

Practical 1: Android Studio setup for Flutter development with along with Dart SDK.

Solution:

Step 1: Installing a Flutter.

i. System Requirements:

- Assure that your system meets the minimum requirements. Flutter supports macOS, Linux, and Windows.
- On macOS, you need Xcode with the command-line tools installed.
- On Linux, you need to have git, lib32stdc++6, and other dependencies installed.

ii. Download Flutter:

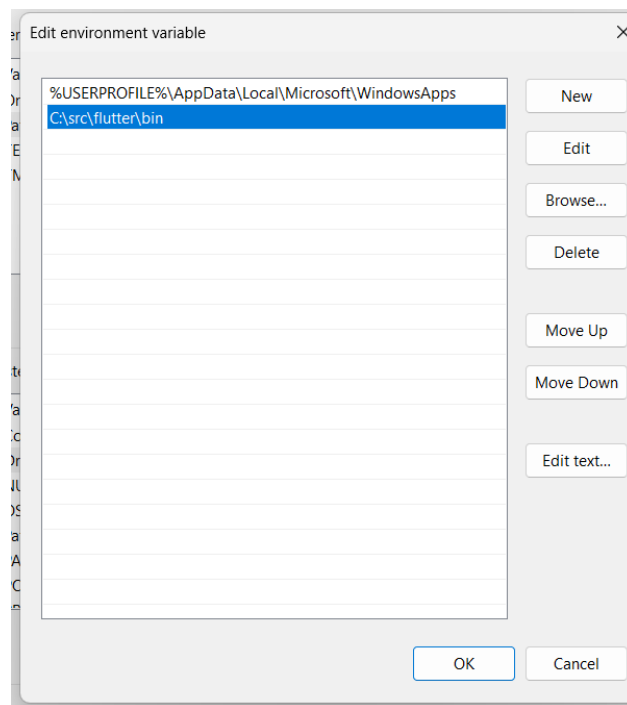
- Visit Flutter Website for Installation of Flutter -> <https://docs.flutter.dev/get-started/install>.

iii. Extract Flutter:

- If you downloaded the ZIP file, extract it to a location on your machine. (**C:\src\flutter**).

iv. Set Up Environment Variables:

- Add the **C:\src\flutter\bin** directory to your system's PATH variable.



v. Run flutter doctor:

- Open a terminal and run the following command: flutter doctor
- This command checks your environment and displays a report of any missing dependencies or issues.

vi. Install Flutter Dependencies:

- Follow the instructions provided by flutter doctor to install any missing dependencies. This may include things like Android Studio, Xcode command-line tools, etc.

Step 2: Installing Android Studio.

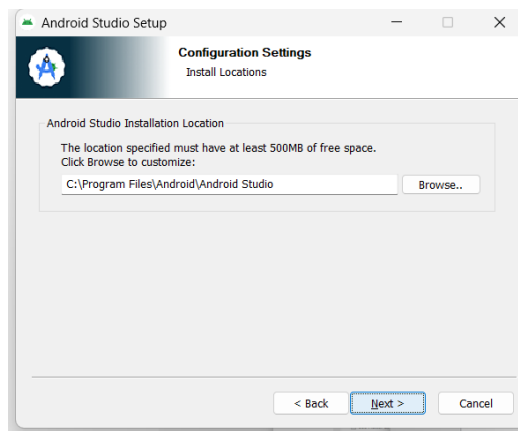
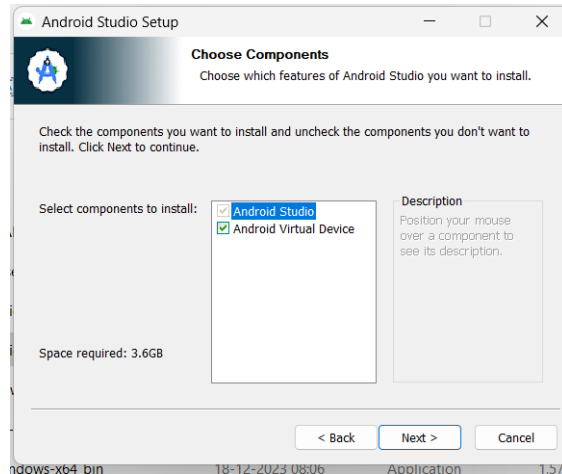
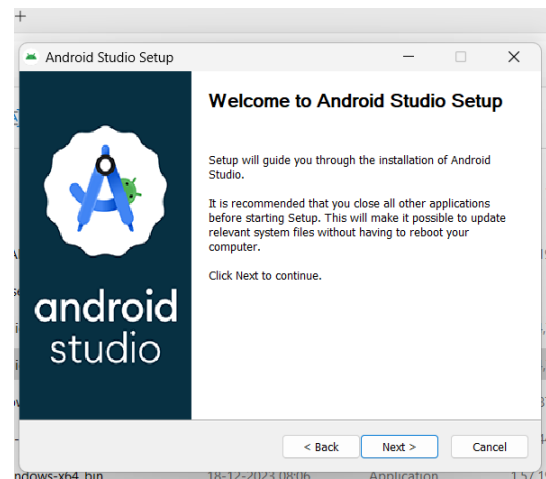
i. Download Android Studio:

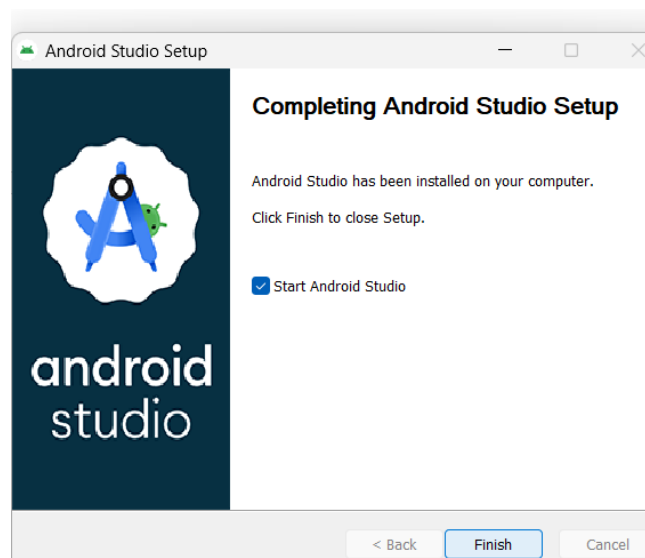
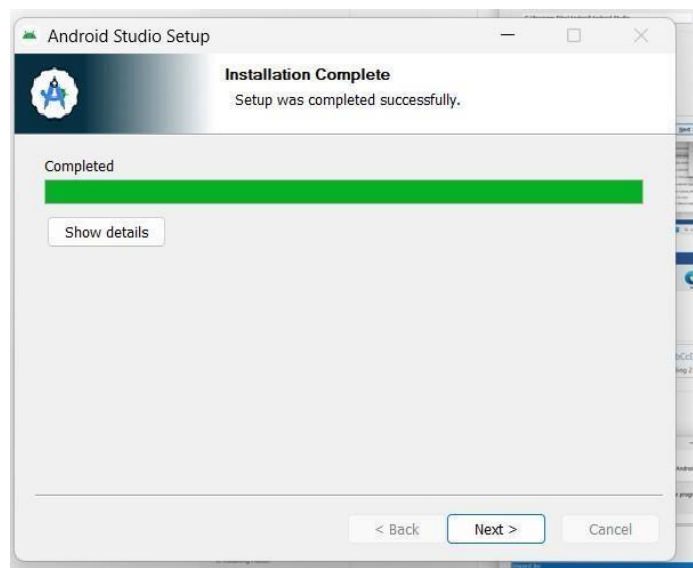
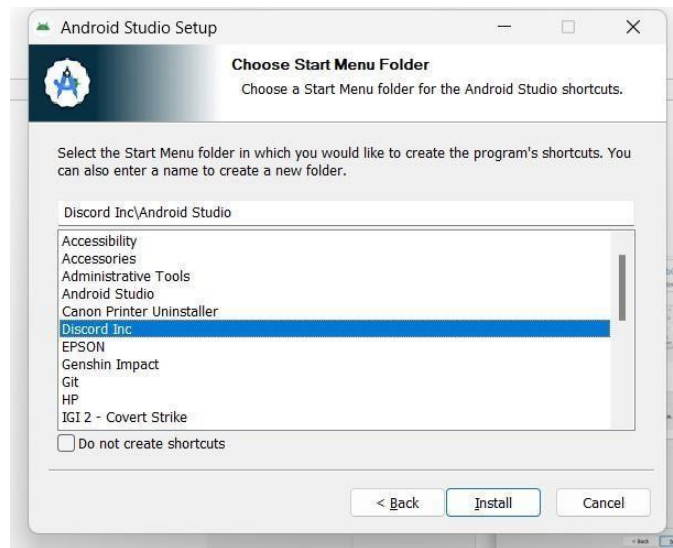
- Visit the Android Studio download page.
- Click on the "Download" button and download the Windows version.

ii. Run the Installer:

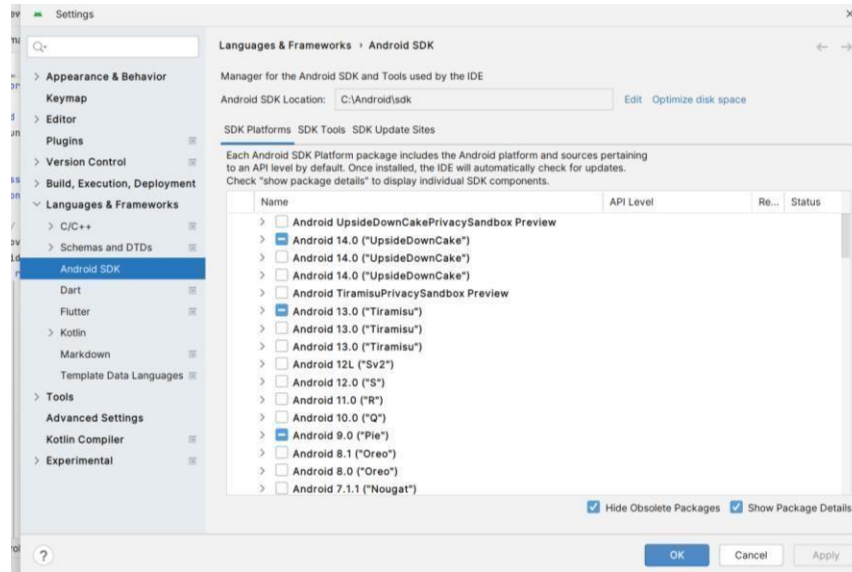
- Once the download is complete, run the installer executable (.exe) file.

iii. Follow Installation Wizard:

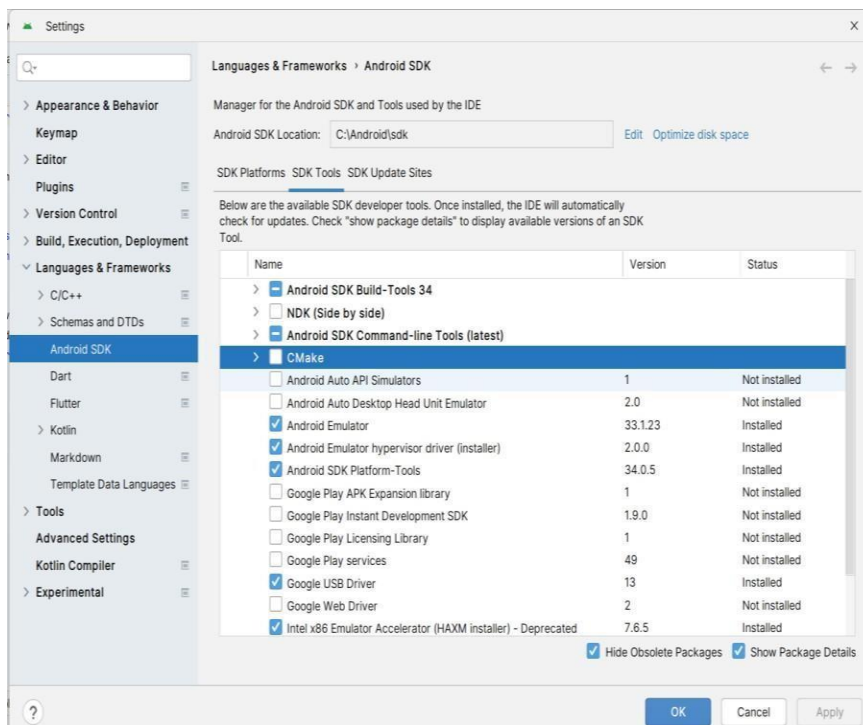




○ **Android SDK Platforms:**



○ **Android SDK Tools:**



Step 3: Run Following Command for checking Flutter dependencies on after installation of android.

iv. Accept Android Licenses

- Flutter doctor --android-licenses to develop for Android, you need to accept the Android licenses.
- Run the following command: **flutter doctor --android-licenses**

Practical 2: Create a “Hello Flutter” application. Main.dart:

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

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

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

  @override
  Widget build(BuildContext context) {
    return MaterialApp(
      title: 'Flutter Demo',
      theme: ThemeData(
        ),
      home: const MyHomePage(title: 'My Intro using Flutter App'),
    );
  }
}

class MyHomePage extends StatefulWidget {
  const MyHomePage({super.key, required this.title});

  final String title;

  @override
  State<MyHomePage> createState() => _MyHomePageState();
}

class _MyHomePageState extends State<MyHomePage> {

  @override
  Widget build(BuildContext context) {

    return Scaffold(
      appBar: AppBar(

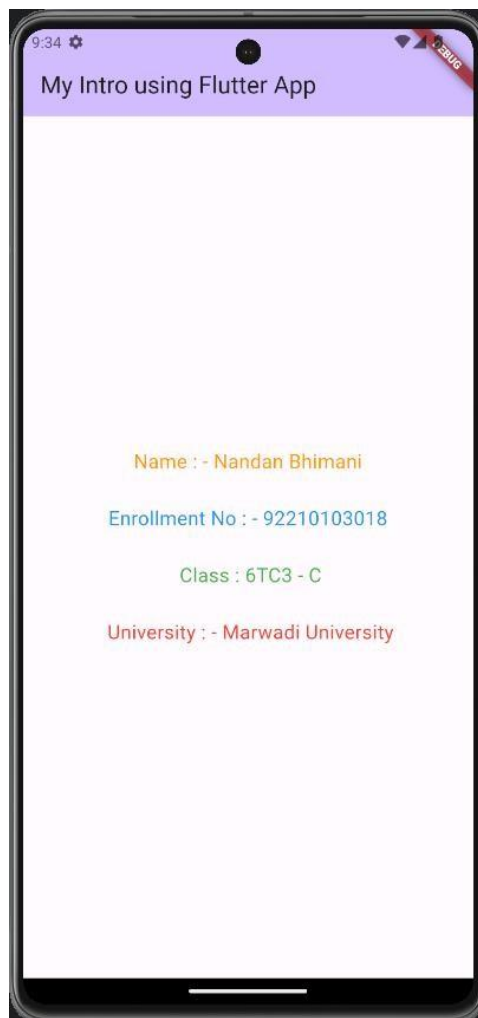
        backgroundColor: Theme.of(context).colorScheme.inversePrimary,
        title: Text(widget.title),
      ),
      body: Center(
        child: Column(
          mainAxisAlignment: MainAxisAlignment.center,
          children: <Widget>[
            //Image.asset("assets/images/deskt.png", height: 350, width: 350),
            const Text(
              'Name : - Nandan Bhimani',
              style: TextStyle(color: Colors.orange, fontSize: 18),
            ),
            const Text(
              '\nEnrollment No : - 92210103018',
              style: TextStyle(color: Colors.blue, fontSize: 18),
            ),
            const Text(
```

```

        '\n Class : 6TC3 - C',
        style: TextStyle(color: Colors.green, fontSize: 18),
    ),
    const Text(
        '\n University : - Marwadi University',
        style: TextStyle(color: Colors.red, fontSize: 18),
    ),
  ],
),
),
);
}
}

```

Output:



Practical 3: Create and application using Flutter Key Widgets:

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

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

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

  @override
  Widget build(BuildContext context) {
    return MaterialApp(
      title: 'Flutter Demo',
      theme: ThemeData(
        colorScheme: ColorScheme.fromSeed(seedColor: Colors.deepPurple),
        useMaterial3: true,
      ),
      home: const MyHomePage(title: 'Flutter Buttons'),
    );
  }
}

class MyHomePage extends StatefulWidget {
  const MyHomePage({super.key, required this.title});

  final String title;

  @override
  State<MyHomePage> createState() => _MyHomePageState();
}

class _MyHomePageState extends State<MyHomePage> {

  @override
  Widget build(BuildContext context) {
    return Scaffold(
      appBar: AppBar(
        backgroundColor: Theme.of(context).colorScheme.inversePrimary,
        title: Text(widget.title),
      ),
      body: Center(
        child: Column(children: <Widget>[
          Text('Types of Button in Flutter',style: TextStyle(fontSize: 25).),
          Container(
            margin: EdgeInsets.all(35),
            child: FloatingActionButton(
              child: Text(
                'Float BTN',
              ),onPressed: () {},
            ),
          ),
          Container(
            margin: EdgeInsets.all(25),
            child: OutlinedButton(
```

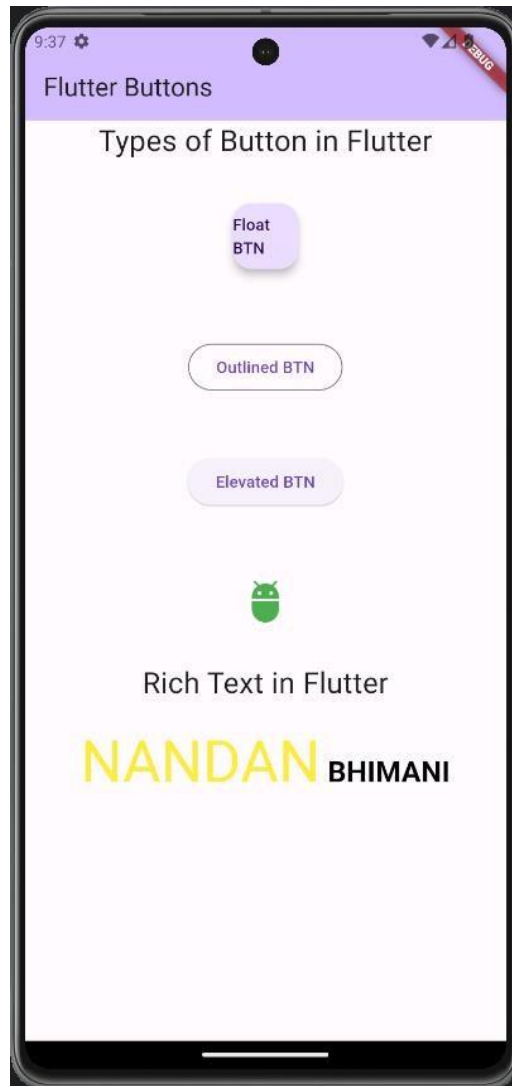


```

        child: Text(
          'Outlined BTN'
        ), onPressed: () {}),
      ),
    ),
    Container(
      margin: EdgeInsets.all(25),
      child: ElevatedButton(
        onPressed: () { },
        child: Text(
          'Elevated BTN'
        ),
      ),
    ),
    Container(
      margin: EdgeInsets.all(25),
      child: IconButton(onPressed: () {
        },
        icon: Icon(Icons.adb),
        iconSize: 40,
        color: Colors.green,
      ),
    ),
    Text('Rich Text in Flutter', style: TextStyle(fontSize: 25)),
    Container(
      padding: EdgeInsets.all(20),
      child: RichText(
        text: const TextSpan(
          text: "NANDAN",
          style: TextStyle(
            color: Colors.yellow,
            fontSize: 50,
          ),
        ),
        children: [
          TextSpan(
            text: ' BHIMANI',
            style: TextStyle(
              fontWeight: FontWeight.bold,
              color: Colors.black,
              fontSize: 25,
            ),
          ),
        ],
      ),
    ),
  ],
),
),
),
],
),
),
);
}
}:

```


Output:



Practical 4: Create and application using Flutter Key Widgets:

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

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

class MyApp extends StatelessWidget {
  const MyApp({super.key});
  @override
  Widget build(BuildContext context) {
    return MaterialApp(
      title: 'Flutter P3',
      theme: ThemeData(

        colorScheme: ColorScheme.fromSeed(seedColor: Colors.deepPurple),
        useMaterial3: true,
      ),
      home: const MyHomePage(title: 'Flutter Row and Column'),
    );
  }
}

class MyHomePage extends StatefulWidget {
  const MyHomePage({super.key, required this.title});

  final String title;

  @override
  State<MyHomePage> createState() => _MyHomePageState();
}

class _MyHomePageState extends State<MyHomePage> {
  @override
  Widget build(BuildContext context) {
    return Scaffold(
      appBar: AppBar(
        backgroundColor: Theme.of(context).colorScheme.inversePrimary,
        title: Text(widget.title),
      ),
      body: Column(
        children: <Widget>[
          Text('Row', style: TextStyle(fontSize: 25),),
          Center(
            child: Row(
              mainAxisAlignment: MainAxisAlignment.spaceEvenly,
              children: <Widget>[
                Container(
                  margin: EdgeInsets.all(12.0),
                  padding: EdgeInsets.all(8.0),
                  decoration: BoxDecoration(
                    borderRadius: BorderRadius.circular(8),
                    color: Colors.lightBlue
                  ),
                ),
                child: Text(
```



```

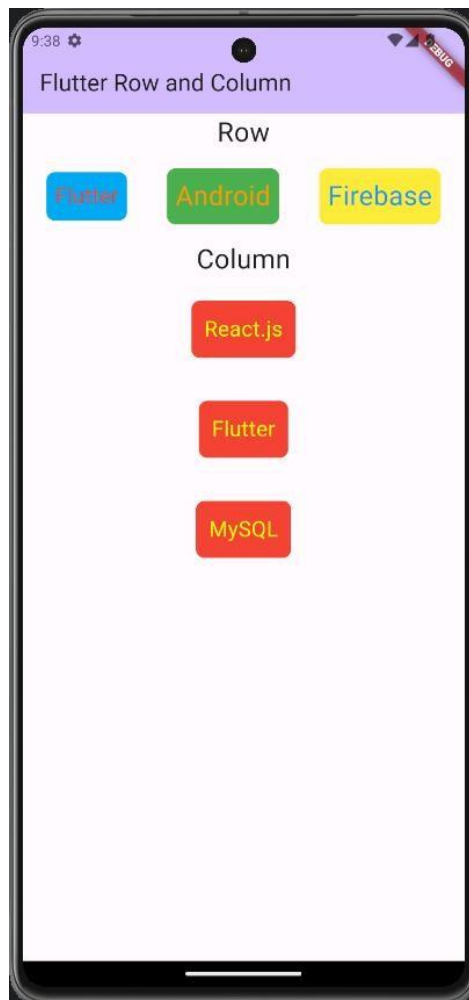
Flutter',
style: TextStyle(
  color: Colors.red,
  fontSize: 20
),
),
),
Container(
  margin: EdgeInsets.all(15.0),
  padding: EdgeInsets.all(8.0),
  decoration: BoxDecoration(
    borderRadius: BorderRadius.circular(8),
    color: Colors.green
  ),
  child: Text("Android", style: TextStyle(color: Colors.orange, fontSize: 25),),
),
Container(
  margin: EdgeInsets.all(12.0),
  padding: EdgeInsets.all(8.0),
  decoration: BoxDecoration(
    borderRadius: BorderRadius.circular(8),
    color: Colors.yellow
  ),
  child: Text("Firebase", style: TextStyle(color: Colors.blue, fontSize: 25),),
)
],
),
),
Column(
  children: <Widget>[
    Text('Column', style: TextStyle(fontSize: 25),),
    Container(
      margin: EdgeInsets.all(20.0),
      padding: EdgeInsets.all(12.0),
      decoration: BoxDecoration(
        borderRadius: BorderRadius.circular(8),
        color: Colors.red,
      ),
      child: Text(
        "React.js",
        style: TextStyle(color: Colors.yellowAccent, fontSize: 20),
      ),
    ),
    Container(
      margin: EdgeInsets.all(20.0),
      padding: EdgeInsets.all(12.0),
      decoration: BoxDecoration(
        borderRadius: BorderRadius.circular(8),
        color: Colors.red,
      ),
      child: Text(
        "Flutter",
        style: TextStyle(color: Colors.yellowAccent, fontSize: 20),
      ),
    ),
    Container(

```



```
margin: EdgeInsets.all(20.0),  
padding: EdgeInsets.all(12.0),  
decoration: BoxDecoration(  
  borderRadius: BorderRadius.circular(8),  
  color: Colors.red,  
),  
child: Text(  
  "MySQL",  
  style: TextStyle(color: Colors.yellowAccent, fontSize: 20),  
),  
),  
],  
),  
],  
),  
);  
}  
}
```

Output:



Practical 5: Create and application with Flutter UI Components.

main.dart:

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

void main() {
  runApp(MaterialApp(
    debugShowCheckedModeBanner: false,
    home: Scaffold(
      appBar: AppBar(
        title: const Text("Practical - 5"),
        backgroundColor: Colors.yellowAccent,
        foregroundColor: Colors.black87,
      ),

      body: const LoginPage(),
    ),
  );
}
```

login.dart:

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

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

  @override
  Widget build(BuildContext context) {
    return SingleChildScrollView(
      child: Column(
        children: [
          const SizedBox(height: 75,),
          Container(
            height: 200,
            width: 250,
            child: Image.asset("assets/images/login.png"),
          ),
          const SizedBox(height: 15,),
          const Text("Login to your account"),
          const SizedBox(height: 20),
          Container(
            margin: const EdgeInsets.symmetric(horizontal: 20),
            padding: const EdgeInsets.symmetric(horizontal: 10),
            decoration: BoxDecoration(
              border: Border.all(color: Colors.black, width: 1.5),
            ),
            child: const TextField(
              decoration: InputDecoration(
                hintText: "Username and Email",
              ),
            ),
          ),
          const SizedBox(height: 10),
          const Text("Forgot Password?"),
          const SizedBox(height: 10),
          const Text("Sign Up"),
        ],
      ),
    );
  }
}
```

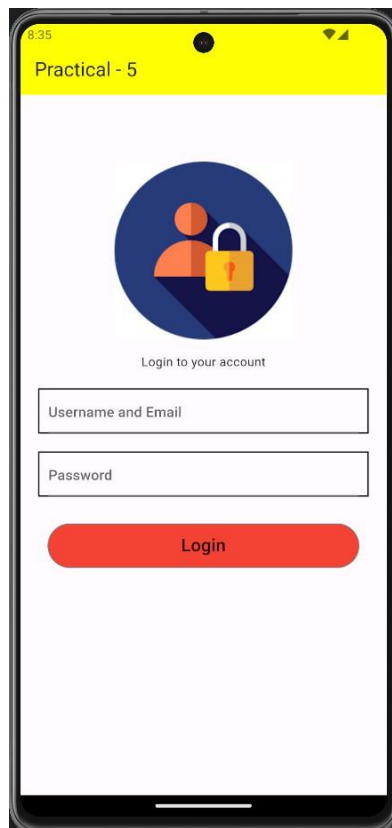


```

        misspelledSelectionColor: Colors.red),
    ),
  ),
  const SizedBox(height: 20,),
  Container(
    margin: const EdgeInsets.symmetric(horizontal: 20),
    padding: const EdgeInsets.symmetric(horizontal: 10),
    decoration: BoxDecoration(
      border: Border.all(color: Colors.black, width: 1.5),
    ),
    child: const TextField(
      obscureText: true,
      decoration: InputDecoration(
        hintText: "Password",
      ),
    ),
  ),
  const SizedBox(height: 30,),
  Container(
    height: 50,
    width: 350,
    child: OutlinedButton(
      onPressed: () {
        print('Button Passed');
      },
      style: ButtonStyle(
        foregroundColor: MaterialStateProperty.all(Colors.black87),
        backgroundColor: MaterialStateProperty.all(Colors.red),
      ),
      child: const Text("Login",
        style: TextStyle(fontSize: 20),),
    ),
  ),
),
],
),
);
}
}

```

Output:



Practical 6: Create and application with Flutter UI Components.

main.dart:

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

void main() {
  runApp(MaterialApp(
    debugShowCheckedModeBanner: false,
    home: Scaffold(
      appBar: AppBar(
        title: const Text("Practical - 6"),
        backgroundColor: Colors.red,
        foregroundColor: Colors.black87,
      ),

      body: const SignUpPage(),
    ),
  );
}
```

signup.dart:

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

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

  @override
  Widget build(BuildContext context) {
    return SingleChildScrollView(
      child: Column(
        children: [
          const SizedBox(height: 75,),
          Container(
            height: 150,
            width: 150,
            child: Image.asset("assets/images/signup.jpeg"),
          ),
          const SizedBox(height: 15,),
          const Text("Register New Account",),
          const SizedBox(height: 20),
          Container(
            margin: const EdgeInsets.symmetric(horizontal: 20),
            padding: const EdgeInsets.symmetric(horizontal: 10),
            decoration: BoxDecoration(
              border: Border.all(color: Colors.black, width: 1.5),),
            child: const TextField(
              decoration: InputDecoration(
                hintText: "Name",),
              spellCheckConfiguration: SpellCheckConfiguration(
                misspelledSelectionColor: Colors.red), ),),
          const SizedBox(height: 20),
        ],
      ),
    );
  }
}
```

```

Container(
  margin: const EdgeInsets.symmetric(horizontal: 20),
  padding: const EdgeInsets.symmetric(horizontal: 10),
  decoration: BoxDecoration(
    border: Border.all(color: Colors.black, width: 1.5),
  ),
  child: const TextField(
    decoration: InputDecoration(
      hintText: "Email Address",
    ),
    spellCheckConfiguration: SpellCheckConfiguration(
      misspelledSelectionColor: Colors.red,
    ),
  ),
),
const SizedBox(height: 20,),
Container(
  margin: const EdgeInsets.symmetric(horizontal: 20),
  padding: const EdgeInsets.symmetric(horizontal: 10),
  decoration: BoxDecoration(
    border: Border.all(color: Colors.black, width: 1.5),
  ),
  child: TextField(
    keyboardType: TextInputType.number,
    inputFormatters: [
      FilteringTextInputFormatter.digitsOnly,
    ],
    decoration: InputDecoration(
      hintText: "Mobile Number",
    ),
    spellCheckConfiguration: SpellCheckConfiguration(
      misspelledSelectionColor: Colors.red,
    ),
  ),
),
const SizedBox(height: 20,),
Container(
  margin: const EdgeInsets.symmetric(horizontal: 20),
  padding: const EdgeInsets.symmetric(horizontal: 10),
  decoration: BoxDecoration(
    border: Border.all(color: Colors.black, width: 1.5),
  ),
  child: const TextField(
    obscureText: true,
    decoration: InputDecoration(
      hintText: "Password",
    ),
    spellCheckConfiguration: SpellCheckConfiguration(
      misspelledSelectionColor: Colors.red,
    ),
  ),
),
const SizedBox(height: 20,),
Container(
  margin: const EdgeInsets.symmetric(horizontal: 20),
  padding: const EdgeInsets.symmetric(horizontal: 10),
  decoration: BoxDecoration(
    border: Border.all(color: Colors.black, width: 1.5),
  ),

```

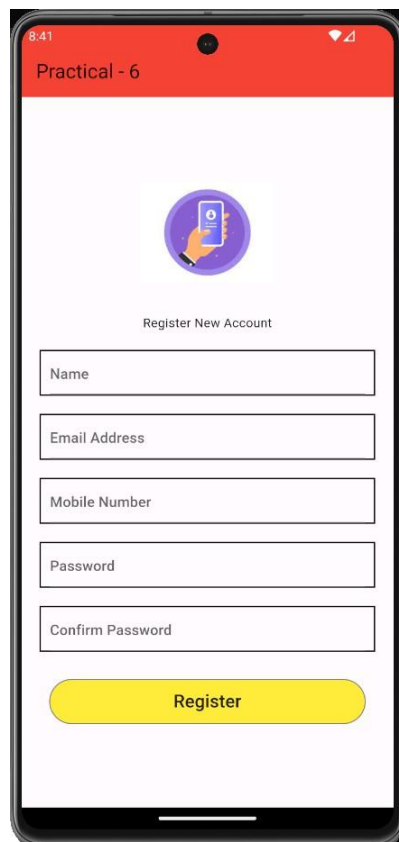


```

child: const TextField(
  obscureText: true,
  decoration: InputDecoration(
    hintText: "Confirm Password",
  ),
  spellCheckConfiguration: SpellCheckConfiguration(
    misspelledSelectionColor: Colors.red),
),
),
const SizedBox(height: 30,),
Container(
  height: 50,
  width: 350,
  child: OutlinedButton(
    onPressed: () {
      print('Button Passed');
    },
    style: ButtonStyle(
      foregroundColor: MaterialStateProperty.all(Colors.black87),
      backgroundColor: MaterialStateProperty.all(Colors.yellow), ),
    child: const Text("Register",
      style: TextStyle(fontSize: 20),),),
  ),
),
),
);
}
}

```

Output:



Practical 7: Create and application with Navigation in Flutter.

main.dart:

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

void main() {
  runApp(MaterialApp(
    debugShowCheckedModeBanner: false,
    home: Scaffold(
      appBar: AppBar(
        title: const Text("Practical - 7"),
        foregroundColor: Colors.black87,
      ),

      body: LoginPage(),
    ),
  );
}
```

login.dart:

```
import 'package:flutter/material.dart';
import 'package:practical7/custom_gesture.dart';
import 'package:practical7/forgetpass.dart';
import 'package:practical7/signup.dart';

class LoginPage extends StatelessWidget {

  LoginPage({super.key});

  final TextEditingController usernameController = TextEditingController();
  final TextEditingController passwordController = TextEditingController();

  @override
  Widget build(BuildContext context) {
    return MaterialApp(
      debugShowCheckedModeBanner: false,
      home: Scaffold(
        body: Container(
          margin: const EdgeInsets.all(24),
          child: Column(
            mainAxisAlignment: MainAxisAlignment.spaceEvenly,
            children: [
              _header(context),
              _inputField(context),
              _forgotPassword(context),
              _signup(context),
            ],
          ),
        ),
      ),
    );
  }
}
```



```
_header(context) {  
  return const Column(  
    children: [  
      Text(  
        "Welcome Back",  
        style: TextStyle(fontSize: 40, fontWeight: FontWeight.bold),  
      ),  
      Text("Enter your credential to login"),  
    ],  
  );  
}
```

```
_inputField(context) {  
  return Column(  
    crossAxisAlignment: CrossAxisAlignment.stretch,  
    children: [  
      TextFormField(  
        controller: usernameController,  
        decoration: InputDecoration(  
          hintText: "Username",  
          border: OutlineInputBorder(  
            borderRadius: BorderRadius.circular(18),  
            borderSide: BorderSide.none  
          ),  
        ),  
        fillColor: Colors.purple.withOpacity(0.1),  
        filled: true,  
        prefixIcon: const Icon(Icons.person)),  
        validator: (value) {  
          if (value!.isEmpty) {  
            return 'Please enter your username';  
          }  
          return null;  
        },  
      ),  
      const SizedBox(height: 10),  
      TextFormField(  
        controller: passwordController,  
        decoration: InputDecoration(  
          hintText: "Password",  
          border: OutlineInputBorder(  
            borderRadius: BorderRadius.circular(18),  
            borderSide: BorderSide.none),  
          fillColor: Colors.purple.withOpacity(0.1),  
          filled: true,  
          prefixIcon: const Icon(Icons.password),  
        ),  
        obscureText: true,  
        validator: (value) {  
          if (value!.isEmpty) {  
            return 'Please enter your password';  
          }  
          return null;  
        },  
      ),  
      const SizedBox(height: 10),  
      ElevatedButton(  

```



```
onPressed: () {
  if (usernameController.text == 'admin' &&
      passwordController.text == 'admin123!@#') {
    Navigator.push(context, MaterialPageRoute(builder: (context)=> const custom_geasture()));
    print('Login Successful');
  } else {
    print('Invalid Credentials');
  }
},
style: ElevatedButton.styleFrom(
  shape: const StadiumBorder(),
  padding: const EdgeInsets.symmetric(vertical: 16),
  backgroundColor: Colors.purple,
),
child: const Text(
  "Login",
  style: TextStyle(fontSize: 20, color: Colors.white),
),
),
],
);
}

_forgotPassword(context) {
  return TextButton(
    onPressed: () {
      Navigator.pushReplacement(context, MaterialPageRoute(builder: (context)=> const ForPassPage()));
    },
    child: const Text("Forgot password?",
      style: TextStyle(color: Colors.purple),
    ),
  );
}

_signup(context) {
  return Row(
    mainAxisAlignment: MainAxisAlignment.center,
    children: [
      const Text("Don't have an account? "),
      TextButton(
        onPressed: () {
          Navigator.push(context, MaterialPageRoute(builder: (context)=> SignupPage()));
        },
        child: const Text("Sign Up", style: TextStyle(color: Colors.purple),)
      )
    ],
  );
}
```

signup.dart:

```
import 'package:flutter/material.dart';
import 'package:flutter/services.dart';
import 'package:practical7/login.dart';

import 'custom_geasture.dart';

class SignupPage extends StatelessWidget {
  SignupPage({super.key});

  final TextEditingController emailController = TextEditingController();
  final TextEditingController usernameController = TextEditingController();
  final TextEditingController passwordController = TextEditingController();
  final TextEditingController conpasswordController = TextEditingController();
  final TextEditingController mobileController = TextEditingController();

  @override
  Widget build(BuildContext context) {

    return MaterialApp(
      debugShowCheckedModeBanner: false,
      home: Scaffold(
        body: SingleChildScrollView(
          child: Container(
            padding: const EdgeInsets.symmetric(horizontal: 40),
            height: MediaQuery.of(context).size.height - 50,
            width: double.infinity,
            child: Column(
              mainAxisAlignment: MainAxisAlignment.spaceEvenly,
              crossAxisAlignment: CrossAxisAlignment.stretch,
              children: <Widget>[
                Column(
                  children: <Widget>[
                    const SizedBox(height: 60.0),
                    const Text(
                      "Sign up",
                      style: TextStyle(
                        fontSize: 30,
                        fontWeight: FontWeight.bold,
                      ),
                    ),
                    const SizedBox(height: 20,),
                    Text(
                      "Create your account",
                      style: TextStyle(fontSize: 15, color: Colors.grey[700]),
                    ),
                  ],
                ),
                Column(
                  children: <Widget>[
                    TextFormField(
```



```
decoration: InputDecoration(
  hintText: "Username",
  border: OutlineInputBorder(
    borderRadius: BorderRadius.circular(18),
    borderSide: BorderSide.none),
  fillColor: Colors.purple.withOpacity(0.1),
  filled: true,
  prefixIcon: const Icon(Icons.person)),
validator: (value) {
  if (value!.isEmpty) {
    return 'Please enter your username';
  }
  return null;
},
),
const SizedBox(height: 20),
TextFormField(
  controller: emailController,
  decoration: InputDecoration(
    hintText: "Email",
    border: OutlineInputBorder(
      borderRadius: BorderRadius.circular(18),
      borderSide: BorderSide.none),
    fillColor: Colors.purple.withOpacity(0.1),
    filled: true,
    prefixIcon: const Icon(Icons.email)),
  validator: (value) {
    if (value!.isEmpty) {
      return 'Please enter your email address';
    }
    return null;
  },
),
const SizedBox(height: 20),
TextFormField(
  controller: mobileController,
  decoration: InputDecoration(
    hintText: "Mobile",
    border: OutlineInputBorder(
      borderRadius: BorderRadius.circular(18),
      borderSide: BorderSide.none),
    fillColor: Colors.purple.withOpacity(0.1),
    filled: true,
    prefixIcon: const Icon(Icons.person)),
  keyboardType: TextInputType.number,
  inputFormatters: <TextInputFormatter>[
    FilteringTextInputFormatter.digitsOnly
  ],
  validator: (value) {
    if (value!.isEmpty) {
      return 'Please enter your Mobile Number';
    }
  },
),
```



```
    }  
    return null;  
  },  
,  
const SizedBox(height: 20),  
TextFormField(  
  controller: passwordController,  
  decoration: InputDecoration(  
    hintText: "Password",  
    border: OutlineInputBorder(  
      borderRadius: BorderRadius.circular(18),  
      borderSide: BorderSide.none),  
    fillColor: Colors.purple.withOpacity(0.1),  
    filled: true,  
    prefixIcon: const Icon(Icons.password),  
  ),  
  obscureText: true,  
  validator: (value) {  
    if (value!.isEmpty) {  
      return 'Please enter your password';  
    }  
    return null;  
  },  
,  
const SizedBox(height: 20),  
TextFormField(  
  controller: confirmPasswordController,  
  decoration: InputDecoration(  
    hintText: "Confirm Password",  
    border: OutlineInputBorder(  
      borderRadius: BorderRadius.circular(18),  
      borderSide: BorderSide.none),  
    fillColor: Colors.purple.withOpacity(0.1),  
    filled: true,  
    prefixIcon: const Icon(Icons.password),  
  ),  
  obscureText: true,  
  validator: (value) {  
    if (value != passwordController.text)  
      return "Password Doesn't Match";  
    if (value!.isEmpty) {  
      return 'Please enter your password';  
    }  
    return null;  
  },  
,  
],  
,  
Container(  
  padding: const EdgeInsets.only(top: 3, left: 3),  
  child: ElevatedButton(  

```



```

        onPressed: () {
          if (emailController.text == 'admin@gmail.com' &&
              passwordController.text == 'admin123!@#') {
            Navigator.pushReplacement(context, MaterialPageRoute(builder: (context) => const
custom_geasture()));
            print('Login Successful');
          } else {
            print('Invalid Credentials');
          }
        },
        child: const Text(
          "Sign up",
          style: TextStyle(fontSize: 20, color: Colors.white),
        ),
        style: ElevatedButton.styleFrom(
          shape: const StadiumBorder(),
          padding: const EdgeInsets.symmetric(vertical: 16),
          backgroundColor: Colors.purple,
        ),
      ),
    ),
    Row(
      mainAxisAlignment: MainAxisAlignment.center,
      children: <Widget>[
        const Text("Already have an account?"),
        TextButton(
          onPressed: () {
            Navigator.push(context, MaterialPageRoute(builder: (context) => LoginPage()));
          },
          child: const Text("Login", style: TextStyle(color: Colors.purple),)
        ),
      ],
    ),
  ],
),
),
),
),
),
),
);
}
}

```

forpass.dart:

```

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

```

```

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

```

```

  @override
  Widget build(BuildContext context) {

```




```
return MaterialApp(
  debugShowCheckedModeBanner: false,
  home: Scaffold(
    body: Container(
      margin: const EdgeInsets.all(24),
      child: Column(
        mainAxisAlignment: MainAxisAlignment.spaceEvenly,
        children: [
          _header(context),
          _inputField(context),
        ],
      ),
    ),
  );
}

_header(context) {
  return const Column(
    children: [
      Text(
        "Reset Your Password",
        style: TextStyle(fontSize: 40, fontWeight: FontWeight.bold),
      ),
    ],
  );
}

_inputField(context) {
  return Column(
    crossAxisAlignment: CrossAxisAlignment.stretch,
    children: [
      TextField(
        decoration: InputDecoration(
          hintText: "Email Address",
          border: OutlineInputBorder(
            borderRadius: BorderRadius.circular(18),
            borderSide: BorderSide.none
          ),
        ),
        fillColor: Colors.purple.withOpacity(0.1),
        filled: true,
        prefixIcon: const Icon(Icons.person)),
      ),
      const SizedBox(height: 10),
      ElevatedButton(
        onPressed: () {
          Navigator.push(context, MaterialPageRoute(builder: (context) => LoginPage()));
        },
        style: ElevatedButton.styleFrom(
          shape: const StadiumBorder(),
          padding: const EdgeInsets.symmetric(vertical: 16),
        ),
      ),
    ],
  );
}
```

```

        backgroundColor: Colors.purple,
      ),
      child: const Text(
        "Reset Password",
        style: TextStyle(fontSize: 20, color: Colors.white),
      ),
    ),
  ],
);
}
}

```

custom_geasture.dart:

```

import 'package:flutter/material.dart';

class custom_geasture extends StatefulWidget {
  const custom_geasture({super.key});

  @override
  State<custom_geasture> createState() => _custom_geastureState();
}

class _custom_geastureState extends State<custom_geasture> {

  Color color1=Colors.orange;
  String displayText = 'Orange';
  IconData icn = Icons.temple_hindu_outlined;

  @override
  Widget build(BuildContext context) {

    return Scaffold(
      appBar: AppBar(
        centerTitle: true,
        title: Text("Custom Geasture"),
      ),
      body: GestureDetector(
        onTap: () {
          setState() {
            if(color1==Colors.orange) {
              color1 = Colors.blue;
              displayText = 'Blue';
              icn = Icons.radar;
            }else if(color1==Colors.blue){
              color1=Colors.green;
              displayText = 'Green';
              icn = Icons.add_business;}
            else{
              color1=Colors.orange;
              displayText = 'Orange';
              icn = Icons.temple_hindu_rounded;
            }
          }
        }
      )
    );
  }
}

```

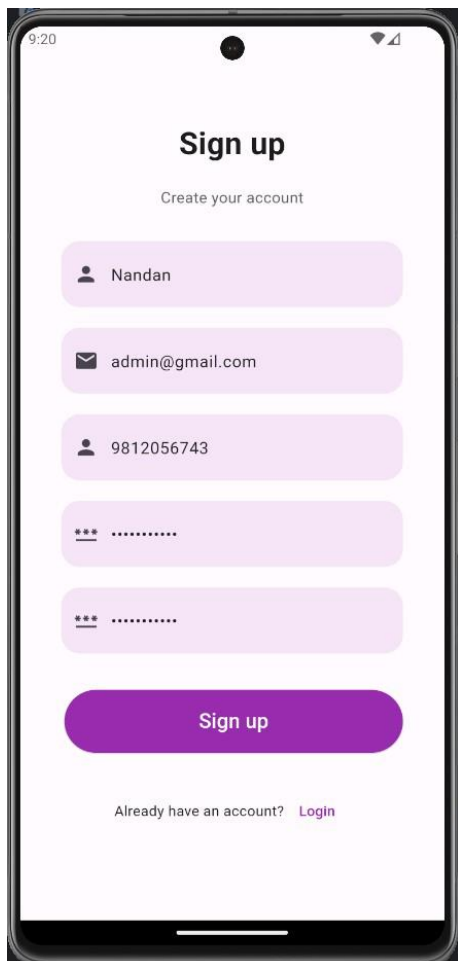


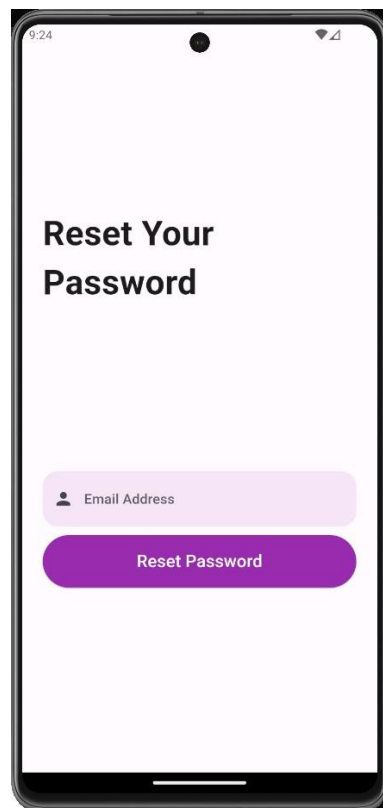
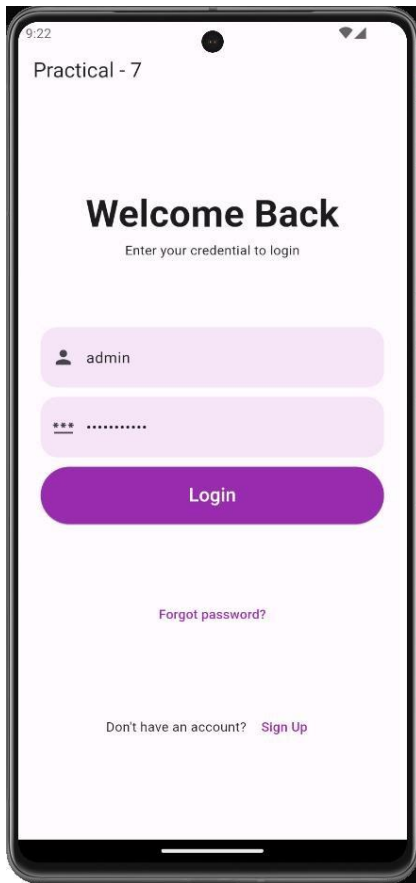
```

    });
  },
  child: Center(
    child: Container(
      height: 1000,
      width: 1000,
      color: color1,
      child: Center(
        child: Column(
          mainAxisAlignment: MainAxisAlignment.center,
          children: [
            Icon(
              icon,
              size: 50,
              color: Colors.white,),
            Text(displayText,
              style: TextStyle(
                fontSize: 50,
                color: Colors.white,
              )),
            Container(
              height: 50,
              width: 300,
              color: Colors.white,
              child: Text(
                displayText,
                style: TextStyle(
                  color: Colors.black,
                ),
              ),
            ),
          ],
        ),
      ),
    ),
  ),
);
}
}

```

Output:







Practical 8: Create and application with list view in Flutter.

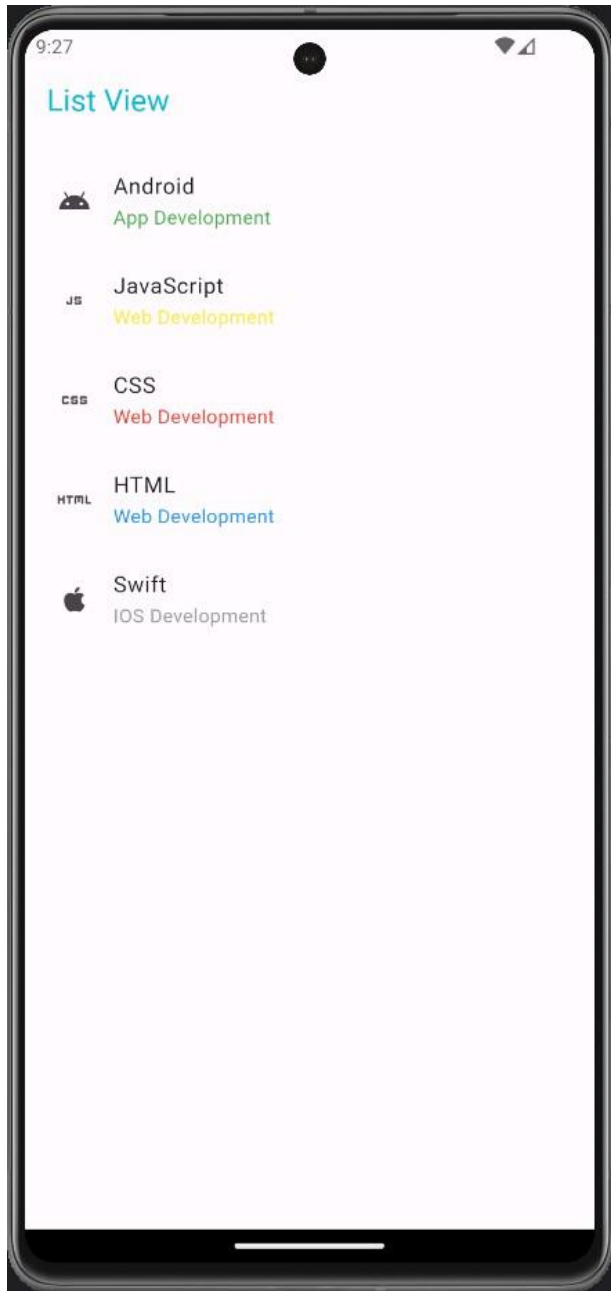
```
import 'package:flutter/material.dart';

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

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

  // This widget is the root of your application.
  @override
  Widget build(BuildContext context) {
    return MaterialApp(
      debugShowCheckedModeBanner: false,
      home: Scaffold(
        appBar: AppBar(
          title: Text('List View', style: TextStyle(color: Colors.cyan)),
        ),
        body: Center(
          child: Container(
            child: ListView(
              padding: const EdgeInsets.all(8),
              children: <Widget>[
                ListTile(
                  leading: Icon(Icons.android),
                  title: Text('Android'),
                  subtitle: Text("App Development", style: TextStyle(color: Colors.green)),
                ),
                ListTile(
                  leading: Icon(Icons.javascript),
                  title: Text('JavaScript'),
                  subtitle: Text("Web Development", style: TextStyle(color: Colors.yellow)),
                ),
                ListTile(
                  leading: Icon(Icons.css),
                  title: Text('CSS'),
                  subtitle: Text("Web Development", style: TextStyle(color: Colors.red)),
                ),
                ListTile(
                  leading: Icon(Icons.html),
                  title: Text('HTML'),
                  subtitle: Text("Web Development", style: TextStyle(color: Colors.blue)),
                ),
                ListTile(
                  leading: Icon(Icons.apple),
                  title: Text('Swift'),
                  subtitle: Text("IOS Development", style: TextStyle(color: Colors.grey)),
                ),
              ],
            ),
          ),
        ),
      ),
    );
  }
}
```

Output:





Practical 9: Create and application with grid view in Flutter.

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

void main() {
  runApp(MyApp());
}
class MyApp extends StatelessWidget {
  @override
  Widget build(BuildContext context) {
    return MaterialApp(
      home: Scaffold(
        appBar: AppBar(
          title: Text("Grid View"),
        ),
        body: Container(
          padding: EdgeInsets.all(12.0),
          child: GridView.count(
            crossAxisCount: 2,
            crossAxisSpacing: 10.0,
            mainAxisSpacing: 10.0,
            shrinkWrap: true,
            children: List.generate(10, (index) {
              return Padding(
                padding: const EdgeInsets.all(10.0),
                child: Container(
                  alignment: Alignment.center,
                  decoration: BoxDecoration(
                    color: Colors.lightGreenAccent,
                    borderRadius: BorderRadius.circular(12.0),
                  ),
                  child: Text('Item $index',
                    style: TextStyle(fontSize: 20, color: Colors.black87),),),
            ),
          ),
        ),
      ),
    );
  }
}
```

Output:

