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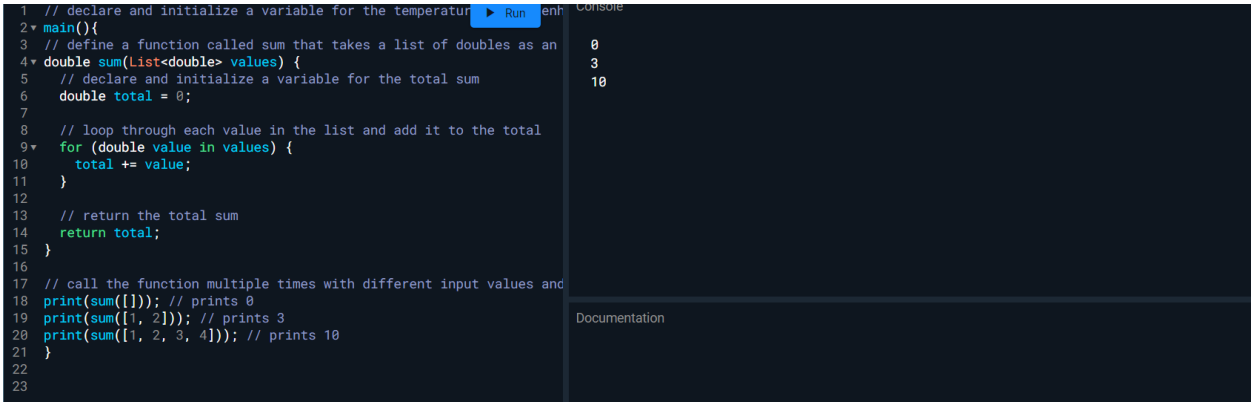
Contents

Assignment 3-1 :

```
main(){
double tempFarenheit = 90;
// calculate the temperature in Celsius using the formula
double tempCelsius = (tempFarenheit - 32) / 1.8;
// print the result with one decimal place
print('${tempFarenheit}F =
${tempCelsius.toStringAsFixed(1)}C');
}
```

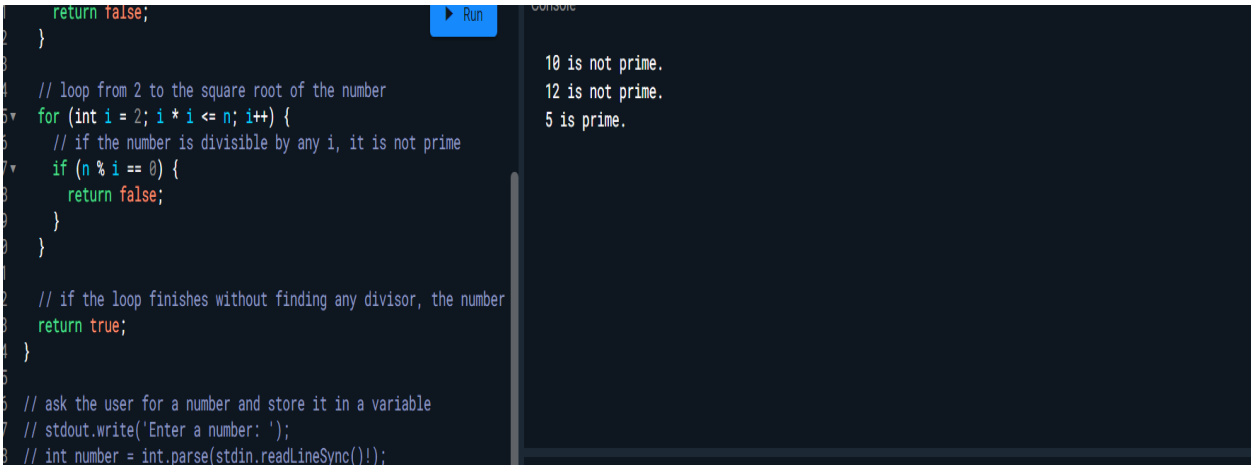
Assignment 3-2 :

```
main(){
double sum(List<double> values) {
  double total = 0;
  for (double value in values) {
    total += value;
  }  return total;
}
print(sum([])); // prints 0
print(sum([1, 2])); // prints 3
print(sum([1, 2, 3, 4])); // prints 10
}
```



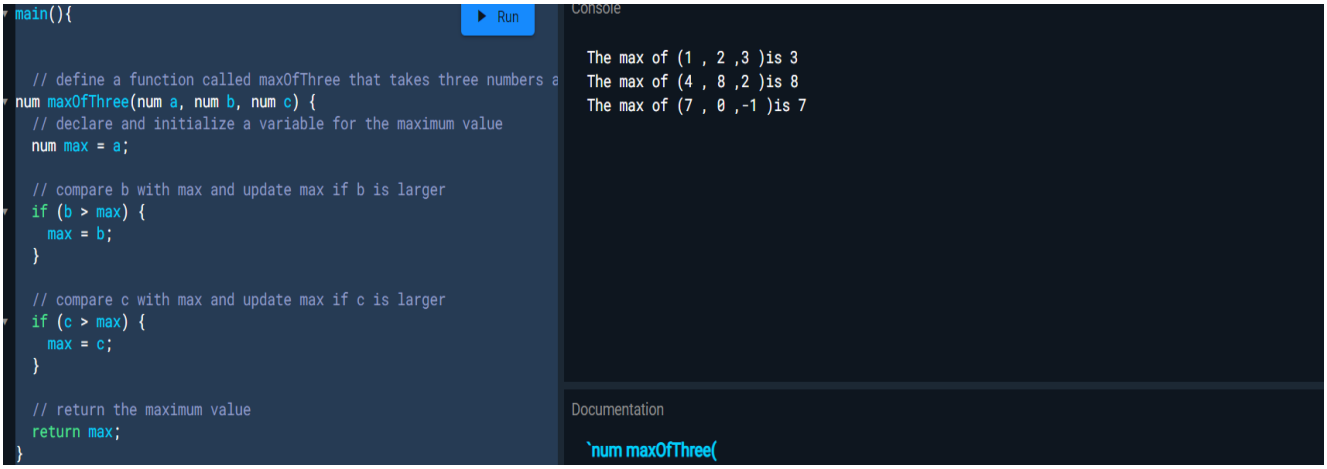
Assignment 3-3 :

```
import 'dart:io';
main(){
bool isPrime(int n) {
  if (n < 2) {
    return false;
  }
  for (int i = 2; i * i <= n; i++) {
    if (n % i == 0) {
      return false;
    }}
  return true;}
stdout.write('Enter a number: ');
int number = int.parse(stdin.readLineSync()!);
if (isPrime(number)) {
  print('$number is prime.');
} else {
  print('$number is not prime.');}}
```



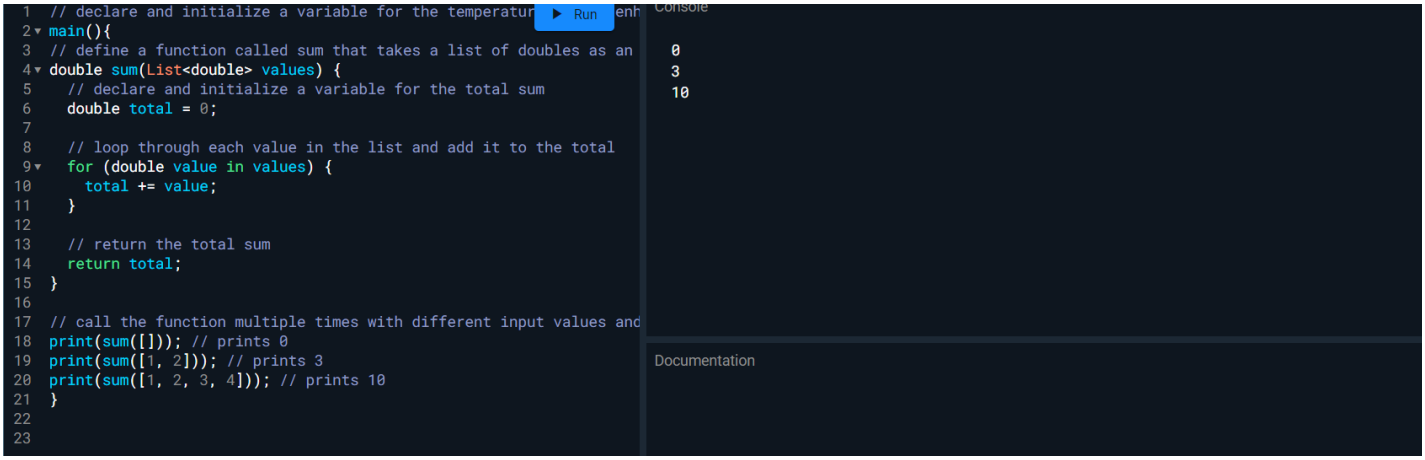
Assignment 3-4 :

```
main(){
num maxOfThree(num a, num b, num c) {
  num max = a;
  if (b > max) {
    max = b;
  }
  if (c > max) {
    max = c;
  }
  return max;
}
print( 'The max of (1 , 2 ,3 )is ${maxOfThree(1, 2, 3)}'); // prints 3
print( 'The max of (4 , 8 ,2 )is ${maxOfThree(4, 8, 2)}'); // prints 3
print( 'The max of (7 , 0 ,-1 )is ${maxOfThree(7 , 0 ,-1 )}'); // prints 3
}
```



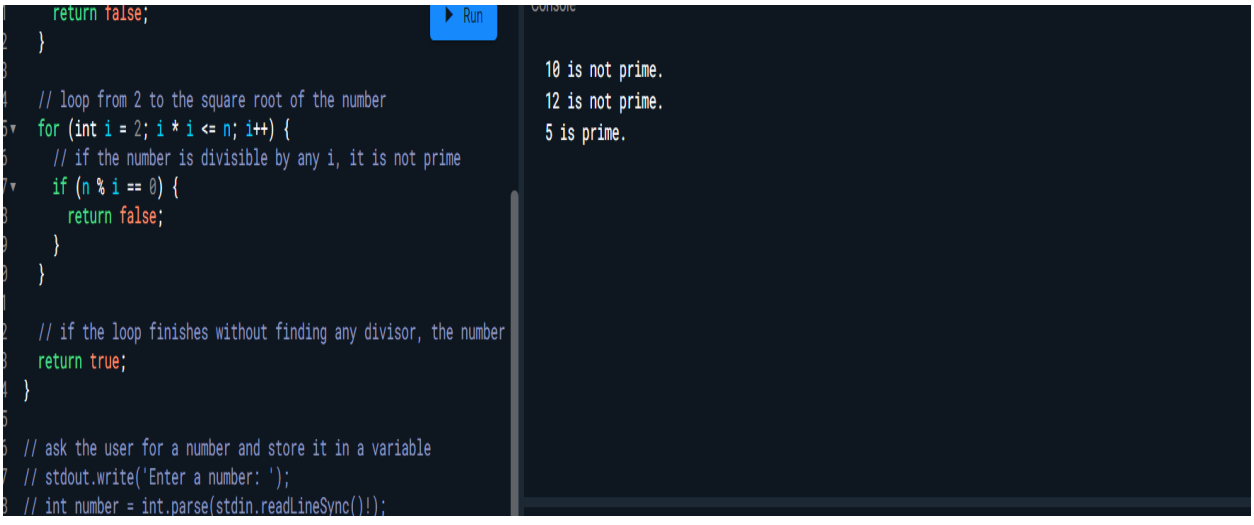
Assignment 4-1 :

```
main(){
double sum(List<double> values) {
  double total = 0;
  for (double value in values) {
    total += value;
  }
  return total;
}
print(sum([])); // prints 0
print(sum([1, 2])); // prints 3
print(sum([1, 2, 3, 4])); // prints 10
}
```



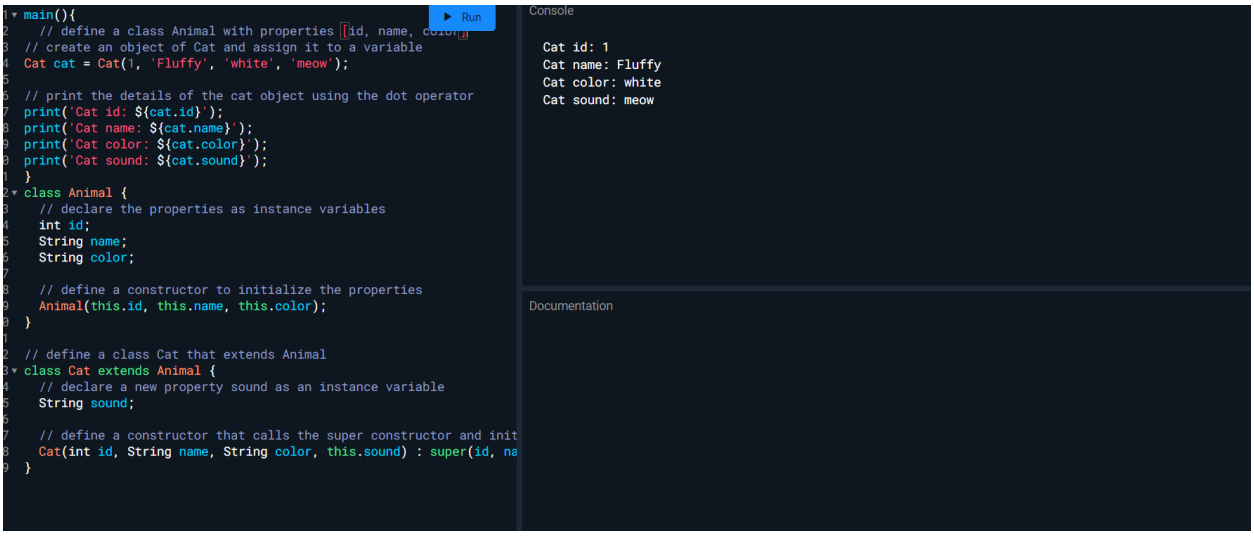
Assignment 4-2 :

```
import 'dart:io';
main(){
bool isPrime(int n) {
  if (n < 2) {
    return false;
  }
for (int i = 2; i * i <= n; i++) {
    if (n % i == 0) {
      return false;}}
  return true;}
stdout.write('Enter a number: ');
  int number = int.parse(stdin.readLineSync()!);
 if (isPrime(number)) {
    print('$number is prime.');} else {
    print('$number is not prime.');}}
```



Assignment 4-3 :

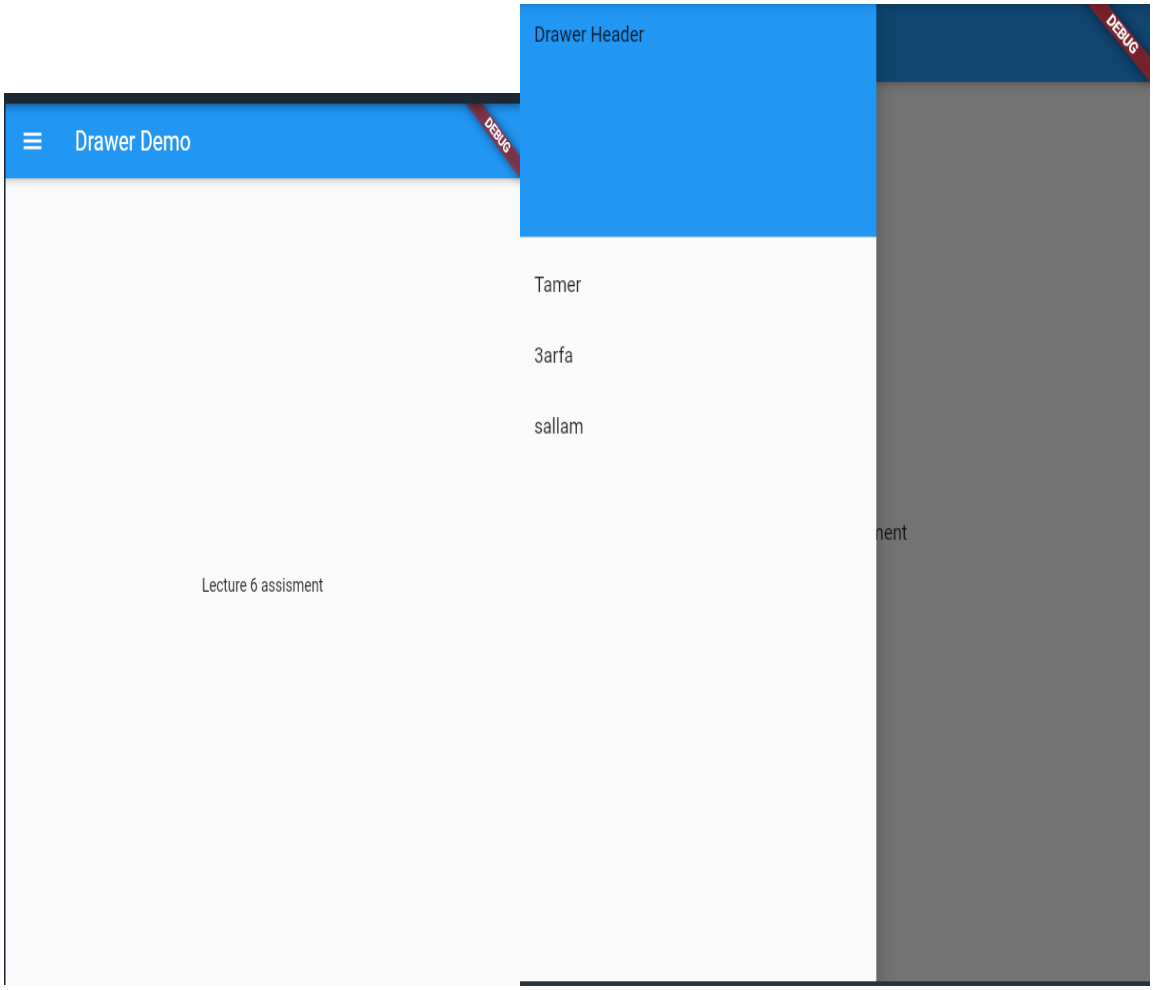
```
main(){
Cat cat = Cat(1, 'Fluffy', 'white', 'meow');
print('Cat id: ${cat.id}');
print('Cat name: ${cat.name}');
print('Cat color: ${cat.color}');
print('Cat sound: ${cat.sound}');
}
class Animal {
  int id;
  String name;
  String color;
  Animal(this.id, this.name, this.color);
}
class Cat extends Animal {
  String sound;
  Cat(int id, String name, String color, this.sound) : super(id, name, color);}
```



Assignment 6-1 :

```
import 'package:flutter/material.dart';
void main() {
runApp(ApplicationRoot());
}
class ApplicationRoot extends StatelessWidget {
Widget build(BuildContext context) {
return MaterialApp(
title: 'Flutter Application',
home: HomeScreen(),
);}}
class HomeScreen extends StatelessWidget {
@override
Widget build(BuildContext context) {
return Scaffold(
appBar: AppBar(
title: Text('Drawer Demo'),
),
body: Center(
child: Text('Lecture 6 assisment'),
),
drawer: Drawer(
  child: ListView(
    padding: EdgeInsets.zero,
    children: [
      const DrawerHeader(
```

```
        decoration: BoxDecoration(
          color: Colors.blue,
        ),
        child: Text('Drawer Header'),
      ),
      ListTile(
        title: const Text('Tamer'),
        onTap: () {
 print(“Done”);
        },
 ),
      ListTile(
        title: const Text('3arfa'),
        onTap: () {
          print(“Done”);
        },
      ),

       ListTile(
        title: const Text('sallam'),
        onTap: () {
          print(“Done”);
        },),],),
),);}}
```


Drawer Demo
DEBUG
Lecture 6 assisment
Drawer Header
Tamer
3arfa
sallam
DEBUG

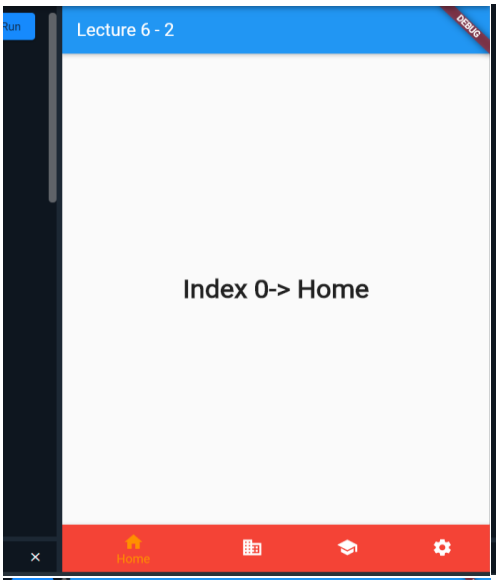
Assignment 6-2 :

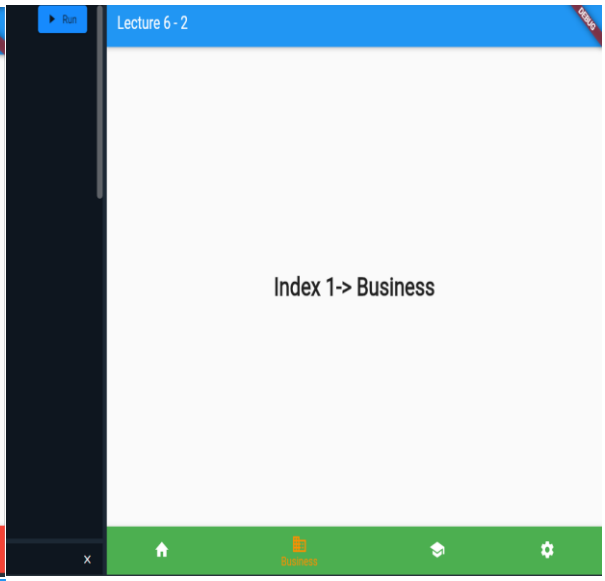
```
import 'package:flutter/material.dart';
void main() {
  runApp(BottomNavigationBarExampleApp());
          }
class BottomNavigationBarExampleApp extends
StatelessWidget {
  const BottomNavigationBarExampleApp({super.key});
  @override
  Widget build(BuildContext context) {
    return const MaterialApp(
      home: BottomNavigationBarExample(),
    );  }}
class BottomNavigationBarExample extends StatefulWidget {
  const BottomNavigationBarExample({super.key});
  @override
  State<BottomNavigationBarExample> createState() =>
      _BottomNavigationBarExampleState();
}
class _BottomNavigationBarExampleState
    extends State<BottomNavigationBarExample> {
  int _selectedIndex = 0;
  static const TextStyle optionStyle =
      TextStyle(fontSize: 30, fontWeight: FontWeight.bold);
  static const List<Widget> _widgetOptions = <Widget>[
    Text(
```

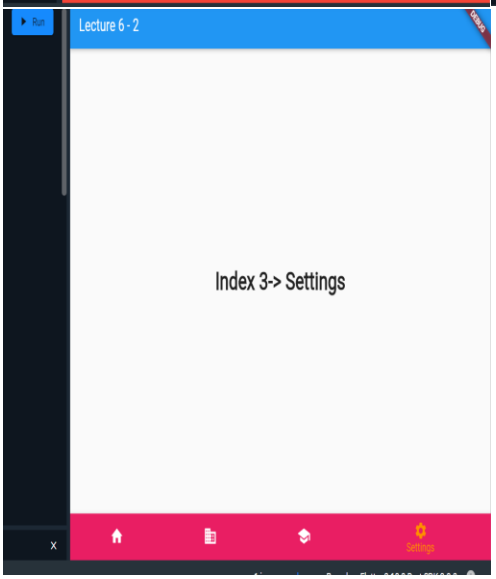
```
    'Index 0-> Home',
    style: optionStyle,
  ),
  Text(
    'Index 1-> Business',
    style: optionStyle,
  ),
  Text(
    'Index 2-> School',
    style: optionStyle,
  ),
  Text(
    'Index 3-> Settings',
    style: optionStyle,    ),];

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

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

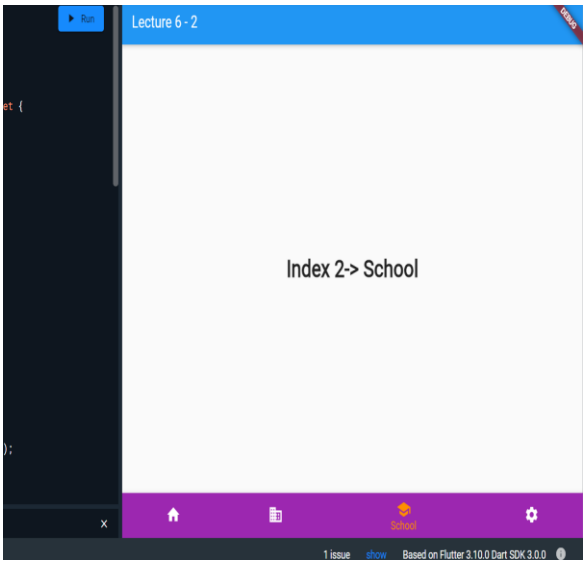
```
  title: const Text('Lecture 6 - 2'),
),
body: Center(
  child: _widgetOptions.elementAt(_selectedIndex),
),
bottomNavigationBar: BottomNavigationBar(
  items: const <BottomNavigationBarItem>[
    BottomNavigationBarItem(
      icon: Icon(Icons.home),
      label: 'Home',
      backgroundColor: Colors.red,
    ),
    BottomNavigationBarItem(
      icon: Icon(Icons.business),
      label: 'Business',
      backgroundColor: Colors.green,
    ),
    BottomNavigationBarItem(
      icon: Icon(Icons.school),
      label: 'School',
      backgroundColor: Colors.purple,
    ),
    BottomNavigationBarItem(
      icon: Icon(Icons.settings),
      label: 'Settings',
```

```
    backgroundColor: Colors.pink,
  ),
],
currentIndex: _selectedIndex,
selectedItemColor: Colors.amber[800],
onTap: _onItemTapped,),);}}
```





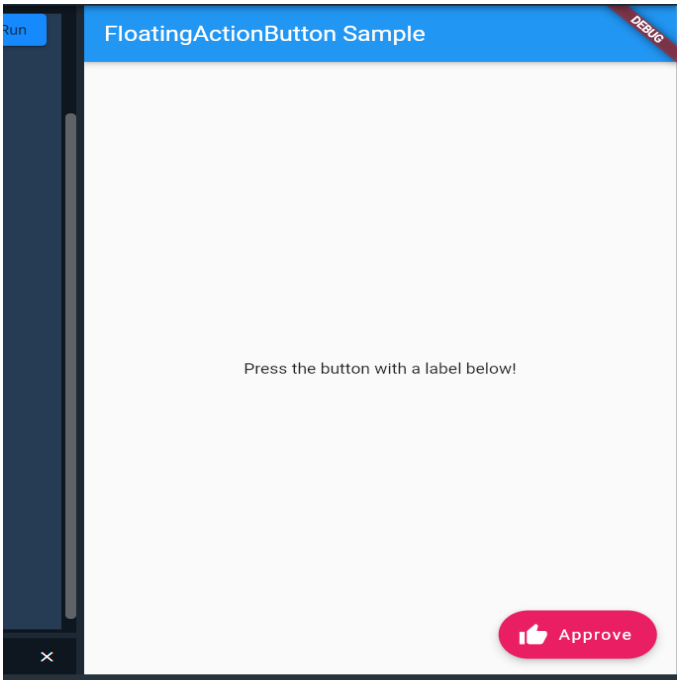




Assignment 6-3 :

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


void main() => runApp(const
FloatingActionButtonExampleApp());
class FloatingActionButtonExampleApp extends
StatelessWidget {
 const FloatingActionButtonExampleApp({super.key});
 @override
 Widget build(BuildContext context) {
  return const MaterialApp(
   home: FabExample(),
  );}}
class FabExample extends StatelessWidget {
 const FabExample({super.key});
 @override
 Widget build(BuildContext context) {
  return Scaffold(
   appBar: AppBar(
    title: const Text('FloatingActionButton Sample'),
   ),
   body: const Center(
    child: Text('Press the button with a label below!'),
   ),
   floatingActionButton: FloatingActionButton.extended(
    onPressed: () {
```

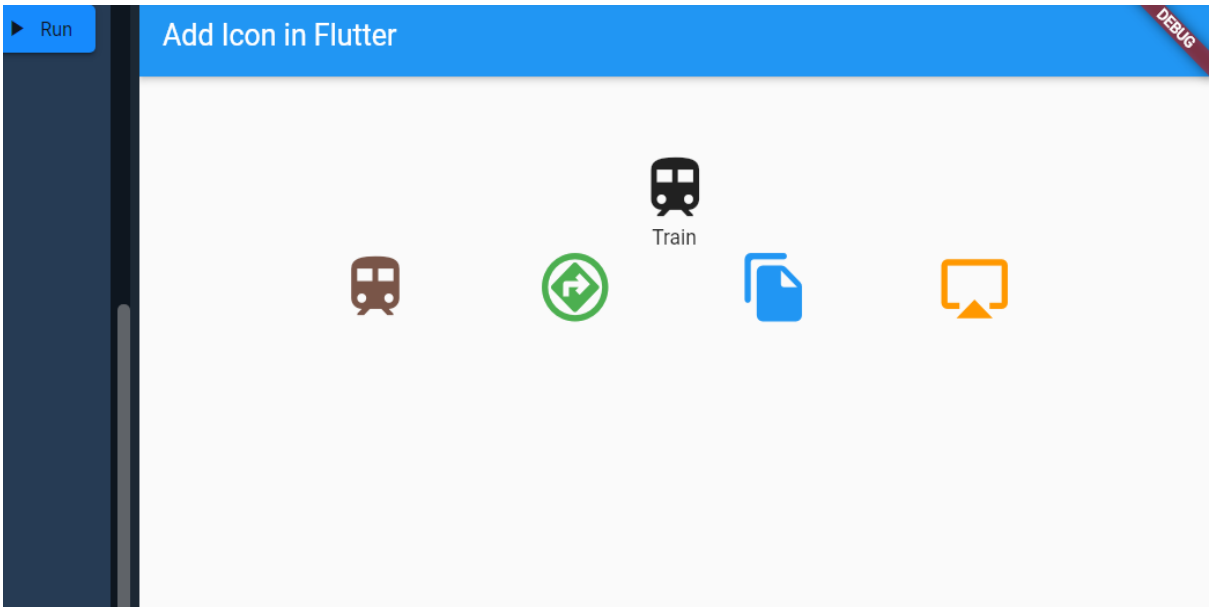
```
          print("hi");
        },
        label: const Text('Approve'),
        icon: const Icon(Icons.thumb_up),

        backgroundColor: Colors.pink,
      ),);
  }
  }
```



Assignment 7-1 :

```
import 'package:flutter/material.dart';
void main(){
  runApp(MyApp());
}
class MyApp extends StatelessWidget{
  @override
  Widget build(BuildContext context) {
    return MaterialApp(
      home: Home(),
    );
  }
}
class Home extends StatefulWidget{
  @override
  _HomeState createState() => _HomeState();
}
class _HomeState extends State<Home> {
  @override
  Widget build(BuildContext context) {
     return  Scaffold(
          appBar: AppBar(
             title: Text("Add Icon in Flutter"),
          ),
 body: Container(
            padding: EdgeInsets.all(50),
```

```
            alignment: Alignment.center,
             child: Column(
               children:[
                  Icon(Icons.train,
                       size: 50,
                ),  Text('Train'),
                  Row(
  mainAxisAlignment: MainAxisAlignment.spaceEvenly,
  children: [
   Icon(Icons.train,size: 50,color: Colors.brown,),
   Icon(Icons.assistant_direction_outlined,size:
50,color:Colors.green),
   Icon(Icons.file_copy_rounded,size: 50,color:Colors.blue),
      Icon(Icons.airplay,size: 50,color:Colors.orange),
  ],),],)),);}}
```



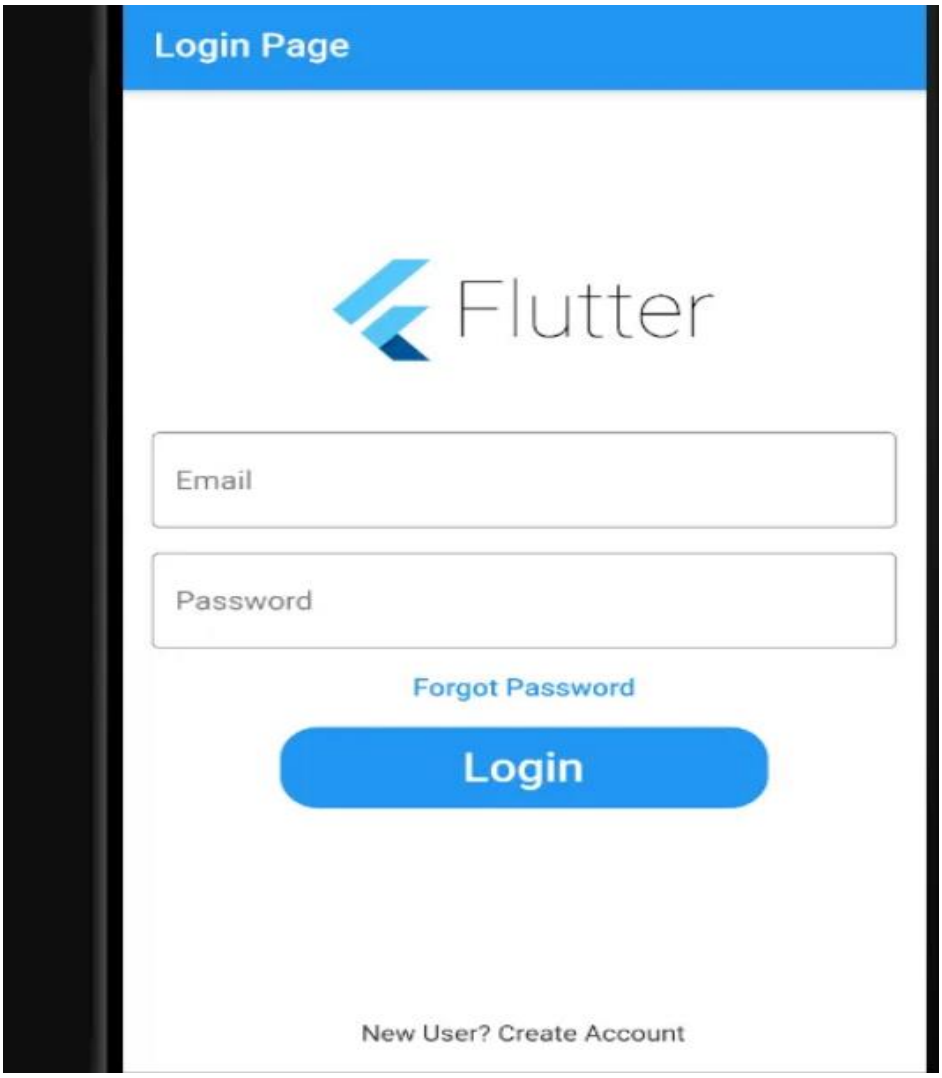
Assignment 7-2 :

```
import 'package:flutter/material.dart';
import 'HomePage.dart';
void main() {
  runApp(MyApp());
}
class MyApp extends StatelessWidget {
  @override
  Widget build(BuildContext context) {
    return MaterialApp(
      debugShowCheckedModeBanner: false,
      home: LoginDemo(),
    );}}
class LoginDemo extends StatefulWidget {
  @override
  _LoginDemoState createState() => _LoginDemoState();
}
class _LoginDemoState extends State<LoginDemo> {
  @override
  Widget build(BuildContext context) {
    return Scaffold(
      backgroundColor: Colors.white,
      appBar: AppBar(
        title: Text("Login Page"),
      ),
```

```
      body: SingleChildScrollView(
        child: Column(
          children: <Widget>[
           Padding(
              padding: const EdgeInsets.only(top: 60.0),
              child: Center(
                child: Container(
                    width: 200,
                    height: 150,
                    /*decoration: BoxDecoration(
                        color: Colors.red,
                        borderRadius: BorderRadius.circular(50.0)),*/
                    child: Image.asset('asset/images/flutter-logo.png')),
              ),
            ),
            Padding(
              //padding: const EdgeInsets.only(left:15.0,right:
15.0,top:0,bottom: 0),
              padding: EdgeInsets.symmetric(horizontal: 15),
              child: TextField(
                decoration: InputDecoration(
                    border: OutlineInputBorder(),
                    labelText: 'Email',
                    hintText: 'Enter valid email id as abc@gmail.com'),
              ), ),
            Padding(
```

```
            padding: const EdgeInsets.only(
                left: 15.0, right: 15.0, top: 15, bottom: 0),
            //padding: EdgeInsets.symmetric(horizontal: 15),
            child: TextField(
              obscureText: true,
              decoration: InputDecoration(
                  border: OutlineInputBorder(),
                  labelText: 'Password',
                  hintText: 'Enter secure password'),
            ),
          ),
          FlatButton(
            onPressed: (){             },
            child: Text(
              'Forgot Password',
              style: TextStyle(color: Colors.blue, fontSize: 15),
            ), ),
          Container(
            height: 50,
            width: 250,
            decoration: BoxDecoration(
                color: Colors.blue, borderRadius:
BorderRadius.circular(20)),
            child: FlatButton(
              onPressed: () {
                Navigator.push(
```

```
                context, MaterialPageRoute(builder: (_) =>
HomePage()));
            },
            child: Text(
              'Login',
              style: TextStyle(color: Colors.white, fontSize: 25),
            ),), ),
          SizedBox( height: 130,),
          Text('New User? Create Account')
        ],),),);}}
```

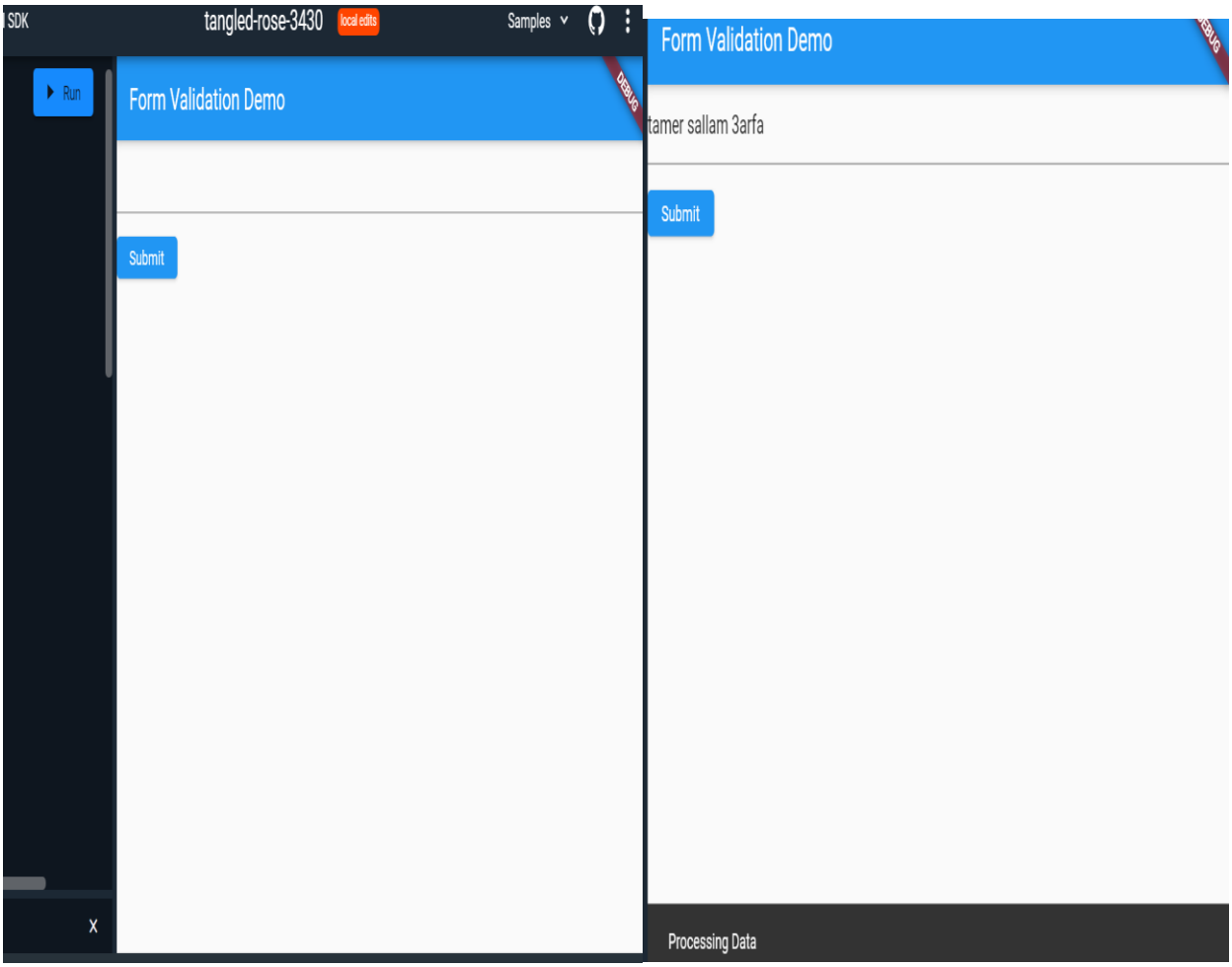


Assignment 8-1 :

```
import 'package:flutter/material.dart';
void main() => runApp(const MyApp());
class MyApp extends StatelessWidget {
  const MyApp({super.key});
  @override
  Widget build(BuildContext context) {
    const appTitle = 'Form Validation Demo';
    return MaterialApp(
      title: appTitle,
      home: Scaffold(
        appBar: AppBar(
          title: const Text(appTitle),
        ),
        body: const MyCustomForm(),
      ),);}}
class MyCustomForm extends StatefulWidget {
  const MyCustomForm({super.key});

  @override
  MyCustomFormState createState() {
    return MyCustomFormState();
  }
}
class MyCustomFormState extends State<MyCustomForm> {
  final _formKey = GlobalKey<FormState>();
```

```
@override
Widget build(BuildContext context) {
  return Form(
    key: _formKey,
    child: Column(
      crossAxisAlignment: CrossAxisAlignment.start,
      children: [
        TextFormField(
          validator: (value) {
            if (value == null || value.isEmpty) {
              return 'Please enter some text';  }
            return null;
          },
        ),
        Padding(

          padding: const EdgeInsets.symmetric(vertical: 16.0),

          child: ElevatedButton(

            onPressed: () {

              if (_formKey.currentState!.validate()) {
                ScaffoldMessenger.of(context).showSnackBar(
                  const SnackBar(content: Text('Processing Data')),
```

```
          );
        }
      },
      child: const Text('Submit'),)
,),],
),)
;}}
```



