

1. Write a flutter program to create a display page using scaffold widget showing an image having restaurant name and a floating button. On click of the floating button a new menu page should open to display the food menu as shown below:

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

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

class BookStoreApp extends StatelessWidget {
  @override
  Widget build(BuildContext context) {
    return MaterialApp(
      title: 'Jupiter Resto',
      home: BookStoreHomePage(),
    );
  }
}

class BookStoreHomePage extends StatelessWidget {
  @override
  Widget build(BuildContext context) {
    return Scaffold(
      appBar: AppBar(
        title: Text('Jupiter restaurant'),
      ),
      body: Center(
        child: Column(
          mainAxisAlignment: MainAxisAlignment.center,
          children: [
            Image.asset('image.jpg', // Add your own image asset path here
              width: 800,
              height: 400,
            ),
            SizedBox(height: 20),
            Text(
              'Jupiter restaurant', // Add your own book store name here
              style: TextStyle(fontSize: 24),
            ),
          ],
        ),
      ),
      floatingActionButton: FloatingActionButton(
        onPressed: () {
          Navigator.push(
            context,
            MaterialPageRoute(builder: (context) => MenuListPage()),
          );
        },
      ),
    );
  }
}
```

```

        },
        child: Icon(Icons.menu),
      ),
    );
  }
}

```

```

class MenuListPage extends StatelessWidget {
  @override
  Widget build(BuildContext context) {
    return MaterialApp(
      title: 'Menu',
      home: Scaffold(
        appBar: AppBar(
          title: Text('Menu'),
        ),
        body: ListView(
          children: [
            Menu(
              image:
'https://m.media-amazon.com/images/I/51Z86bIiB+L._AC_UL600_FMwebp_QL65_.jpg',
              name: 'Masala Dosa',
              price: '\Rs.150',
            ),
            Menu(
              image:
'https://m.media-amazon.com/images/I/818J25zUQ7L._AC_UL600_FMwebp_QL65_.jpg',
              name: 'Pav bhaji',
              price: '\Rs.100',
            ),
            Menu(
              image:
'https://m.media-amazon.com/images/I/51896I1hszL._AC_UL600_FMwebp_QL65_.jpg',
              name: 'Chocolate Ice cream',
              price: '\Rs.100',
            ),
          ],
        ),
      ),
    );
  }
}

```

```

class Menu extends StatelessWidget {
  final String image;
  final String name;
  final String price;
}

```

```
const Menu({Key? key, required this.image, required this.name, required
this.price}) : super(key: key);
```

```
@override
```

```
Widget build(BuildContext context) {
  return Container(
    padding: EdgeInsets.all(20.0),
    child: Row(
      children: [
        Image.network(
          image,
          height: 100.0,
          width: 75.0,
          fit: BoxFit.cover,
        ),
        SizedBox(width: 10.0),
        Column(
          crossAxisAlignment: CrossAxisAlignment.start,
          children: [
            Text(
              name,
              style: TextStyle(
                fontSize: 16.0,
                fontWeight: FontWeight.bold,
              ),
            ),
            SizedBox(height: 5.0),
            Text(
              price,
              style: TextStyle(
                fontSize: 14.0,
                color: Colors.grey,
              ),
            ),
          ],
        ),
      ],
    ),
  );
}
```

2. Write a flutter program to create a display page using scaffold widget showing an image having Book Store name and a floating button. On click of the floating button a new menu page should open to display the details of at least 7 books as shown below:

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

```

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

class BookStoreApp extends StatelessWidget {
  @override
  Widget build(BuildContext context) {
    return MaterialApp(
      title: 'Book Store',
      home: BookStoreHomePage(),
    );
  }
}

class BookStoreHomePage extends StatelessWidget {
  @override
  Widget build(BuildContext context) {
    return Scaffold(
      appBar: AppBar(
        title: Text('Mahesh Book Store'),
      ),
      body: Center(
        child: Column(
          mainAxisAlignment: MainAxisAlignment.center,
          children: [
            Image.asset('bookstore.jpg', // Add your own image asset path here
              width: 800,
              height: 400,
            ),
            SizedBox(height: 20),
            Text(
              'Mahesh Book Store', // Add your own book store name here
              style: TextStyle(fontSize: 24),
            ),
          ],
        ),
      ),
      floatingActionButton: FloatingActionButton(
        onPressed: () {
          Navigator.push(
            context,
            MaterialPageRoute(builder: (context) => BookListPage()),
          );
        },
        child: Icon(Icons.menu),
      ),
    );
  }
}

```

```

class BookListPage extends StatelessWidget {
  @override
  Widget build(BuildContext context) {
    return MaterialApp(
      title: 'Book Details',
      home: Scaffold(
        appBar: AppBar(
          title: Text('Book Details'),
        ),
        body: ListView(
          children: [
            BookDetails(
              image:
'https://m.media-amazon.com/images/I/21Cm3oGsIuL._SX326_BO1,204,203,200_.jpg',
              name: 'Still Born',
              price: '\Rs.1,700',
            ),
            BookDetails(
              image:
'https://m.media-amazon.com/images/I/51dZimXq-YL._SY264_BO1,204,203,200_QL40_FM
webp_.jpg',
              name: 'Dust Child',
              price: '\Rs.1000',
            ),
            BookDetails(
              image:
'https://m.media-amazon.com/images/I/51rHVhRb-8L._SX324_BO1,204,203,200_.jpg',
              name: 'Time Shelter',
              price: '\Rs.500',
            ),
            BookDetails(
              image:
'https://m.media-amazon.com/images/I/511tb3Lt0NL._SX328_BO1,204,203,200_.jpg',
              name: 'Paris : The Memoir',
              price: '\Rs.1,210',
            ),
            BookDetails(
              image:
'https://images-na.ssl-images-amazon.com/images/I/51wOOMQ+F3L._SX325_BO1,204,20
3,200_.jpg',
              name: 'The Power of Now',
              price: '\Rs.8.99',
            ),
            BookDetails(
              image:
'https://m.media-amazon.com/images/I/51CdGXlod1L._SX319_BO1,204,203,200_.jpg',
              name: 'In a Thousand Different Ways',
              price: '\Rs.600',
            ),
          ],
        ),
      ),
    );
  }
}

```

```

        ),
        BookDetails(
            image:
'https://m.media-amazon.com/images/I/41a6cinT9RL._SX312_BO1,204,203,200_.jpg',
            name: 'The ABYSS',
            price: '\Rs.409',
        ),
    ],
),
),
);
}
}

```

```

class BookDetails extends StatelessWidget {
  final String image;
  final String name;
  final String price;

  const BookDetails({Key? key, required this.image, required this.name, required
this.price}) : super(key: key);

```

```

@override
Widget build(BuildContext context) {
  return Container(
    padding: EdgeInsets.all(10.0),
    child: Row(
      children: [
        Image.network(
          image,
          height: 100.0,
          width: 75.0,
          fit: BoxFit.cover,
        ),
        SizedBox(width: 10.0),
        Column(
          crossAxisAlignment: CrossAxisAlignment.start,
          children: [
            Text(
              name,
              style: TextStyle(
                fontSize: 16.0,
                fontWeight: FontWeight.bold,
              ),
            ),
            SizedBox(height: 5.0),
            Text(
              price,
              style: TextStyle(

```

```

        fontSize: 14.0,
        color: Colors.grey,
      ),
    ),
  ],
),
],
),
);
}
}

```

3. Write a flutter program to create a display page using scaffold widget showing an image having

Mobile product store name and a floating button. On click of the floating button a new menu page should open to display the details of at least 7 different mobile phones as shown below:

```
import 'dart:ui';
```

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

```
void main() => runApp(MyApp());
```

```
class MyApp extends StatelessWidget {
  @override
  Widget build(BuildContext context) {
    return MaterialApp(
      home: MobileHomePage(),
      debugShowCheckedModeBanner: false,
    );
  }
}

```

```
class MobileHomePage extends StatelessWidget {
  @override
  Widget build(BuildContext context) {
    return Scaffold(
      appBar: AppBar(
        title: Text("Mobile store"),
        centerTitle: true,
      ),
      body: Padding(
        padding: const EdgeInsets.all(8.0),
        child: Image(
          image:
NetworkImage('https://encrypted-tbn0.gstatic.com/images?q=tbn:ANd9GcROLSUMEtDN8
iiEs78KcPGyTlGsGlg1K1bBfQ&usqp=CAU'),
          fit: BoxFit.fill,
          width: window.physicalSize.width,
          height: window.physicalSize.height,)),
    ),
  ),
}

```

```

    ),
    floatingActionButton: FloatingActionButton(
      child: Icon(Icons.send_to_mobile_outlined),
      onPressed: () {Navigator.of(context).push(MaterialPageRoute(builder:
(_)=> MenuPage()));}
    ),
  );
}
}

class MobileItem {
  final String name;
  final double price;
  final String imageUrl;

  MobileItem({required this.name, required this.price, required this.imageUrl});
}

class MenuPage extends StatelessWidget {
  MenuPage({Key? key}) : super(key: key);

  final List<MobileItem> mobileItems = [
    MobileItem(
      name: 'iPhone 13 Pro',
      price: 999,
      imageUrl:
'https://m.media-amazon.com/images/I/51f4A6Tr8zL._SX522_.jpg'),
    MobileItem(
      name: 'Samsung Galaxy S21 Ultra',
      price: 1099,
      imageUrl:
'https://m.media-amazon.com/images/I/51f4A6Tr8zL._SX522_.jpg'),
    MobileItem(
      name: 'OnePlus 9 Pro',
      price: 899,
      imageUrl:
'https://m.media-amazon.com/images/I/51f4A6Tr8zL._SX522_.jpg'),
    MobileItem(
      name: 'Google Pixel 6 Pro',
      price: 899,
      imageUrl:
'https://m.media-amazon.com/images/I/51f4A6Tr8zL._SX522_.jpg'),
    MobileItem(
      name: 'Xiaomi Mi 11 Ultra',
      price: 1199,
      imageUrl:
'https://m.media-amazon.com/images/I/51f4A6Tr8zL._SX522_.jpg'),
    MobileItem(
      name: 'Sony Xperia 1 III',

```



```

        price: 1299,
        imageUrl:
            'https://m.media-amazon.com/images/I/51f4A6Tr8zL._SX522_.jpg'),
    MobileItem(
        name: 'LG Velvet',
        price: 699,
        imageUrl:
            'https://m.media-amazon.com/images/I/51f4A6Tr8zL._SX522_.jpg'),
];

```

```

@override
Widget build(BuildContext context) {
    return Scaffold(
        appBar: AppBar(
            title: Text('Mobiles'),
        ),
        body: ListView.builder(
            itemCount: mobileItems.length,
            itemBuilder: (context, index) {
                final mobileItem = mobileItems[index];
                return Padding(
                    padding: const EdgeInsets.all(8.0),
                    child: Row(
                        children: [
                            Image.network(
                                mobileItem.imageUrl,
                                height: 80,
                                width: 80,
                            ),
                            SizedBox(width: 10),
                            Column(
                                crossAxisAlignment: CrossAxisAlignment.start,
                                children: [
                                    Text(
                                        mobileItem.name,
                                        style: TextStyle(
                                            fontWeight: FontWeight.bold,
                                            fontSize: 18,
                                        ),
                                    ),
                                    SizedBox(height: 5),
                                    Text(
                                        '\$ ${mobileItem.price}',
                                        style: TextStyle(
                                            fontWeight: FontWeight.bold,
                                            fontSize: 16,
                                            color: Colors.grey[600],
                                        ),
                                    ),
                                ],
                            ),
                        ],
                    ),
                );
            },
        ),
    );
}

```

```

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

```

4. Design a calculator app using flutter as shown below:

```

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

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

class MyApp extends StatelessWidget {
  @override
  Widget build(BuildContext context) {
    return MaterialApp(
      theme: ThemeData(
        primarySwatch: Colors.deepOrange,
      ),
      home: HomePage(),
      debugShowCheckedModeBanner: false,
    );
  }
}

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

class _HomePageState extends State<HomePage> {
  late int first, second;
  late String res, text = "";
  late String _opp;

  String get opp => _opp;
}

```

```

set opp(String value) {
  _opp = value;
}

void btnClicked(String btnText) {
  if (btnText == "C") {
    res = "";
    text = "";
    first = 0;
    second = 0;
  } else if (btnText == "+" ||
    btnText == "-" ||
    btnText == "x" ||
    btnText == "/") {
    first = int.parse(text);
    res = "";
    opp = btnText;
  } else if (btnText == "=") {
    second = int.parse(text);
    if (opp == "+") {
      res = (first + second).toString();
    }
    if (opp == "-") {
      res = (first - second).toString();
    }
    if (opp == "x") {
      res = (first * second).toString();
    }
    if (opp == "/") {
      res = (first ~/ second).toString();
    }
  } else {
    res = int.parse(text + btnText).toString();
  }
  setState(() {
    text = res;
  });
}

```

```

Widget customButton(String val) {
  return Expanded(
    child: ElevatedButton(
      style: ElevatedButton.styleFrom(
        padding: EdgeInsets.all(25.0),
        primary: Colors.white,
        onPressed: Colors.deepOrange,
      ),

```

```

        onPressed: () => btnClicked(val),
        child: Text(
            val,
            style: TextStyle(fontSize: 35.0, color: Colors.deepOrange),
        ),
    ),
);
}

```

```

@override
Widget build(BuildContext context) {
    return Scaffold(
        appBar: AppBar(
            title: Text('Calculator'),
        ),
        body: Container(
            child: Column(
                mainAxisAlignment: MainAxisAlignment.end,
                children: <Widget>[
                    Expanded(
                        child: Container(
                            padding: EdgeInsets.all(10.0),
                            alignment: Alignment.bottomRight,
                            child: Text(
                                text,
                                style: TextStyle(
                                    fontSize: 60.0,
                                    fontWeight: FontWeight.w500,
                                    color: Colors.deepOrange),
                            ),
                        ),
                    ),
                ],
            ),
            Row(
                children: <Widget>[
                    customButton("9"),
                    customButton("8"),
                    customButton("7"),
                    customButton("+"),
                ],
            ),
            Row(
                children: <Widget>[
                    customButton("6"),
                    customButton("5"),
                    customButton("4"),
                    customButton("-"),
                ],
            ),
        ),
    );
}

```

```

        Row(
          children: <Widget>[
            customButton("3"),
            customButton("2"),
            customButton("1"),
            customButton("x"),
          ],
        ),
        Row(
          children: <Widget>[
            customButton("C"),
            customButton("0"),
            customButton("="),
            customButton("/"),
          ],
        ),
      ],
    ),
  ),
);
}

@override
void debugFillProperties(DiagnosticPropertiesBuilder properties) {
  super.debugFillProperties(properties);
  properties.add(IntProperty('first', first));
  properties.add(StringProperty('res', res));
}
}

```

5. Write a flutter program to design registration form for restaurant table booking system. On successful registration, the customer's details must be reflected in the firebase database.

FIREBASE

```
C:\Users\ishik>firebase logout
```

```
C:\Users\ishik>npm install -g firebase-tools
```

```
C:\Users\ishik>firebase login
```

```
C:\Users\ishik>firebase projects:list
```

Add Firebase to your Android app

```
android/build.gradle
classpath 'com.google.gms:google-services:4.3.15'
```

```
android/app/build.gradle
Apply plugin : 'com.google.gms:google-services:4.3.15'
```

```
C:\Users\ishik>cd C:\Users\ishik\StudioProjects\hello
```

```
C:\Users\ishik\StudioProjects\hello>dart pub global activate flutterfire_cli
```

```
C:\Users\ishik\StudioProjects\hello>flutterfire configure --project=kshama-2ce59
```

```
project/ pubspec.yml
```

```
dependencies:
  firebase_database: any
  cloud_firestore: any
> pubget
> get dependencies
```

Firestore console

Build / Firestore database

Create database > start in test mode

Main.dart

```
import 'package:cloud_firestore/cloud_firestore.dart';
import 'package:flutter/material.dart';
import 'package:firebase_core/firebase_core.dart';
import 'firebase_options.dart';

void main() async{
  WidgetsFlutterBinding.ensureInitialized();
  await Firebase.initializeApp(
    options: DefaultFirebaseOptions.currentPlatform,
  );
  runApp(const MaterialApp(
    home: Restoform(),
  ));
}

class Restoform extends StatefulWidget {
  const Restoform({Key? key}) : super(key: key);

  @override
  State<Restoform> createState() => _RestoformState();
}

class _RestoformState extends State<Restoform> {
```

```

final formkey = GlobalKey<FormState>();
late String _name;
late String _email;
late String _phone;
late String _guests;
late String _time;

@override
Widget build(BuildContext context) {
  return Scaffold(
    appBar: AppBar(
      title: Text("Restaurant form"),
      centerTitle: true,
    ),
    body: Form(
      key: formkey,
      child: Column(
        children: <Widget>[
          TextFormField(
            decoration: InputDecoration(
              labelText: "Name",
              icon: Icon(Icons.person),
              hintText: "Enter your name",
            ),
            validator: (value){
              if(value!.isEmpty){
                return "Please enter your name";
              }
            },
            onSaved: (value){
              _name = value!;
            },
          ),
          SizedBox(height: 10,),
          TextFormField(
            decoration: InputDecoration(
              labelText: "Email",
              icon: Icon(Icons.alternate_email),
              hintText: "Enter your email",
            ),
            validator: (value){
              if(value!.isEmpty){
                return "Please enter your email";
              }
            },
            onSaved: (value){
              _email = value!;
            },
          ),
          SizedBox(height: 10,),
          TextFormField(
            decoration: InputDecoration(
              labelText: "Phone number",
              icon: Icon(Icons.phone),
              hintText: "Enter your phone number",
            ),
            validator: (value){

```

```

        if(value!.isEmpty){
            return "Please enter your phone number";
        }
        else if(!RegExp(r'^[0-9]{10}$').hasMatch(value)){
            return "Please enter a valid phone number";
        }
    },
    onSave: (value){
        _phone = value!;
    },
),
 SizedBox(height: 10,),
 TextFormField(
    decoration: InputDecoration(
        labelText: "Number of guests",
        icon: Icon(Icons.people_alt),
        hintText: "Enter number of guests",
    ),
    validator: (value){
        if(value!.isEmpty){
            return "Please enter number of guests";
        }
        else if(!RegExp(r'^[0-9]$').hasMatch(value)){
            return "Please enter a valid number";
        }
    },
    onSave: (value){
        _guests = value!;
    },
),
 SizedBox(height: 10,),
 TextFormField(
    decoration: InputDecoration(
        labelText: "Time",
        icon: Icon(Icons.timer),
        hintText: "Enter time of arrival",
    ),
    validator: (value){
        if(value!.isEmpty){
            return "Please enter a suitable time";
        }
        else
if(!RegExp(r'[01]?[0-9]|2[0-3]:[0-5][0-9]').hasMatch(value)){
            return "Please enter a valid time";
        }
    },
    onSave: (value){
        _time = value!;
    },
),
 SizedBox(height: 10,),
 submitButton(),
],
),
),
);
}

```



```

Widget submitButton(){
  return ElevatedButton.icon(
    onPressed: (){
      if(formkey.currentState!.validate()){
        ScaffoldMessenger.of(context).showSnackBar(
          SnackBar(content: Text("Registration done successfully"))
        );
        formkey.currentState!.save();
        FirebaseFirestore.instance.collection("Registrations").add({
          'Name' : _name,
          'Email' : _email,
          'Phone' : _phone,
          'Guests' : _guests,
          'Time' : _time,
        }).then((value) => print("Submitted
successfully")).catchError((error)=>
          print("$error"));
        }
      },
      icon: Icon(Icons.send),
      label: Text("Submit"),
    );
  }
}

```

cmd:-

npm install -g firebase-tools

firebase login

firebase projects:list

Firebase Console

- Getstarted
- Off {enable google analytics}
- Create project
- Go to Flutter app
- Click on Firebase Cli> copy paste all the cli commands
- Click next on flutter app

- Go to Android App
- Change from project to android>app-src-build.gradle file> copy applicationId
- Go to Android app > Paste the id and register
- Download .json file and paste it android>src
- Add this in dependency in android>buid.gradle file


```
classpath 'com.google.gms:google-services:4.3.15'
```
- add this to app> buid.gradle file inside app folder


```
apply plugin:'com.google.gms:google-services:4.3.15'
```

Now

- Paste the next two commands in the cmd (change path to the proj folder for the commands)
- Click next on flutter app
- Click on continue to console
- Add dependency in pubspec.yaml
dependencies:
 firebase_database: any
 firebase_core: ^2.7.1
 cloud_firestore: any
- Click on get dependencies (notification)
- **Firebase console**
- Build / Firebase database
- Create database > start in test mode

Q8. Design a registration form and login form for clinical ERP system. Write 2 test cases for the same.

Main.dart:

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

void main() => runApp(MyApp());

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

  @override
  Widget build(BuildContext context) {
    return MaterialApp(
      title: 'Registration Form',
      home: LoginForm(),
    );
  }
}

class LoginForm extends StatefulWidget {
  const LoginForm({Key? key}) : super(key: key);

  @override
  State<LoginForm> createState() => _LoginFormState();
}

class _LoginFormState extends State<LoginForm> {

  final formkey = GlobalKey<FormState>();
```

```

@override
Widget build(BuildContext context) {
  return Scaffold(
    appBar: AppBar(
      title: Text("Login form"),
      centerTitle: true,
    ),
    body: Form(
      key: formkey,
      child: Column(
        children: <Widget>[
          SizedBox(height: 10,),
          TextFormField(
            decoration: InputDecoration(
              labelText: "Name",
              hintText: "Enter your name",
              border: OutlineInputBorder(),
              icon: Icon(Icons.person),
            ),
          ),
          SizedBox(height: 10,),
          TextFormField(
            decoration: InputDecoration(
              labelText: "Password",
              hintText: "Enter your password",
              border: OutlineInputBorder(),
              icon: Icon(Icons.password),
            ),
          ),
          SizedBox(height: 10,),
          ElevatedButton(onPressed: () {
            ScaffoldMessenger.of(context).showSnackBar(SnackBar(content:
Text("Login successful")));
          },
            child: Text("Login"),
          ),
        ],
      ),
    ),
  );
}

```

Inside The test folder make a dart file called login_test.dart

```

import 'package:flutter/material.dart';
import 'package:flutter_test/flutter_test.dart';
import 'package:test1/main.dart';

import 'package:projsname/main.dart';

```

```

void main() {
  testWidgets(' ', (WidgetTester tester) async{
    await tester.pumpWidget(const MyApp());

    final namefield = find.widgetWithText(TextFormField, "Name");
    expect(namefield, findsOneWidget);
    await tester.tap(namefield);
    await tester.enterText(namefield, "Some name");

    final passfield = find.widgetWithText(TextFormField, "Password");
    expect(passfield, findsOneWidget);
    await tester.tap(passfield);
    await tester.enterText(passfield, "some password");

    final logiButton = find.widgetWithText(ElevatedButton, "Login");
    expect(logiButton, findsOneWidget);
    await tester.tap(logiButton);

    await tester.pump();

    expect(find.text("Login successful"), findsOneWidget);

  });
}

```

Now open terminal and type :

flutter test test/login_test.dart

Email_password_field_validator_test.dart

```

import 'package:flutter/material.dart';
import 'package:flutter_test/flutter_test.dart';
import 'package:test1/main.dart';

void main() {
  testWidgets(' ', (WidgetTester tester) async{
    await tester.pumpWidget(const MyApp());

    final emailfield = find.widgetWithText(TextFormField, "Email");
    expect(emailfield, findsOneWidget);
    await tester.tap(emailfield);
    await tester.enterText(emailfield, "Some name");
    await tester.pump();
  });
}

```



Now in terminal type

```
flutter test test/email_password_field_validator_test.dart
```

- 6. Design a responsive UI for college website. The home page must have college name and logo. It must have tabs like About Us, Academics, Library, Placements and Admissions. The home page must also have an announcement section.**
- 7. Create a web manifest file for PWA.**