

Lab Session 4:

a) Setup navigation between different screens using navigator

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

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

class MyApp extends StatelessWidget {
  @override
  Widget build(BuildContext context) {
    return MaterialApp(
      title: 'Navigation Example',
      theme: ThemeData(
        primarySwatch: Colors.blue,
      ),
      home: FirstScreen(),
    );
  }
}

class FirstScreen extends StatelessWidget {
  @override
  Widget build(BuildContext context) {
    return Scaffold(
      appBar: AppBar(
        title: Text('First Screen'),
      ),
      body: Center(
        child: ElevatedButton(
          onPressed: () {
            // Navigate to the second screen
            Navigator.push(
              context,
              MaterialPageRoute(builder: (context) => SecondScreen()),
            );
          },
          child: Text('Go to Second Screen'),
        ),
      ),
    );
  }
}

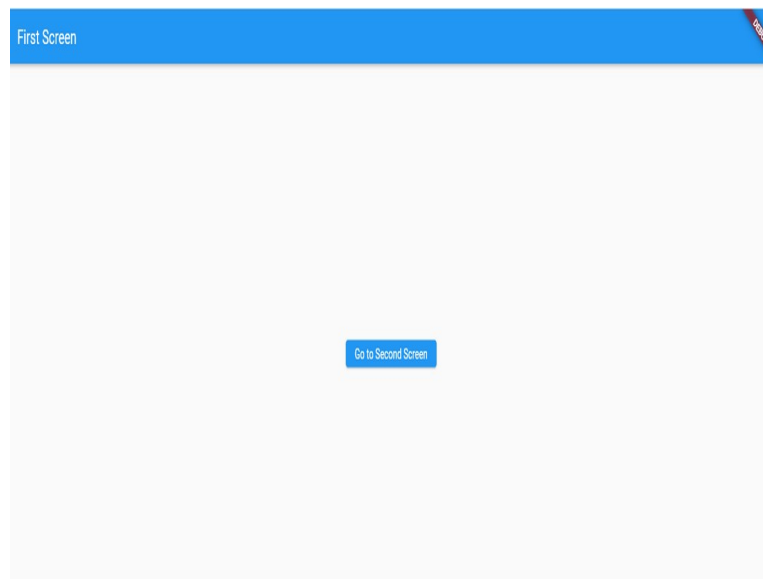
class SecondScreen extends StatelessWidget {
  @override
  Widget build(BuildContext context) {
    return Scaffold(
```

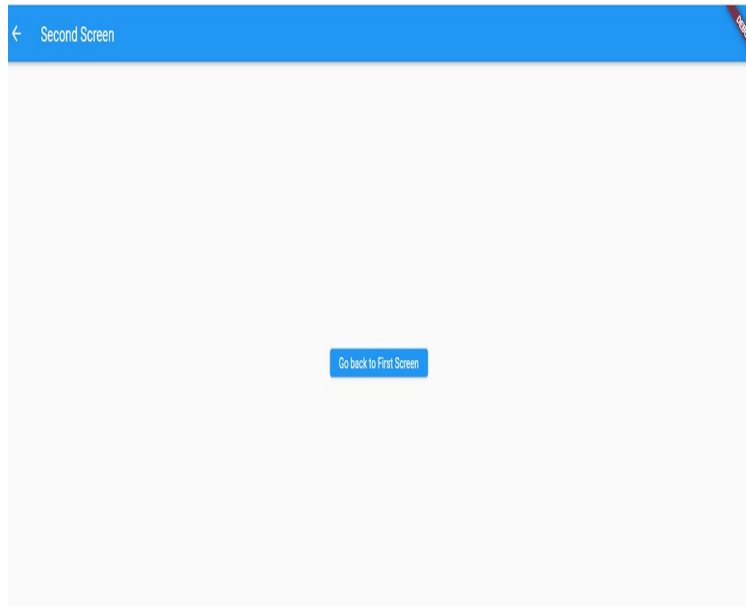
```

appBar: AppBar(
  title: Text('Second Screen'),
),
body: Center(
  child: ElevatedButton(
    onPressed: () {
      // Navigate back to the first screen
      Navigator.pop(context);
    },
    child: Text('Go back to First Screen'),
  ),
),
);
}
}

```

Output:





b) Implement navigation with named routes

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

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

class MyApp extends StatelessWidget {
  @override
  Widget build(BuildContext context) {
    return MaterialApp(
      title: 'Named Routes Demo',
      initialRoute: '/',
      routes: {
        '/': (context) => HomeScreen(),
        '/second': (context) => SecondScreen(),
        '/third': (context) => ThirdScreen(),
      },
    );
  }
}

class HomeScreen extends StatelessWidget {
  @override
  Widget build(BuildContext context) {
    return Scaffold(
      appBar: AppBar(
        title: Text('Home Screen'),
      ),
      body: Center(
        child: ElevatedButton(
          onPressed: () {
```

```

        Navigator.pushNamed(context, '/second');
    },
    child: Text('Go to Second Screen'),
  ),
),
);
}
}

```

```

class SecondScreen extends StatelessWidget {
  @override
  Widget build(BuildContext context) {
    return Scaffold(
      appBar: AppBar(
        title: Text('Second Screen'),
      ),
      body: Center(
        child: ElevatedButton(
          onPressed: () {

            Navigator.pushNamed(context, '/third');
          },
          child: Text('Go to Third Screen'),
        ),
      ),
    );
  }
}

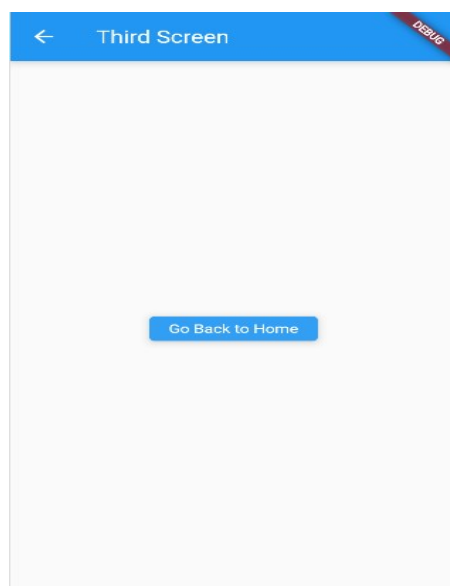
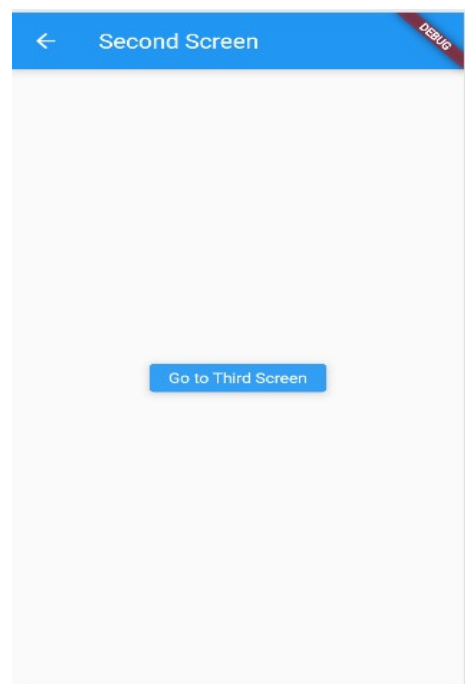
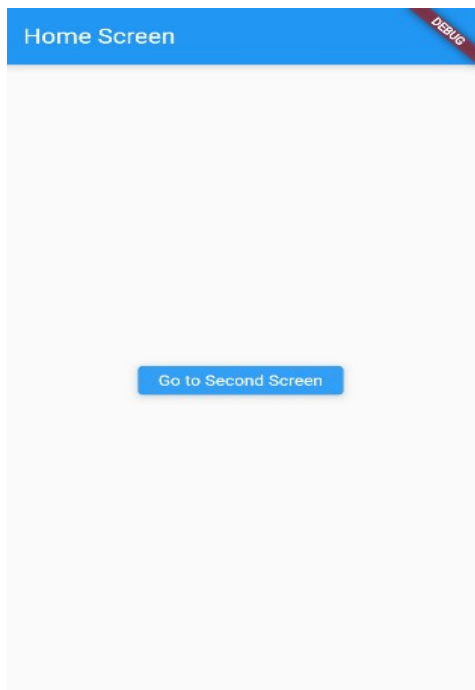
```

```

class ThirdScreen extends StatelessWidget {
  @override
  Widget build(BuildContext context) {
    return Scaffold(
      appBar: AppBar(
        title: Text('Third Screen'),
      ),
      body: Center(
        child: ElevatedButton(
          onPressed: () {
            Navigator.popUntil(context, ModalRoute.withName('/'));
          },
          child: Text('Go Back to Home'),
        ),
      ),
    );
  }
}

```

Output:



Lab Session 5:

a) Learn about stateful and stateless widgets

In Flutter, widgets can be categorized into two main types based on their behavior regarding state management: stateful widgets and stateless widgets.

Stateless Widgets:

Definition: Stateless widgets are widgets that do not have any mutable state. Once created, their properties (configuration) cannot change.

Characteristics: