**7 a) Design a form with various input fields.**

import 'package:flutter/material.dart';

void main() {

runApp(MyApp());

}

class MyApp extends StatelessWidget {

@override

Widget build(BuildContext context) {

return MaterialApp(

title: 'Form Example',

theme: ThemeData(

primarySwatch: Colors.blue,

),

home: MyForm(),

);

}

}

class MyForm extends StatefulWidget {

@override

\_MyFormState createState() => \_MyFormState();

}

class \_MyFormState extends State<MyForm> {

final \_formKey = GlobalKey<FormState>();

TextEditingController \_nameController = TextEditingController();

TextEditingController \_emailController = TextEditingController();

TextEditingController \_passwordController = TextEditingController();

@override

Widget build(BuildContext context) {

return Scaffold(

appBar: AppBar(

title: Text('Form Example'),

),

body: Padding(

padding: EdgeInsets.all(16.0),

child: Form(

key: \_formKey,

child: Column(

crossAxisAlignment: CrossAxisAlignment.stretch,

children: <Widget>[

TextFormField(

controller: \_nameController,

decoration: InputDecoration(

labelText: 'Name',

border: OutlineInputBorder(),

),

validator: (value) {

if (value == null || value.isEmpty) {

return 'Please enter your name';

}

return null;

},

),

SizedBox(height: 16),

TextFormField(

controller: \_emailController,

keyboardType: TextInputType.emailAddress,

decoration: InputDecoration(

labelText: 'Email',

border: OutlineInputBorder(),

),

validator: (value) {

if (value == null || value.isEmpty) {

return 'Please enter your email';

} else if (!RegExp(r'^[\w-]+(\.[\w-]+)\*@[\w-]+(\.[\w-]+)+$')

.hasMatch(value)) {

return 'Please enter a valid email address';

}

return null;

},

),

SizedBox(height: 16),

TextFormField(

controller: \_passwordController,

obscureText: true,

decoration: InputDecoration(

labelText: 'Password',

border: OutlineInputBorder(),

),

validator: (value) {

if (value == null || value.isEmpty) {

return 'Please enter your password';

} else if (value.length < 6) {

return 'Password must be at least 6 characters long';

}

return null;

},

),

SizedBox(height: 16),

ElevatedButton(

onPressed: () {

if (\_formKey.currentState!.validate()) {

// Form is valid, process the data

print('Name: ${\_nameController.text}');

print('Email: ${\_emailController.text}');

print('Password: ${\_passwordController.text}');

}

},

child: Text('Submit'),

),

],

),

),

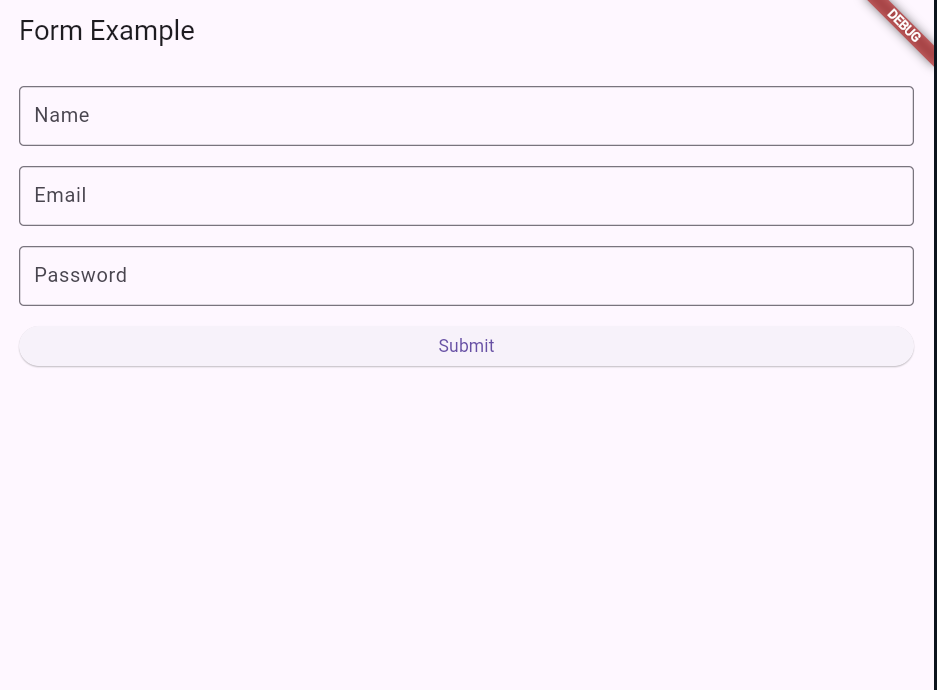
),

);

}

}

**Output:**

****

**7 b) Implement form validation and error handling.**

import 'package:flutter/material.dart';

void main() {

  runApp(MyApp());

}

class MyApp extends StatelessWidget {

  @override

  Widget build(BuildContext context) {

    return MaterialApp(

      title: 'Simple Form Validation',

      home: SimpleFormValidation(),

    );

  }

}

class SimpleFormValidation extends StatefulWidget {

  @override

  \_SimpleFormValidationState createState() => \_SimpleFormValidationState();

}

class \_SimpleFormValidationState extends State<SimpleFormValidation> {

  final \_formKey = GlobalKey<FormState>();

  String \_name = '';

  String \_email = '';

  String \_pword = '';

  @override

  Widget build(BuildContext context) {

    return Scaffold(

      appBar: AppBar(

        title: Text('Simple Form Validation'),

      ),

      body: Padding(

        padding: const EdgeInsets.all(20.0),

        child: Form(

          key: \_formKey,

          child: Column(

            children: [

              TextFormField(

                decoration: InputDecoration(labelText: 'Name'),

                validator: (value) => value!.isEmpty ? 'Enter your name' : null,

                onSaved: (value) => \_name = value!,

              ),

              TextFormField(

                decoration: InputDecoration(labelText: 'Email'),

                validator: (value) => !value!.contains('@') ? 'Invalid email' : null,

                onSaved: (value) => \_email = value!,

              ),

              TextFormField(

                decoration: InputDecoration(labelText: 'Password'),

                validator: (value) => value!.isEmpty ? 'Enter Password' : null,

                onSaved: (value) => \_pword = value!,

              ),

              ElevatedButton(

                onPressed: () {

                  if (\_formKey.currentState!.validate()) {

                    print('Name: $\_name');

                    print('Email: $\_email');

                    print('Password: $\_pword');

                  }

                },

                child: Text('Submit'),

              ),

            ],

          ),

        ),

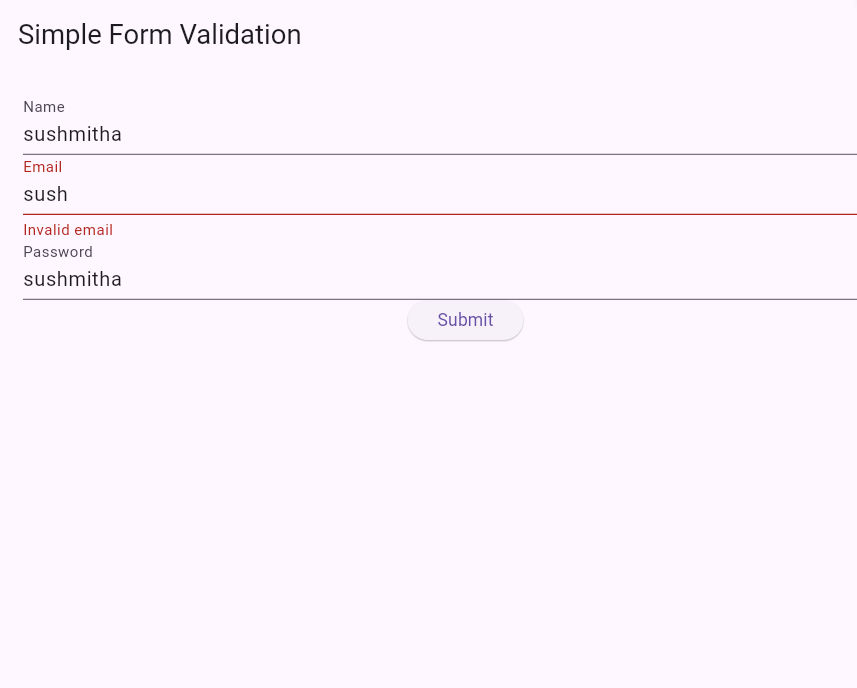
      ),

    );

  }

}

**Output:**

****

