui/firebase_animated_list.dart';

class HomeScreen extends StatefulWidget {
 const HomeScreen({Key? key});

 @override
 State<HomeScreen> createState() => _HomeScreenState();
}

final FirebaseAuth _auth = FirebaseAuth.instance;

class _HomeScreenState extends State<HomeScreen> {
 late DatabaseReference dbRef;

 @override
 void initState() {
  super.initState();
  dbRef =
      FirebaseDatabase.instance.reference().child('Posts').child('Blog List');
 }

 @override
 Widget build(BuildContext context) {
  return Scaffold(
    appBar: AppBar(
```

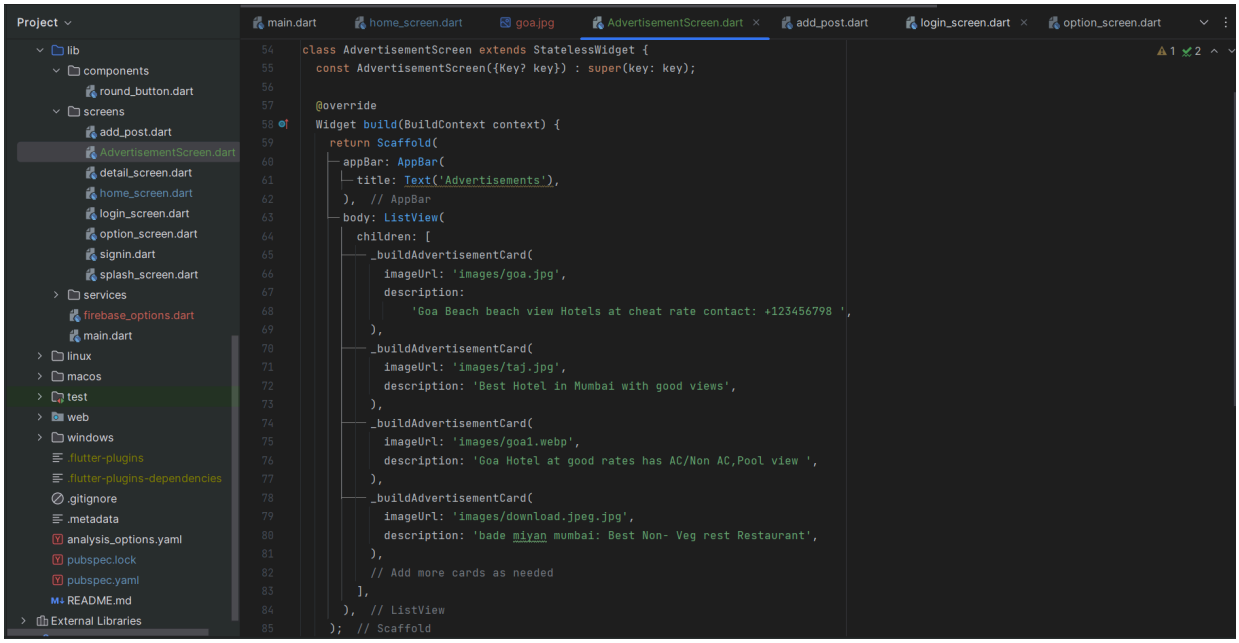
```
  backgroundColor: Colors.deepOrange,
  title: Text('My Blogs'),
  centerTitle: true,
  leading: Builder(
    builder: (BuildContext context) {
      return IconButton(
        icon: Icon(Icons.menu),
        onPressed: () {
          Scaffold.of(context).openDrawer();
        },
      );
    },
  ),
),
drawer: Drawer(
  child: Container(
    // Your existing drawer code...
    color: Colors.orange[100],
    child: ListView(
      padding: EdgeInsets.zero,
      children: [
        const DrawerHeader(
          decoration: BoxDecoration(
            color: Colors.deepOrange,
          ),
          child: Text(
            'Blog App',
            style: TextStyle(
              color: Colors.black,
              fontSize: 24,
            ),
          ),
        ),
        ListTile(
          title: const Text(
            'Logout',
            style: TextStyle(
              color: Colors.black,
            ),
          ),
          leading: Icon(Icons.logout_rounded),
          onTap: () {
            _logout();
            Navigator.pop(context);
```

```
          },
        ),
      ],
    ),
  ),
),
body: Container(
  color: Colors.orange[100],
  child: Column(
    children: [
      Expanded(
        child: FirebaseAnimatedList(
          query: dbRef,
          itemBuilder: (BuildContext context, DataSnapshot snapshot,
              Animation<double> animation, int index) {
            return _buildBlogPost(context, snapshot);
          },
        ),
      ),
    ],
  ),
),
floatingActionButton: Column(
  mainAxisAlignment: MainAxisAlignment.end,
  children: [
    FloatingActionButton(
      onPressed: () {
        Navigator.push(
          context,
          MaterialPageRoute(builder: (context) => const AddPostScreen()),
        );
      },
      child: const Icon(Icons.add),
      backgroundColor: Colors.deepOrange,
    ),
    SizedBox(height: 16),
    FloatingActionButton(
      onPressed: () {
        Navigator.push(
          context,
          MaterialPageRoute(builder: (context) => AdvertisementScreen()),
        );
      },
      child: const Icon(
```

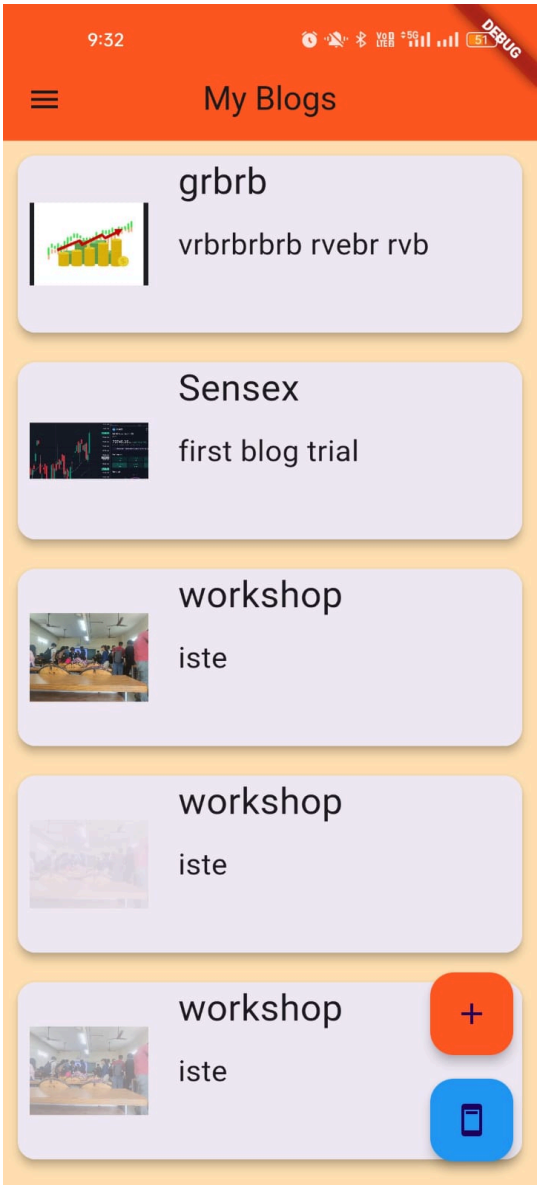
```
            Icons.ad_units), // Use an appropriate icon for advertisements
          backgroundColor: Colors.blue, // Customize the color as needed
        ),
      ],
    ),
  );
}

Widget _buildBlogPost(BuildContext context, DataSnapshot snapshot) {
  double cardHeight = 120.0;

  if (snapshot.value is Map<dynamic, dynamic>?) {
    Map<dynamic, dynamic>? data = snapshot.value as Map<dynamic, dynamic>?;

    String title = data?['pTitle'] ?? 'No Title';
    String description = data?['pDescription'] ?? 'No Description';
    String imageUrl = data?['pImage'] ?? '';

