**Assessment 1: Drawer Navigation in Flutter**

**Objective:**

**Create a Flutter application that uses a Drawer to navigate between multiple screens. This task tests your understanding of UI layout, navigation using Navigator, and proper widget structuring in Flutter.**

**Instructions:**

**Main Screen (HomeScreen):**

**Use a Scaffold with an AppBar and a Drawer.**

**The main content should show a welcome message (e.g., "Welcome to Home Screen").**

**Drawer Menu Items: Add the following items inside the Drawer:**

**Home → Navigates to HomeScreen**

**Screen One → Navigates to ScreenOne**

**Screen Two → Navigates to ScreenTwo**

**About App → Navigates to AboutScreen**

**Each screen should:**

**Be a separate StatelessWidget or StatefulWidget.**

**Use Scaffold with an AppBar showing the screen name.**

**Display a Text widget in the center (e.g., "This is Screen One").**

**Requirements:**

**Use Navigator.push or Navigator.pushReplacement for screen transitions.**

**Add UserAccountsDrawerHeader at the top of the Drawer with dummy name and email.**

**Each drawer item should close the drawer before navigating to a new screen.**

**Ans:**

**Main.dart:**

| import 'package:flutter/material.dart';  void main() {  runApp(MyDrawerApp());  }  class MyDrawerApp extends StatelessWidget {  @override  Widget build(BuildContext context) {  return MaterialApp(  title: 'Drawer Navigation Demo',  debugShowCheckedModeBanner: false,  home: HomeScreen(),  );  }  }  // Shared Drawer Widget  Drawer buildAppDrawer(BuildContext context) {  return Drawer(  child: ListView(  padding: EdgeInsets.zero,  children: <Widget>[  UserAccountsDrawerHeader(  accountName: Text('John Doe'),  accountEmail: Text('johndoe@example.com'),  currentAccountPicture: CircleAvatar(  backgroundColor: Colors.white,  child: Icon(Icons.person, size: 40),  ),  ),  ListTile(  leading: Icon(Icons.home),  title: Text('Home'),  onTap: () {  Navigator.pop(context); // Close drawer  Navigator.pushReplacement(  context,  MaterialPageRoute(builder: (context) => HomeScreen()),  );  },  ),  ListTile(  leading: Icon(Icons.looks\_one),  title: Text('Screen One'),  onTap: () {  Navigator.pop(context);  Navigator.pushReplacement(  context,  MaterialPageRoute(builder: (context) => ScreenOne()),  );  },  ),  ListTile(  leading: Icon(Icons.looks\_two),  title: Text('Screen Two'),  onTap: () {  Navigator.pop(context);  Navigator.pushReplacement(  context,  MaterialPageRoute(builder: (context) => ScreenTwo()),  );  },  ),  ListTile(  leading: Icon(Icons.info),  title: Text('About App'),  onTap: () {  Navigator.pop(context);  Navigator.pushReplacement(  context,  MaterialPageRoute(builder: (context) => AboutScreen()),  );  },  ),  ],  ),  );  }  // Screen Templates  class HomeScreen extends StatelessWidget {  @override  Widget build(BuildContext context) {  return Scaffold(  appBar: AppBar(title: Text('Home')),  drawer: buildAppDrawer(context),  body: Center(  child:  Text('Welcome to Home Screen', style: TextStyle(fontSize: 20))),  );  }  }  class ScreenOne extends StatelessWidget {  @override  Widget build(BuildContext context) {  return Scaffold(  appBar: AppBar(title: Text('Screen One')),  drawer: buildAppDrawer(context),  body: Center(  child: Text('This is Screen One', style: TextStyle(fontSize: 20))),  );  }  }  class ScreenTwo extends StatelessWidget {  @override  Widget build(BuildContext context) {  return Scaffold(  appBar: AppBar(title: Text('Screen Two')),  drawer: buildAppDrawer(context),  body: Center(  child: Text('This is Screen Two', style: TextStyle(fontSize: 20))),  );  }  }  class AboutScreen extends StatelessWidget {  @override  Widget build(BuildContext context) {  return Scaffold(  appBar: AppBar(title: Text('About App')),  drawer: buildAppDrawer(context),  body: Center(  child:  Text('This is the About Screen', style: TextStyle(fontSize: 20))),  );  }  } |
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OUTPUT:

