Aim: To create an interactive Form using form widget

Theory:

In mobile app development, **forms** are essential for collecting user input, such as login details, preferences, or order information. Flutter provides a robust way to create forms that can manage validation, saving input, and handling submission events.

A **form** is a container that groups together multiple input fields (like text fields, dropdowns, checkboxes) and allows collective validation and saving of user input. It ensures that the input meets certain criteria before processing or submitting it.

Form Widget in Flutter

The **Form widget** in Flutter acts as a container for grouping and managing multiple input widgets like TextFormField, DropdownButtonFormField, etc. It uses a GlobalKey<FormState> to uniquely identify the form and enable form-wide operations such as:

- **Validation**: Checking if all inputs satisfy validation rules.
- **Saving**: Triggering callbacks to save the current input values.
- **Resetting**: Clearing or resetting the form fields.

By using a Form widget, developers can efficiently handle complex user input scenarios in a clean and maintainable way.

Basic Syntax of Forms in Flutter

The typical steps to implement a form in Flutter include:

Define a GlobalKey for the FormState:

```
final _formKey = GlobalKey<FormState>();
```

Wrap input widgets inside a Form widget:

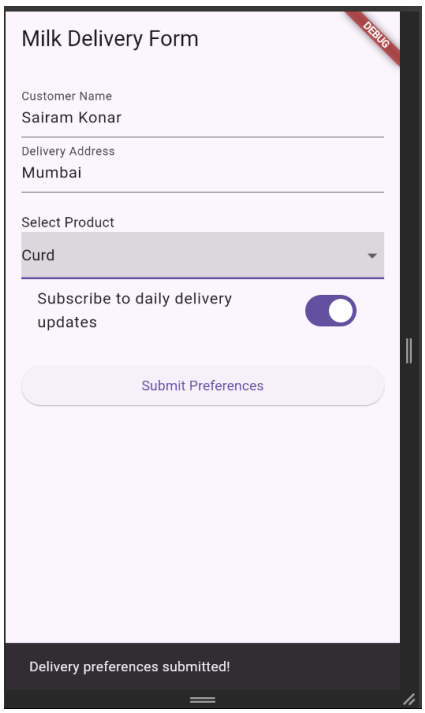
```
Form(
  key: _formKey,
  child: Column(
    children: [
      TextFormField(
        validator: (value) {
          if (value == null || value.isEmpty) {
            return 'Please enter some text';
          }
          return null;
        },
        onSaved: (value) {
          // Save the value to a variable
        },
      ),
      ElevatedButton(
        onPressed: () {
          if (_formKey.currentState!.validate()) {
            _formKey.currentState!.save();
            // Process the data
          }
        },
        child: Text('Submit'),
      ),
    ],
  ),
);
```

1. **Validation and Saving:**
    - Each input widget like TextFormField has a validator function that returns a validation error string or null if valid.
    - The onSaved callback captures and stores the input value when the form is saved.

2. **Submit Handling:**
    - On submit, call _formKey.currentState!.validate() to validate all fields.
    - If valid, call _formKey.currentState!.save() to invoke onSaved for all fields.

Code: https://github.com/Sairam-Vk-sudo/mplExp27/tree/main/exp%204

Output:



Basic form created

Conclusion: This experiment demonstrated how to create interactive forms in Flutter using the Form widget. We learned how to collect user input, validate fields, and save data efficiently. The Milk Delivery Form example showed how to handle multiple inputs and update form state dynamically. Overall, Flutter's form widgets make building user-friendly and reliable input forms simple and effective.