    return InkWell(
      onTap: () {
        _navigateToDetailScreen(context, title, description, imageUrl);
      },
      child: Card(
        elevation: 5,
        margin: EdgeInsets.all(10),
        child: SizedBox(
          height: cardHeight,
          child: Row(
            crossAxisAlignment: CrossAxisAlignment.start,
            children: [
              Padding(
                padding: const EdgeInsets.only(left: 8.0),
                child: SizedBox(
                  width: 80,
                  height: cardHeight,
                  child: FadeInImage(
                    placeholder: AssetImage('images/logo1.png'),
                    image: NetworkImage(imageUrl),
                    height: 20,
                    width: 20,
                  ),
                ),
              ),
              SizedBox(width: 20),
```

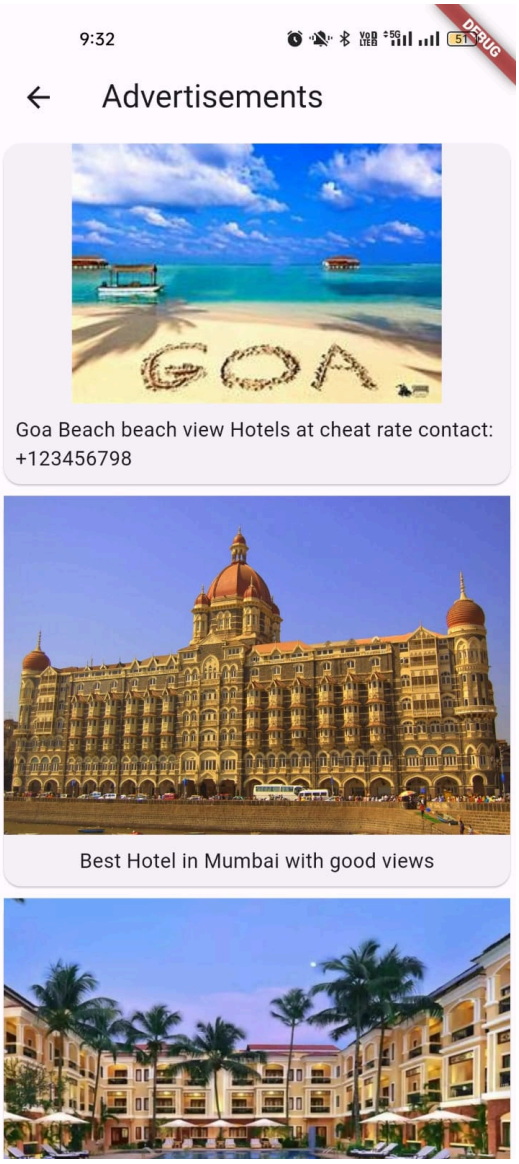
```
            Expanded(
              child: Column(
                crossAxisAlignment: CrossAxisAlignment.start,
                children: [
                  Text(
                    title,
                    style: TextStyle(fontSize: 25),
                  ),
                  SizedBox(height: 10),
                  Text(
                    description,
                    style: TextStyle(fontSize: 20),
                  ),
                ],
              ),
            ),
          ],
        ),
      ),
    );
  } else {
    return Card(
      elevation: 5,
      margin: EdgeInsets.all(10),
      child: SizedBox(
        height: cardHeight,
        child: Column(
          children: [
            Text('Error: Invalid data format'),
          ],
        ),
      ),
    );
  }
}

Future<void> _logout() async {
  try {
    await _auth.signOut();
    Navigator.pushReplacement(
      context,
      MaterialPageRoute(builder: (context) => OptionScreen()),
    );
```

```
    } catch (e) {
      print('Error logging out: $e');
      ScaffoldMessenger.of(context).showSnackBar(
        SnackBar(
          content: Text('Error logging out'),
          duration: Duration(seconds: 2),
          backgroundColor: Colors.red,
        ),
      );
    }
  }

  void _navigateToDetailScreen(
      BuildContext context, String title, String description, String imageUrl) {
    Navigator.push(
      context,
      MaterialPageRoute(
        builder: (context) => DetailScreen(
          title: title,
          description: description,
          imageUrl: imageUrl,
        ),
      ),
    );
  }
}
```


Project
lib
components
round_button.dart
screens
add_post.dart
AdvertisementScreen.dart
detail_screen.dart
home_screen.dart
login_screen.dart
option_screen.dart
signin.dart
splash_screen.dart
services
firebase_options.dart
main.dart
linux
macos
test
web
windows
.flutter-plugins
.flutter-plugins-dependencies
.gitignore
.metadata
analysis_options.yaml
pubspec.lock
pubspec.yaml
README.md
External Libraries
main.dart
home_screen.dart
goa.jpg
AdvertisementScreen.dart
add_post.dart
login_screen.dart
option_screen.dart
class AdvertisementScreen extends StatelessWidget {
const AdvertisementScreen({Key? key}) : super(key: key);
@override
Widget build(BuildContext context) {
return Scaffold(
appBar: AppBar(
title: Text('Advertisements'),
), // AppBar
body: ListView(
children: [
_buildAdvertisementCard(
imageUrl: 'images/goa.jpg',
description:
'Goa Beach beach view Hotels at cheat rate contact: +123456798 ',
),
_buildAdvertisementCard(
imageUrl: 'images/taj.jpg',
description: 'Best Hotel in Mumbai with good views',
),
_buildAdvertisementCard(
imageUrl: 'images/goa1.webp',
description: 'Goa Hotel at good rates has AC/Non AC,Pool view ',
),
_buildAdvertisementCard(
imageUrl: 'images/download.jpeg.jpg',
description: 'bade miyan mumbai: Best Non- Veg rest Restaurant',
),
// Add more cards as needed
],
), // ListView
); // Scaffold

Output:





Conclusion: Thus we have implemented navigation and routing in our app.