**Assessment 2: SignUp Screen or Registration Screen**

**Create a Signup or registration page with different Textfield. Form consists on Name, Email, phone number and password. On register button you will navigate to the homepage. Apply validation on all fields by using regex expression.**

Main.dart

| import 'package:flutter/material.dart';  void main() {  runApp(SignupApp());  }  class SignupApp extends StatelessWidget {  @override  Widget build(BuildContext context) {  return MaterialApp(  title: 'Signup Form',  debugShowCheckedModeBanner: false,  home: SignupPage(),  );  }  }  class SignupPage extends StatefulWidget {  @override  \_SignupPageState createState() => \_SignupPageState();  }  class \_SignupPageState extends State<SignupPage> {  final \_formKey = GlobalKey<FormState>();  final TextEditingController \_nameController = TextEditingController();  final TextEditingController \_emailController = TextEditingController();  final TextEditingController \_phoneController = TextEditingController();  final TextEditingController \_passwordController = TextEditingController();  // Regex patterns  final RegExp nameReg = RegExp(r'^[a-zA-Z\s]{3,}$');  final RegExp emailReg = RegExp(r'^[\w-\.]+@([\w-]+\.)+[\w-]{2,4}$');  final RegExp phoneReg = RegExp(r'^\d{10}$');  final RegExp passwordReg = RegExp(  r'^(?=.\*[A-Za-z])(?=.\*\d)[A-Za-z\d]{6,}$'); // min 6 chars, 1 letter, 1 number  void \_register() {  if (\_formKey.currentState!.validate()) {  Navigator.pushReplacement(  context,  MaterialPageRoute(  builder: (context) => HomePage(name: \_nameController.text)),  );  }  }  @override  Widget build(BuildContext context) {  return Scaffold(  appBar: AppBar(title: Text("Signup Page")),  body: Padding(  padding: EdgeInsets.all(16),  child: Form(  key: \_formKey,  child: ListView(  children: [  // Name  TextFormField(  controller: \_nameController,  decoration: InputDecoration(labelText: 'Name'),  validator: (value) {  if (!nameReg.hasMatch(value ?? '')) {  return 'Enter a valid name (min 3 letters)';  }  return null;  },  ),  // Email  TextFormField(  controller: \_emailController,  decoration: InputDecoration(labelText: 'Email'),  validator: (value) {  if (!emailReg.hasMatch(value ?? '')) {  return 'Enter a valid email';  }  return null;  },  ),  // Phone  TextFormField(  controller: \_phoneController,  decoration: InputDecoration(labelText: 'Phone Number'),  keyboardType: TextInputType.number,  validator: (value) {  if (!phoneReg.hasMatch(value ?? '')) {  return 'Enter 10-digit phone number';  }  return null;  },  ),  // Password  TextFormField(  controller: \_passwordController,  decoration: InputDecoration(labelText: 'Password'),  obscureText: true,  validator: (value) {  if (!passwordReg.hasMatch(value ?? '')) {  return 'Min 6 chars, at least 1 letter and 1 number';  }  return null;  },  ),  SizedBox(height: 20),  ElevatedButton(  onPressed: \_register,  child: Text('Register'),  ),  ],  ),  ),  ),  );  }  }  // Home Page  class HomePage extends StatelessWidget {  final String name;  HomePage({required this.name});  @override  Widget build(BuildContext context) {  return Scaffold(  appBar: AppBar(title: Text("Home Page")),  body: Center(  child: Text(  'Welcome, $name!',  style: TextStyle(fontSize: 24),  ),  ),  );  }  } |
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OUTPUT: