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Batch B

<div align="center">Experiment no 5</div>

Aim: To apply routing in Flutter Application

Theory: In Flutter, routing refers to the navigation system that allows users to move between different screens or pages within an app. Flutter uses a widget-based approach for navigation, where each screen is represented by a widget. The `Navigator` class manages the stack of routes and facilitates transitions between them.

Routes are typically defined using the `MaterialPageRoute` class, providing a seamless and platform-aware transition between screens. Developers can use the `Navigator` to push new routes onto the stack or pop existing routes off it. Named routes help in easily identifying and navigating to specific screens.

Flutter also supports route arguments, allowing developers to pass data between screens. Additionally, the `Navigator` provides a flexible set of transitions, such as slide, fade, or custom animations, enhancing the user experience during navigation.

Overall, Flutter's routing system provides a structured and intuitive way to handle navigation within mobile and web applications.

Code:
Login_screen.dart

```dart
import 'package:flutter/material.dart';
import 'package:my_project/screens/dashboard.dart';
import 'package:my_project/screens/sign_up.dart';
import 'package:my_project/services/auth_service.dart';
import 'package:my_project/utils/appvalidator.dart';

class LoginView extends StatefulWidget {
  LoginView({super.key});

  @override
  State<LoginView> createState() => _LoginViewState();
}

class _LoginViewState extends State<LoginView> {
```

```dart
final GlobalKey<FormState> _formkey = GlobalKey<FormState>();
final _emailController = TextEditingController();
final _passwordController = TextEditingController();
var isLoader = false;
var authServices = AuthServices();
Future<void> _submitform() async {
  if (_formkey.currentState!.validate()) {
    setState(() {
      isLoader = true;
    });

    var data = {
      "email": _emailController.text,
      "password": _passwordController.text,
    };

    await authServices.login(data, context);
    Navigator.of(context).pushReplacement(
        MaterialPageRoute(builder: (context) => Dashboard()));
    setState(() {
      isLoader = false;
    });
  }
}

var appValidator = AppValidator();

@override
Widget build(BuildContext context) {
  return Scaffold(
    backgroundColor: Color(0xFF000000),
    body: Padding(
      padding: const EdgeInsets.all(16.0),
      child: Form(
        key: _formkey,
        child: Column(
          children: [
            SizedBox(
              height: 180,
            ),
            SizedBox(
```

```dart
      width: 250,
     child: Text(
       "Login Account",
       textAlign: TextAlign.center,
       style: TextStyle(
          color: Colors.white,
          fontSize: 28,
          fontWeight: FontWeight.bold),
     ),
),

TextFormField(
     controller: _emailController,
     keyboardType: TextInputType.emailAddress,
     style: TextStyle(color: Colors.white),
     autovalidateMode: AutovalidateMode.onUserInteraction,
     decoration: _buildInputDecoration("Email", Icons.email),
     validator: appValidator.validateEmail),
SizedBox(
  height: 25,
),

TextFormField(
     controller: _passwordController,
     keyboardType: TextInputType.text,
     autovalidateMode: AutovalidateMode.onUserInteraction,
     decoration: _buildInputDecoration("Password", Icons.lock),
     validator: appValidator.validatePassword),
SizedBox(
  height: 40.0,
),
SizedBox(
     height: 50,
     width: double.infinity,
     child: ElevatedButton(
        style: ElevatedButton.styleFrom(
           backgroundColor: Color(0xFFF75104)),
        onPressed: () {
          isLoader ? print("Loading") : _submitform();
        },
        // _submitform,
```

```
                    child: isLoader
                      ? Center(child: CircularProgressIndicator())
                      : Text(
                          "Login",
                          style: TextStyle(
                              color: Colors.white, fontSize: 20),
                        ))),
              SizedBox(
                height: 20.0,
              ),
              TextButton(
                onPressed: () {
                  Navigator.push(
                    context,
                    MaterialPageRoute(builder: (context) => SignUpView()),
                  );
                },
                child: Text(
                  "Create new Account",
                  style: TextStyle(color: Color(0xFFF75104), fontSize: 20),
                ))
              // Text(
              //   "Login",
              //    style: TextStyle(color:Color(0xFFF75104),fontSize: 25 ),
              // )
            ],
          )),
      ),
    );
}

InputDecoration _buildInputDecoration(String label, IconData suffixIcon) {
  return InputDecoration(
      fillColor: Color(0xAA494A59),
      enabledBorder: OutlineInputBorder(
          borderSide: BorderSide(color: Color(0x35949494))),
      focusedBorder:
          OutlineInputBorder(borderSide: BorderSide(color: Colors.white)),
      filled: true,
      labelStyle: TextStyle(color: Color(0xff949494)),
      labelText: label,
```

```dart
      suffixIcon: Icon(
        suffixIcon,
        color: Color(0xFF949494),
      ),
      border: OutlineInputBorder(borderRadius: BorderRadius.circular(10.0)));
  }
}


Signup.dart
import 'package:flutter/material.dart';
import 'package:my_project/screens/dashboard.dart';
import 'package:my_project/screens/login_screen.dart';
import 'package:my_project/services/auth_service.dart';
import 'package:my_project/utils/appvalidator.dart';

class SignUpView extends StatefulWidget {
  SignUpView({super.key});

  @override
  State<SignUpView> createState() => _SignUpViewState();
}

class _SignUpViewState extends State<SignUpView> {
  final GlobalKey<FormState> _formkey = GlobalKey<FormState>();

  final _userNameController = TextEditingController();

  final _emailController = TextEditingController();

  final _phoneController = TextEditingController();

  final _passwordController = TextEditingController();

  var authServices = AuthServices();
  var isLoader = false;

  Future<void> _submitform() async {
    if (_formkey.currentState!.validate()) {
      setState(() {
        isLoader = true;
      });
```

```dart
    var data = {
      "username": _userNameController.text,
      "email": _emailController.text,
      "password": _passwordController.text,
      "phone": _phoneController.text,
      'remainingAmount': 0,
      'totalCredit': 0,
      'totalDebit': 0
    };

    await authServices.createUser(data, context);
    // Navigator.pushReplacement(
    //   context,
    //   MaterialPageRoute(builder: (context) => Dashboard()),
    // );
    setState(() {
      isLoader = false;
    }); // ScaffoldMessenger.of(_formkey.currentContext!).showSnackBar(
    //   const SnackBar(content: Text('Form submitted successfully')),
    // );
  }
}

var appValidator = AppValidator();

@override
Widget build(BuildContext context) {
  return Scaffold(
    backgroundColor: Color(0xFF000000),
    body: Padding(
      padding: const EdgeInsets.all(16.0),
      child: Form(
        key: _formkey,
        child: Column(
          children: [
            SizedBox(
              height: 80.0,
            ),
            SizedBox(
              width: 250,
```

```dart
          child: Text(
            "Create new Account",
            textAlign: TextAlign.center,
            style: TextStyle(
                color: Colors.white,
                fontSize: 28,
                fontWeight: FontWeight.bold),
          ),
        ),
        SizedBox(
          height: 16.0,
        ),
        TextFormField(
            controller: _userNameController,
            style: TextStyle(color: Colors.white),
            autovalidateMode: AutovalidateMode.onUserInteraction,
            decoration: _buildInputDecoration("UserName", Icons.person),
            validator: appValidator.validateUsername),
        //   if (value!.isEmpty) {
        //     return 'Please enter a username';
        //   }
        //   return null;
        // }),
        SizedBox(
          height: 16.0,
        ),
        TextFormField(
            controller: _emailController,
            keyboardType: TextInputType.emailAddress,
            style: TextStyle(color: Colors.white),
            autovalidateMode: AutovalidateMode.onUserInteraction,
            decoration: _buildInputDecoration("Email", Icons.email),
            validator: appValidator.validateEmail),
        SizedBox(
          height: 16.0,
        ),
        TextFormField(
            controller: _phoneController,
            keyboardType: TextInputType.phone,
            style: TextStyle(color: Colors.white),
            autovalidateMode: AutovalidateMode.onUserInteraction,
```

```dart
            decoration:
                _buildInputDecoration("Phone Number", Icons.call),
            validator: appValidator.validatePhoneNumber),
SizedBox(
  height: 16.0,
),
TextFormField(
    controller: _passwordController,
    keyboardType: TextInputType.text,
    autovalidateMode: AutovalidateMode.onUserInteraction,
    decoration: _buildInputDecoration("Password", Icons.lock),
    validator: appValidator.validatePassword),
SizedBox(
  height: 40.0,
),
SizedBox(
    height: 50,
    width: double.infinity,
    child: ElevatedButton(
        style: ElevatedButton.styleFrom(
            backgroundColor: Color(0xFFF75104)),
        onPressed: () {
          isLoader ? print("Loading") : _submitform();
        },
        // _submitform,
        child: isLoader
            ? Center(child: CircularProgressIndicator())
            : Text(
                "Create",
                style: TextStyle(
                    color: Colors.white, fontSize: 20),
              ))),
SizedBox(
  height: 20.0,
),
TextButton(
    onPressed: () {
      Navigator.push(
        context,
        MaterialPageRoute(builder: (context) => LoginView()),
      );
```

```dart
              },
              child: Text(
                "Login",
                style: TextStyle(color: Color(0xFFF75104), fontSize: 20),
              ))
          // Text(
          //   "Login",
          //    style: TextStyle(color:Color(0xFFF75104),fontSize: 25 ),
          // )
        ],
      )),
    ),
  );
}

InputDecoration _buildInputDecoration(String label, IconData suffixIcon) {
  return InputDecoration(
      fillColor: Color(0xAA494A59),
      enabledBorder: OutlineInputBorder(
          borderSide: BorderSide(color: Color(0x35949494))),
      focusedBorder:
          OutlineInputBorder(borderSide: BorderSide(color: Colors.white)),
      filled: true,
      labelStyle: TextStyle(color: Color(0xff949494)),
      labelText: label,
      suffixIcon: Icon(
        suffixIcon,
        color: Color(0xFF949494),
      ),
      border: OutlineInputBorder(borderRadius: BorderRadius.circular(10.0)));
}
}

Homescreen.dart
import 'package:firebase_auth/firebase_auth.dart';
import 'package:flutter/foundation.dart';
import 'package:flutter/material.dart';
import 'package:flutter/widgets.dart';
import 'package:my_project/screens/login_screen.dart';
import 'package:my_project/widgets/add_transaction_form.dart';
import 'package:my_project/widgets/hero_card.dart';
```

```dart
import 'package:my_project/widgets/transactions_cards.dart';

// ignore_for_file:prefer_const_constructors
// ignore_for_file:prefer_const_literals_to_create_immutables
class HomeScreen extends StatefulWidget {
  const HomeScreen({super.key});

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

class _HomeScreenState extends State<HomeScreen> {
  var isLogoutLoading = false;
  logOut() async {
    setState(() {
      isLogoutLoading = true;
    });
    await FirebaseAuth.instance.signOut();
    Navigator.of(context)
        .pushReplacement(MaterialPageRoute(builder: (context) => LoginView()));

    setState(() {
      isLogoutLoading = false;
    });
  }

  _dialoBuilder(BuildContext context) {
    return showDialog(
        context: context,
        builder: (context) {
          return AlertDialog(
            content: AddTransactionForm(),
          );
        });
  }

  @override
  Widget build(BuildContext context) {
    return Scaffold(
      floatingActionButton: FloatingActionButton(
        backgroundColor: Colors.blue.shade900,
```
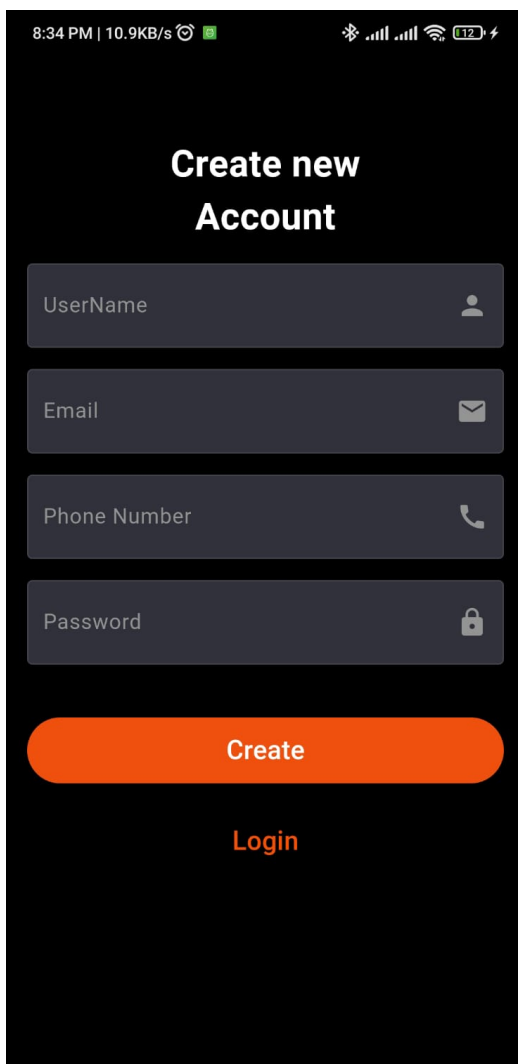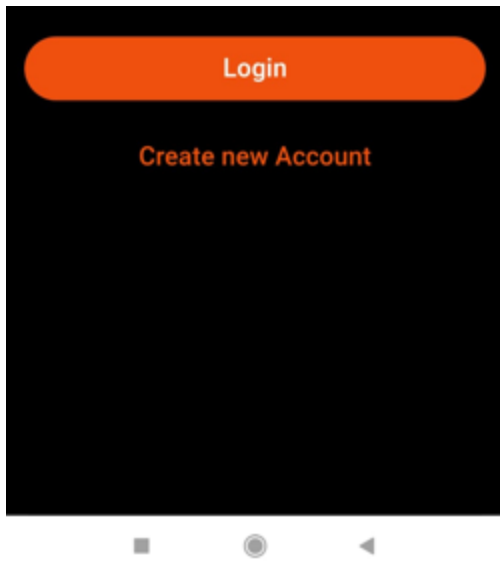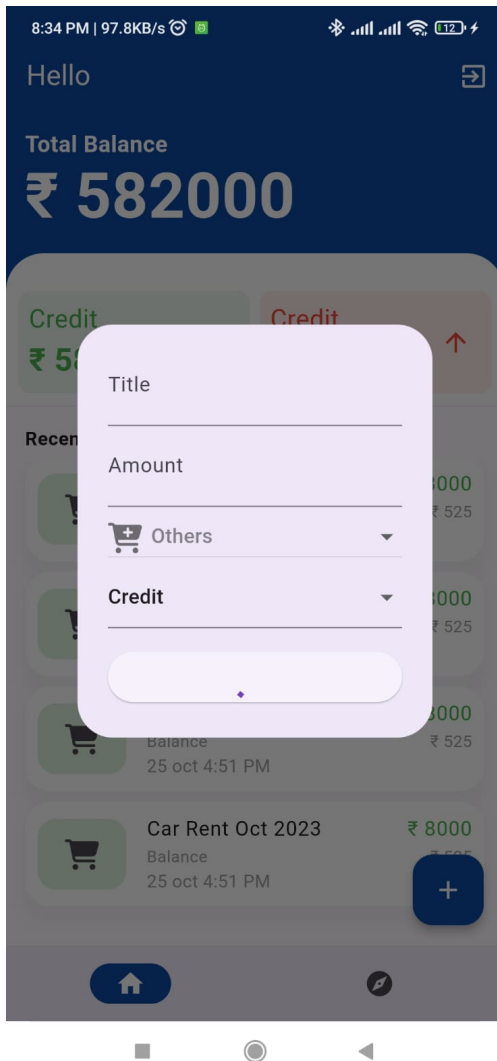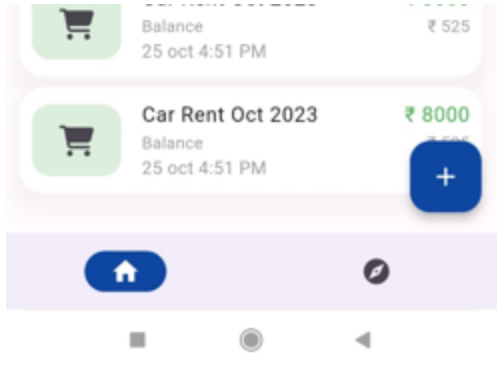
```
      onPressed: (() {
        _dialoBuilder(context);
      }),
      child: Icon(
        Icons.add,
        color: Colors.white,
      ),
    ),
    appBar: AppBar(
      backgroundColor: Colors.blue.shade900,
      title: Text(
        "Hello",
        style: TextStyle(color: Colors.white),
      ),
      actions: [
        IconButton(
          onPressed: () {
            logOut();
          },
          icon: isLogoutLoading
              ? CircularProgressIndicator()
              : Icon(
                  Icons.exit_to_app,
                  color: Colors.white,
                ))
      ],
    ),
    body: Column(
      children: [
        HeroCard(),
        TransactionsCard(),

      ],
    ),
  );
}
}
```

Login

Create new Account

8:34 PM | 10.9KB/s

Create new
Account

UserName

Email

Phone Number

Password

Create

Login

Conclusion:In this flutter routing is being understood and implemented successfully and also the routing in flutter is easy to understand and came to know about how the screen are being routed.