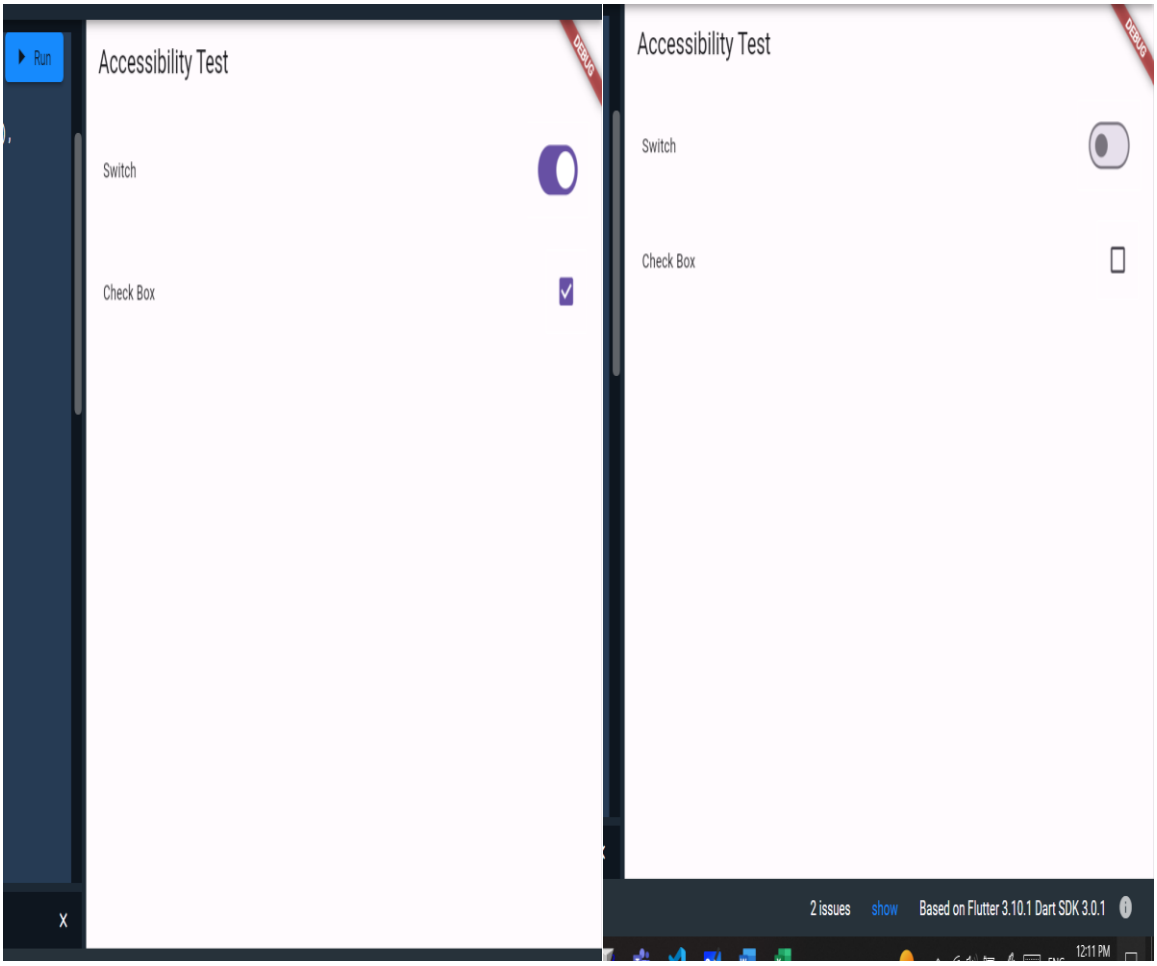
Assignment 8-2 :

```
import 'package:flutter/material.dart';
void main() => runApp(const SwitchApp());
class SwitchApp extends StatelessWidget {
  const SwitchApp({super.key});
  @override
  Widget build(BuildContext context) {
    return MaterialApp(
      theme: ThemeData(useMaterial3: true),
      home: Scaffold(
        appBar: AppBar(title: const Text('Accessibility Test')),
        body: const Center(
          child: SwitchExample(),
        ),
      ),);}}
class SwitchExample extends StatefulWidget {
  const SwitchExample({super.key});
  @override
  State<SwitchExample> createState() =>
_SwitchExampleState();
}

class _SwitchExampleState extends State<SwitchExample> {
  bool light0 = true;
  bool isChecked = true;
```

```
final MaterialStateProperty<Icon?> thumbIcon =
    MaterialStateProperty.resolveWith<Icon?>(
  (Set<MaterialState> states) {
    if (states.contains(MaterialState.selected)) {
      return const Icon(Icons.check);
    }
    return const Icon(Icons.close);
  },  );
@override
Widget build(BuildContext context) {
  return Column(
    mainAxisAlignment: MainAxisAlignment.start,
    children: <Widget>[
      Row(
        children: <Widget>[
          Text('      Switch   '),
          Container(
margin: const EdgeInsets.fromLTRB(500,10,10,10),
padding: const EdgeInsets.all(10.0),
decoration: BoxDecoration(
  border: Border.all(color: Colors.white)
),
child:  Switch(
        value: light0,
        onChanged: (bool value) {
```

```
            setState(() {
              light0 = value;
            });
          },
        ),)
      ]),
          Row(
        children: <Widget>[
          Text('      Check Box   '),
          Container(
  margin: const EdgeInsets.fromLTRB(500,10,10,10),
  padding: const EdgeInsets.all(10.0),
  decoration: BoxDecoration(
    border: Border.all(color: Colors.white)
  ),
  child:   Checkbox(
        value: isChecked,
          onChanged: (bool? value) {
            setState(() {
              isChecked = value!;
              });
          }),
)
      ]
       ),
```

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


Run
Accessibility Test
DEBUG
Switch
Check Box
Accessibility Test
DEBUG
Switch
Check Box
2 issues
show
Based on Flutter 3.10.1 Dart SDK 3.0.1
12:11 PM

Assignment 8-3 :

```
import 'package:flutter/material.dart';
void main() => runApp(MyApp());
class MyApp extends StatelessWidget {
  @override
  Widget build(BuildContext context) {
    return MaterialApp(
      debugShowCheckedModeBanner: false,
      title: 'My App',
      theme: ThemeData(
        primarySwatch: Colors.blue,
      ),
      home: Scaffold(
        appBar: AppBar(title: Text('ListTile guide')),
        body: BodyWidget(),
      ),
    ); }}
String horseUrl = 'https://i.stack.imgur.com/Dw6f7.png';
String cowUrl = 'https://i.stack.imgur.com/XPOr3.png';
String camelUrl = 'https://i.stack.imgur.com/YN0m7.png';
String sheepUrl = 'https://i.stack.imgur.com/wKzo8.png';
String goatUrl = 'https://i.stack.imgur.com/Qt4JP.png';
class BodyWidget extends StatelessWidget {
  @override
  Widget build(BuildContext context) {
    return ListView(
```

```
  children: <Widget>[
    ListTile(
      leading: CircleAvatar(
        backgroundImage: NetworkImage(horseUrl),
      ),
      title: Text('Horse'),
      subtitle: Text('A strong animal'),
      trailing: Icon(Icons.keyboard_arrow_right),
      onTap: () {
        print('horse');
      },
      selected: true,
    ),
    ListTile(
      leading: CircleAvatar(
        backgroundImage: NetworkImage(cowUrl),
      ),
      title: Text('Cow'),
      subtitle: Text('Provider of milk'),
      trailing: Icon(Icons.keyboard_arrow_right),
      onTap: () {
        print('cow');
      },
),
    ListTile(
```

```
          leading: CircleAvatar(
            backgroundImage: NetworkImage(camelUrl),
          ),
          title: Text('Camel'),
          subtitle: Text('Comes with humps'),
          trailing: Icon(Icons.keyboard_arrow_right),
          onTap: () {
            print('camel');
          },
          enabled: false,
        ),
      ],
    );
  }
}
```