Experiment No: 4

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AIM:- To create interactive form using Flutter Widgets

THEORY:-
Form Widget:

- Groups and manages form fields like text, checkboxes, etc.
- Handles validation, saving, and resetting.
- Use a GlobalKey for advanced control. **Form Fields:**

- Individual input controls like text fields, menus, etc.
- Each holds its own value and behavior.
- Popular options: TextFormField, DropdownButtonFormField, CheckboxFormField, RadioGroupFormField. **Validation:**

- Ensure user input is correct.
- Define validator function for each field or trigger form-level validation. ● Display error messages clearly. **Additional Points:**

- Customize appearance with themes and decorations.
- Manage focus with FocusNode.
- Create custom fields for specific needs.

CODE:

main.dart

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

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

```
class MyApp extends StatelessWidget {
  @override
  Widget build(BuildContext context) {
    return MaterialApp(
      home: MyHomePage(),
      theme: ThemeData(
        primaryColor: Colors.blue,
        hintColor: Colors.blueAccent,
        inputDecorationTheme: InputDecorationTheme(
          border: OutlineInputBorder(),
          contentPadding:
              EdgeInsets.symmetric(vertical: 12.0, horizontal: 16.0),
        ),
      ),
    );
  }
}

class MyHomePage extends StatefulWidget {
  @override
  _MyHomePageState createState() => _MyHomePageState();
}

class _MyHomePageState extends State<MyHomePage> {
  final _formKey = GlobalKey<FormState>();
  String _name = "";
  String _email = "";
  String _password = "";
  String _confirmPassword = "";

  @override
  Widget build(BuildContext context) {
    return Scaffold(
      appBar: AppBar(
        title: Text('Basic Form Validation'),
      ),
      body: SingleChildScrollView(
        padding: const EdgeInsets.all(16.0),
        child: Form(
          key: _formKey,
          child: Column(
            crossAxisAlignment: CrossAxisAlignment.stretch,
```

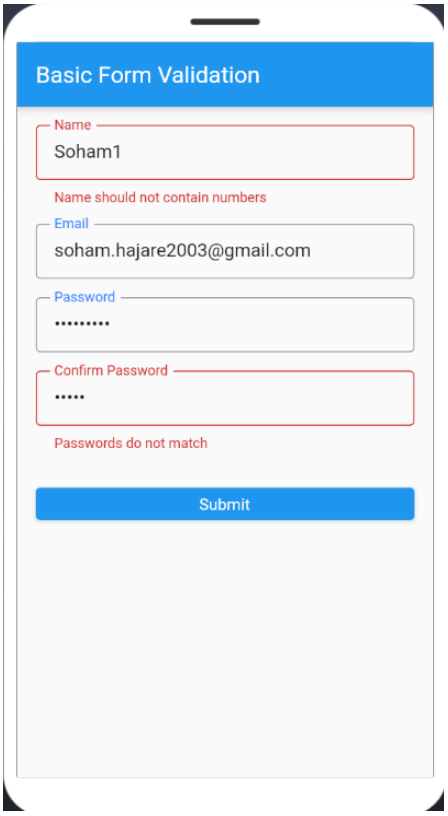
```
          children: [
            TextFormField(
              decoration: InputDecoration(
                labelText: "Name",
              ),
              validator: (value) {
                if (value == null || value.isEmpty) {
                  return "Please enter your name";
                }
                if (RegExp(r'\d').hasMatch(value)) {
                  return "Name should not contain numbers";
                }
                return null;
              },
              onSaved: (value) => _name = value!,
            ),
            SizedBox(height: 16.0),
            TextFormField(
              decoration: InputDecoration(
                labelText: "Email",
              ),
              validator: (value) {
                if (value == null || value.isEmpty) {
                  return "Please enter your email";
                }
                if (!RegExp(

r"^[a-zA-Z0-9.a-zA-Z0-9.!#$%&'*+/=?^_`{|}~-]+@[a-zA-Z0-9-]+\.[a-zA-Z]+")
                      .hasMatch(value!)) {
                  return "Enter valid Email";
                }
                return null;
              },
              onSaved: (value) => _email = value!,
            ),
            SizedBox(height: 16.0),
            TextFormField(
              decoration: InputDecoration(
                labelText: "Password",
              ),
              validator: (value) {
                if (value == null || value.isEmpty) {
                  return "Please enter your password";
```

```
            }
            if (value.length < 8) {
              return "Password length should be more than 8";
            }
            return null;
          },
          obscureText: true,
          onSaved: (value) => _password = value!,
        ),
        SizedBox(height: 16.0),
        TextFormField(
          decoration: InputDecoration(
            labelText: "Confirm Password",
          ),
          validator: (value) {
            if (value == null || value.isEmpty) {
              return "Please confirm your password";
            }
            if (value != _password) {
              return "Passwords do not match";
            }
            return null;
          },
          obscureText: true,
          onSaved: (value) => _confirmPassword = value!,
        ),
        SizedBox(height: 32.0),
        ElevatedButton(
          onPressed: () {
            final isValid = _formKey.currentState!.validate();
            if (isValid) {
              _formKey.currentState!.save();
              print("Name: $_name, Email: $_email, Password:$_password");
              // Handle successful form submission here
            }
          },
          child: Text('Submit'),
        ),
      ],
    ),
  ),
),
);
```

```
  }
}
```

Output:



Explanation: This Flutter app defines a basic form with input fields for name, email, password, and confirm password. It incorporates form validation to ensure data accuracy. The validation includes checks for empty fields, valid email format, minimum password length, and password match confirmation. If the form passes validation, the submitted data is printed. The app provides a clean user interface with a responsive design, enhancing the user experience.

Conclusion:- In conclusion, the Flutter form code provided implements basic form validation with TextFormField widgets encapsulated in a Scaffold and MaterialApp structure. The design ensures clear user input with validation messages and facilitates form submission with concise error handling. By leveraging Flutter's built-in form handling mechanisms, the code delivers a straightforward and user-friendly experience for data input and validation.