Modul Praktikum 2021
Pemrograman Mobile
FLUTTER

Dosen Pengampu :
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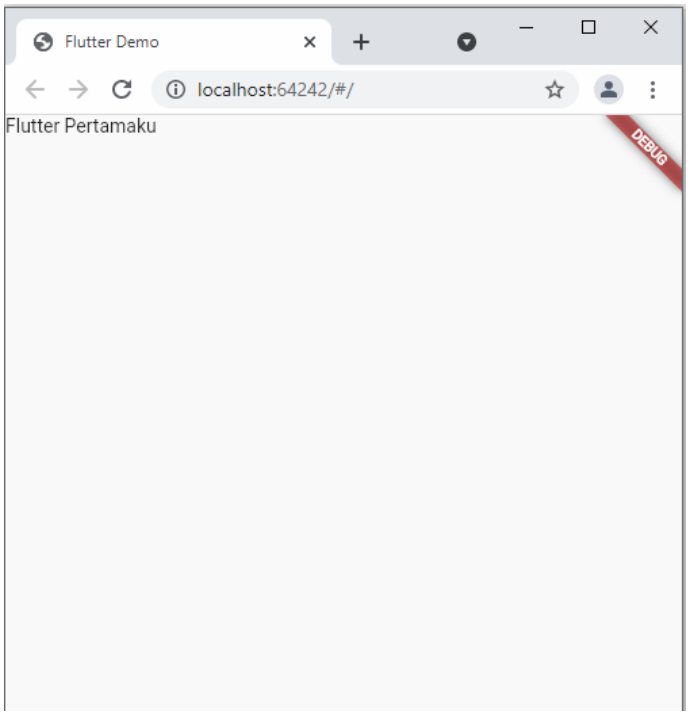
Petunjuk
Kerjakan setiap Latihan pada modul ini. Buat proyek baru untuk setiap Latihan (New Flutter Apllicaton Project). Folder-folder Latihan dikumpulkan menjelang minggu UTS.

Latihan 1

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

void main() => runApp(MyApp());

class MyApp extends StatelessWidget {
  @override
  Widget build(BuildContext context) {
    return MaterialApp(
        title: 'Flutter Demo',
        theme: ThemeData(
          primarySwatch: Colors.blue,
        ),
        home: Scaffold(
            //body: Text("Flutter Pertamaku"),

            body: SafeArea(
          child: Text("Flutter Pertama"),
        )));
  }
}
```

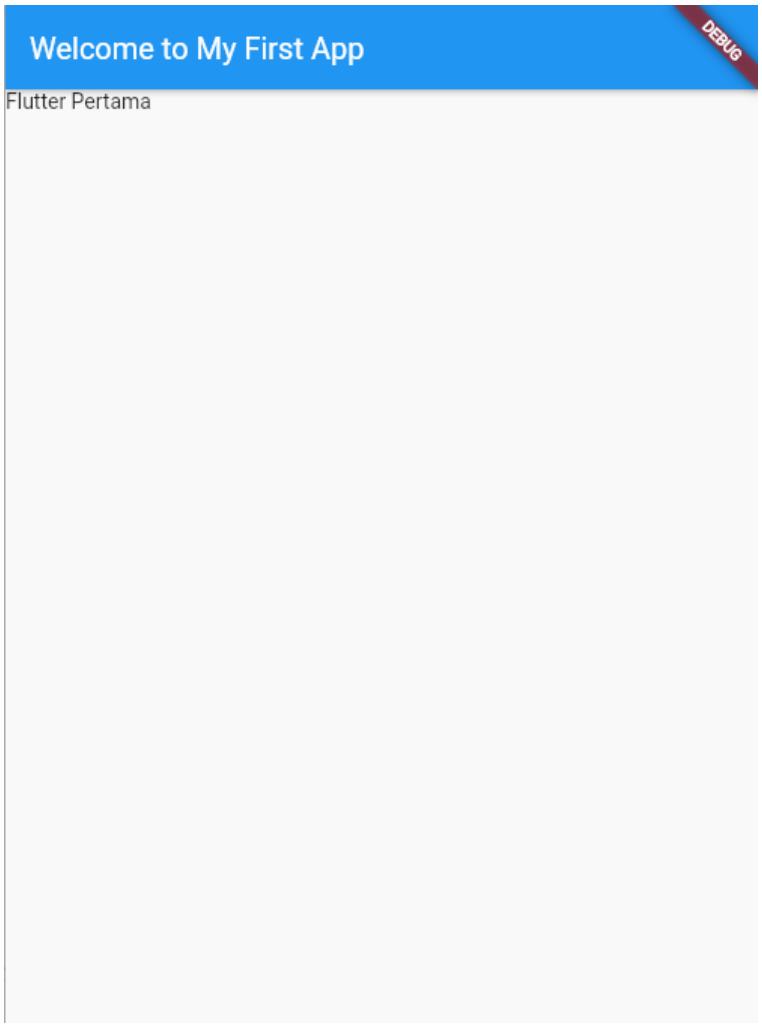
Hasilnya



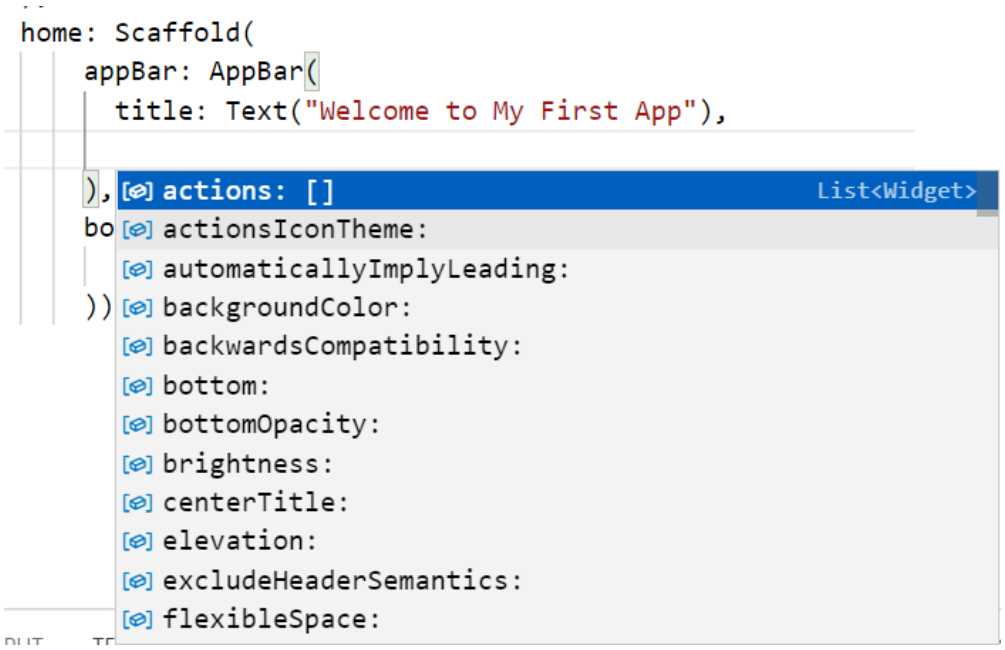
Latihan 2

```
class MyApp extends StatelessWidget {
  @override
  Widget build(BuildContext context) {
    return MaterialApp(
        title: 'Flutter Demo',
        theme: ThemeData(
          primarySwatch: Colors.blue,
        ),
        home: Scaffold(
            appBar: AppBar(
              title: Text("Welcome to My First App"),
            ),
            body: SafeArea(
              child: Text("Flutter Pertama"),
            )));
  }
}
```

Hasilnya

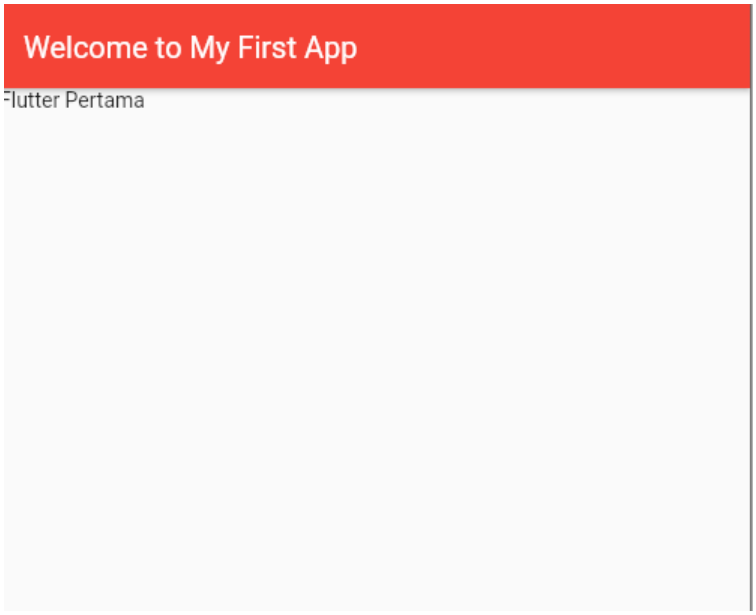


Untuk melihat daftar perintah yang ada tekan tombol CTRL + SHIFT



Latihan 3

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

void main() => runApp(MyApp());

class MyApp extends StatelessWidget {
  @override
  Widget build(BuildContext context) {
    return MaterialApp(
        debugShowCheckedModeBanner: false, //hilangkan debug logo
        title: 'Flutter Demo',
        theme: ThemeData(
          primarySwatch: Colors.blue,
        ),
        home: Scaffold(
            appBar: AppBar(
              title: Text("Welcome to My First App"),
              backgroundColor: Colors.red, // warna background appbar
            ),
            body: SafeArea(
              child: Text("Flutter Pertama"),
            )));
  }
}
```

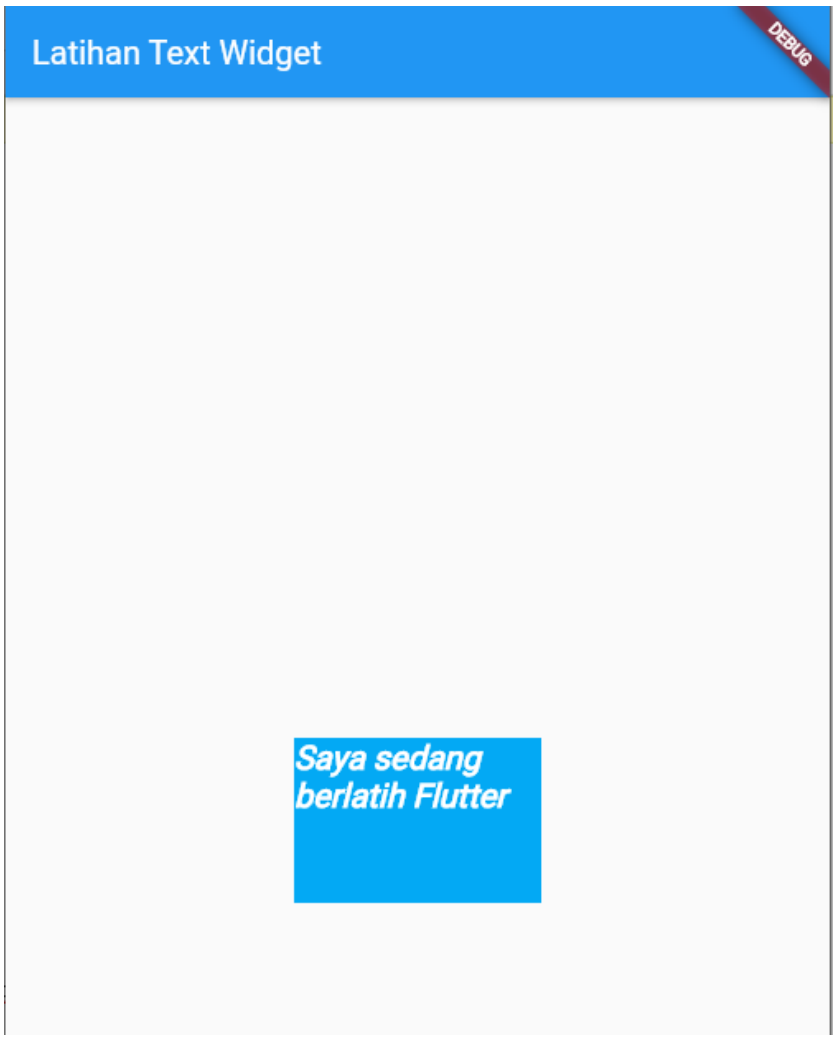


Latihan Text Widget
https://api.flutter.dev/flutter/painting/TextStyle-class.html

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

void main() => runApp(MyApp());

class MyApp extends StatefulWidget {
  MyApp({Key? key}) : super(key: key);

  @override
  _MyAppState createState() => _MyAppState();
}

class _MyAppState extends State<MyApp> {
  @override
  Widget build(BuildContext context) {
    return MaterialApp(
      home: Scaffold(
        appBar: AppBar(
          title: Text("Latihan Text Widget"),
        ),
        body: Center(
          child: Container(
            color: Colors.lightBlue,
            width: 150,
            height: 100,
            child: Text(
              "Saya sedang berlatih Flutter",
```

```
                style: TextStyle(
                    color: Colors.white,
                    fontStyle: FontStyle.italic,
                    fontWeight: FontWeight.w700,
                    fontSize: 20),
              ),
            ),
          ),
        ),
      );
  }
}
```

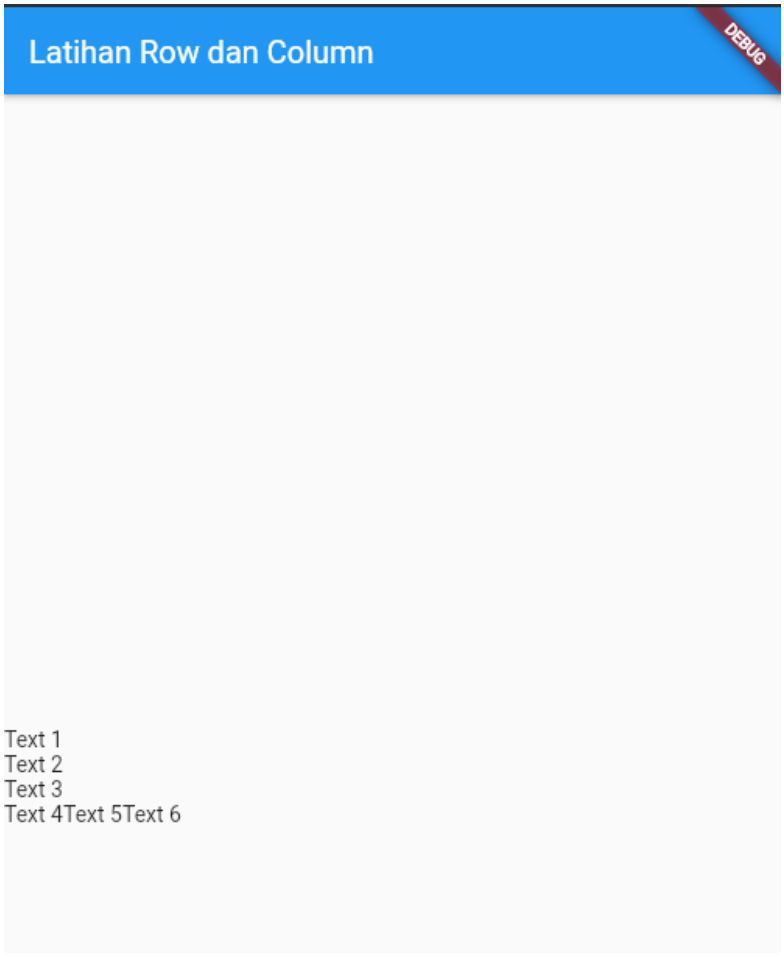
Hasilnya



Latihan Row dan Column Widget
https://api.flutter.dev/flutter/widgets/Column-class.html
https://api.flutter.dev/flutter/widgets/Row-class.html

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

void main() => runApp(MyApp());

class MyApp extends StatefulWidget {
  MyApp({Key? key}) : super(key: key);

  @override
  _MyAppState createState() => _MyAppState();
}

class _MyAppState extends State<MyApp> {
  @override
  Widget build(BuildContext context) {
    return MaterialApp(
      home: Scaffold(
          appBar: AppBar(
            title: Text("Latihan Row dan Column"),
          ),
          body: Column(
            mainAxisAlignment: MainAxisAlignment.center,
            crossAxisAlignment: CrossAxisAlignment.start,
            children: <Widget>[
              Text("Text 1"),
              Text("Text 2"),
              Text("Text 3"),
              Row(
                children: <Widget>[
                  Text("Text 4"),
                  Text("Text 5"),
                  Text("Text 6"),
                ],
              )
            ],
          )),
    );
  }
}
```

Hasilnya

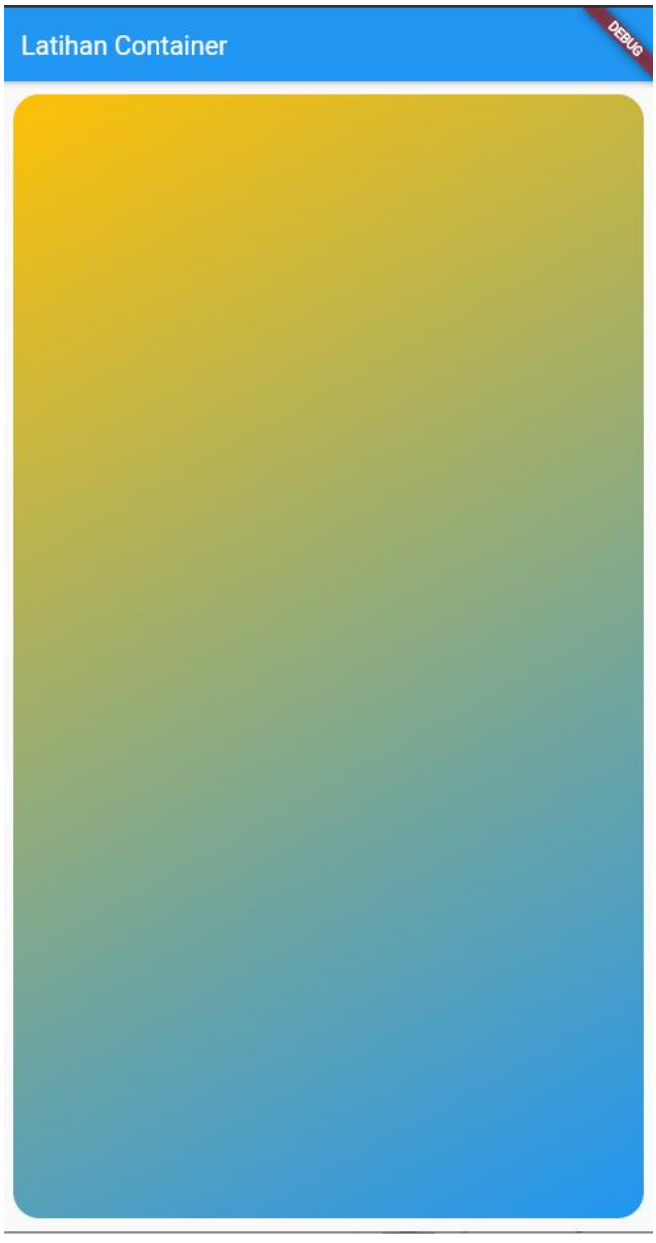


Latihan Container Widget
https://api.flutter.dev/flutter/widgets/Container-class.html

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

void main() => runApp(MyApp());

class MyApp extends StatefulWidget {
  MyApp({Key? key}) : super(key: key);

  @override
  _MyAppState createState() => _MyAppState();
}

class _MyAppState extends State<MyApp> {
  @override
  Widget build(BuildContext context) {
    return MaterialApp(
      home: Scaffold(
          appBar: AppBar(
            title: Text("Latihan Container"),
          ),
```

```
          body: Container(
            margin: EdgeInsets.all(10),
            decoration: BoxDecoration(
                borderRadius: BorderRadius.circular(20),
                gradient: LinearGradient(
                    begin: Alignment.topLeft,
                    end: Alignment.bottomRight,
                    colors: <Color>[Colors.amber, Colors.blue])),
          )),
    );
  }
}
```

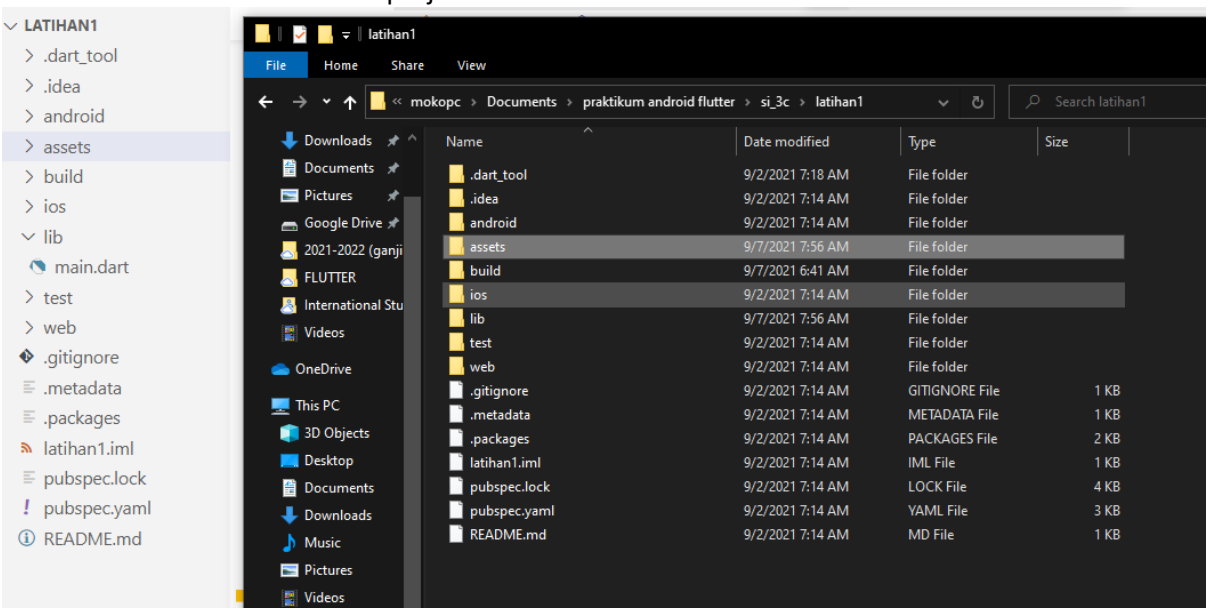
Hasilnya



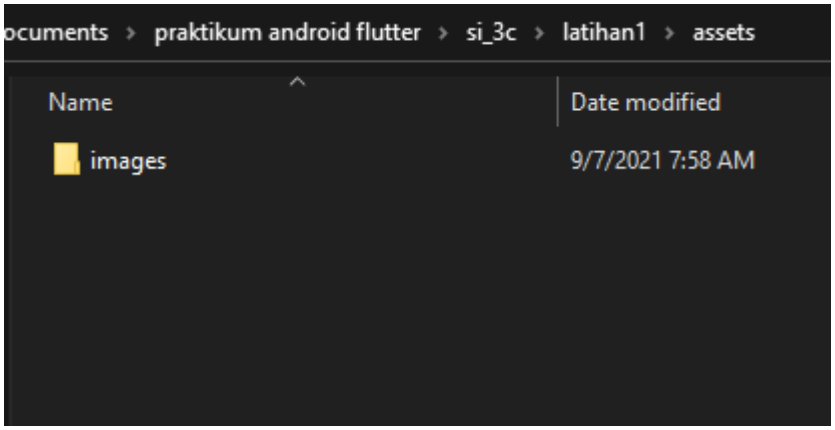
Latihan Menyisipkan Gambar

Dalam flutter, kita dapat menggunakan gambar-gambar yang kita miliki agar desain lebih menarik, tetapi gambar-gambar tersebut tidak bisa langsung digunakan, sehingga kita harus melakukan impor gambar terlebih dahulu kedalam flutter.

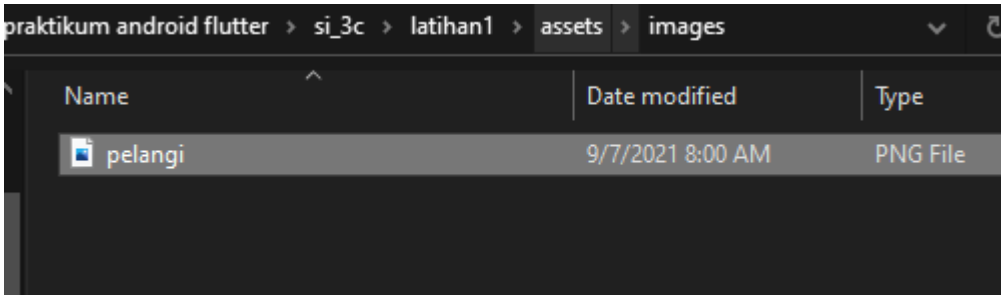
Buat folder assets di root folder project



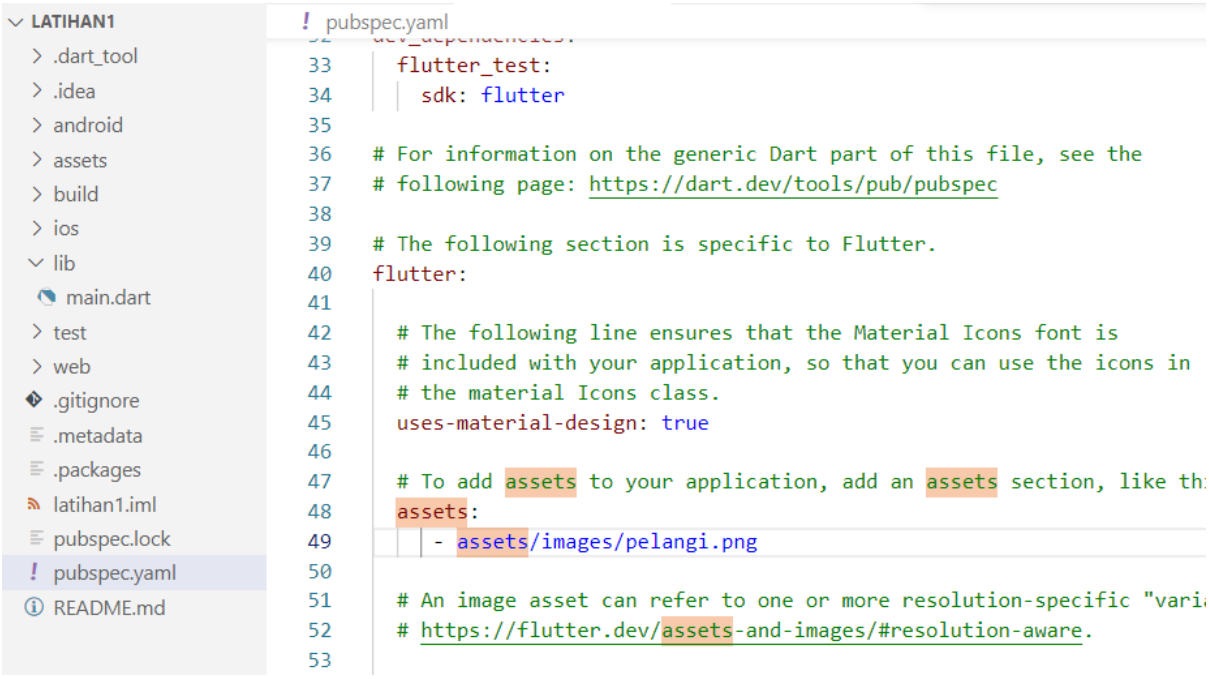
Tambahkan folder images didalam folder assets



Masukkan Gambar kedalam folder assets/images



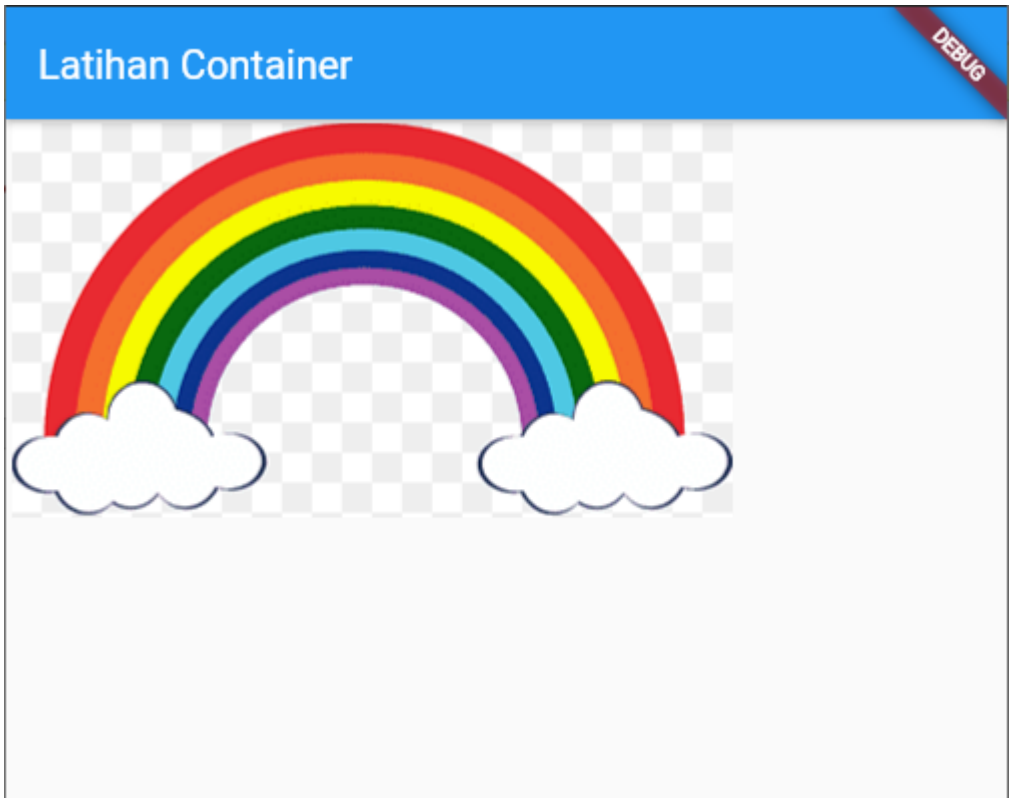
Daftarkan gambar pada **pubspec.yaml**



Jangan lupa di save file pubspec.yaml

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

void main() => runApp(MyApp());

class MyApp extends StatefulWidget {
  MyApp({Key? key}) : super(key: key);

  @override
  _MyAppState createState() => _MyAppState();
}

class _MyAppState extends State<MyApp> {
  @override
  Widget build(BuildContext context) {
    return MaterialApp(
      home: Scaffold(
          appBar: AppBar(
            title: Text("Latihan Container"),
          ),
          body: SafeArea(
            child: Image(
              image: AssetImage('assets/images/pelangi.png'),
              height: 200,
            ),
          )),
    );
  }
}
```

Lakukan restart kembali/ awali proses debug
Hasilnya



Latihan Menyisipkan Image

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

void main() => runApp(MyApp());

class MyApp extends StatefulWidget {
  MyApp({Key? key}) : super(key: key);

  @override
  _MyAppState createState() => _MyAppState();
}

class _MyAppState extends State<MyApp> {
  @override
  Widget build(BuildContext context) {
    return MaterialApp(
      home: Scaffold(
          appBar: AppBar(
            title: Text("Latihan Layout"),
          ),
          body: SafeArea(
            child: Container(
              margin: EdgeInsets.only(left: 45, top: 0, right: 0, bottom: 0),
```

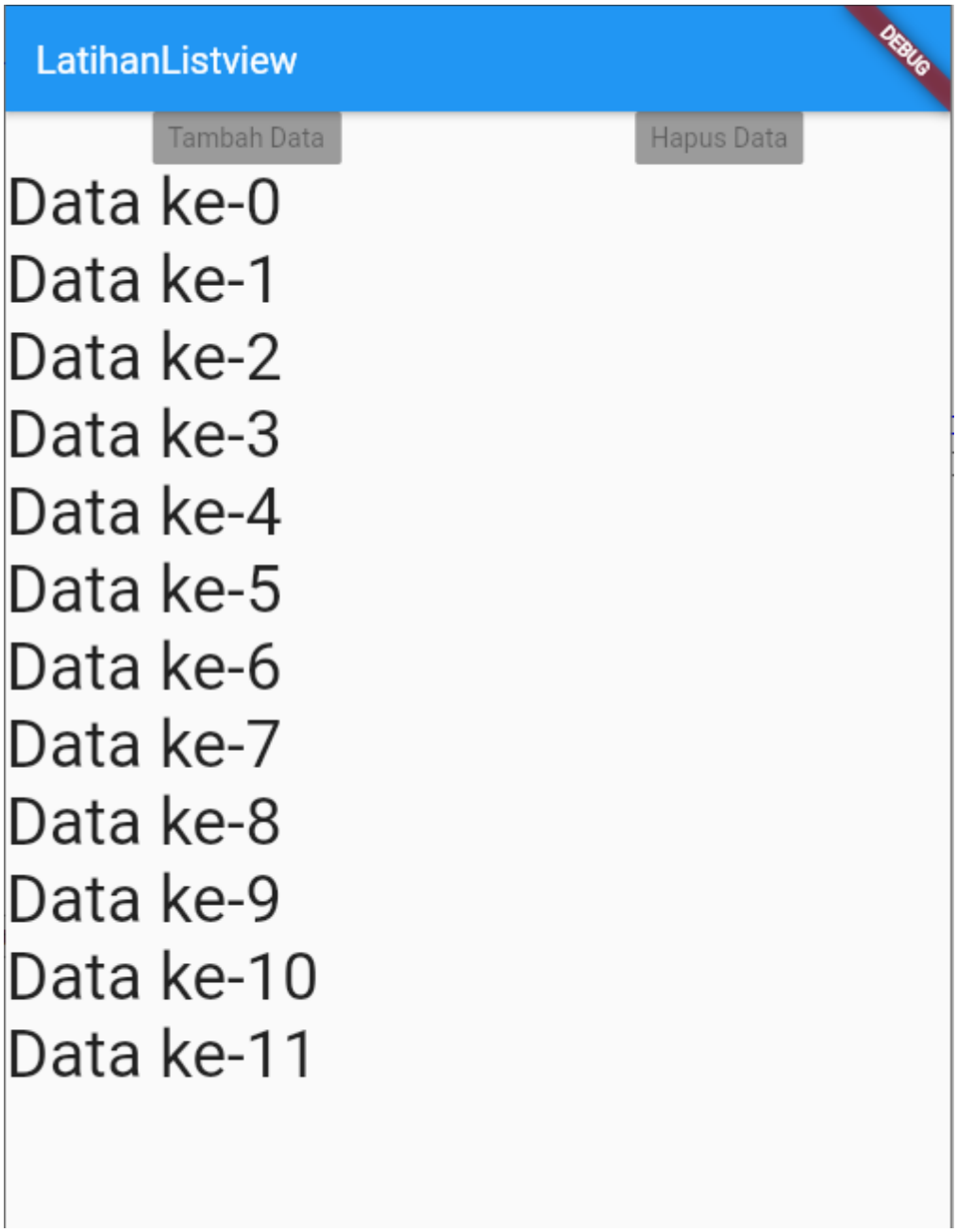
```
              padding: EdgeInsets.only(left: 0, top: 50, right: 0, bottom: 0),
              child: Column(
                children: <Widget>[
                  Image(
                    image: AssetImage("assets/images/pelangi.png"),
                    height: 200,
                  ),
                  Text("Selamat Datang"),
                  Text("di Aplikasi Mobile Kami"),
                ],
              ),
            ),
          )),
    );
  }
}
```

Hasilnya

Latihan Listview

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

void main() => runApp(MyApp());

class MyApp extends StatefulWidget {
  MyApp({Key? key}) : super(key: key);

  @override
  _MyAppState createState() => _MyAppState();
}

class _MyAppState extends State<MyApp> {
  List<Widget> widgets = []; //buat variabel dalam bentuk array

  _MyAppState() {
    for (int i = 0; i < 12; i++) // fungsi utk produksi data array
      widgets.add(Text(
        "Data ke-" + i.toString(),
        style: TextStyle(fontSize: 35),
      ));
  }

  @override
  Widget build(BuildContext context) {
    return MaterialApp(
      home: Scaffold(
        appBar: AppBar(
          title: Text("LatihanListview"),
        ),
        body: ListView(
          children: <Widget>[
            Row(
              mainAxisAlignment: MainAxisAlignment.spaceAround,
              children: <Widget>[
                RaisedButton(child: Text("Tambah Data"), onPressed: null),
                RaisedButton(child: Text("Hapus Data"), onPressed: null),
              ],
            ),
            Column(
              crossAxisAlignment: CrossAxisAlignment.start,
              children: widgets, //panggil isi variabel widgets
            )
          ],
        ),
      ),
    );
  }
}
```

Hasilnya

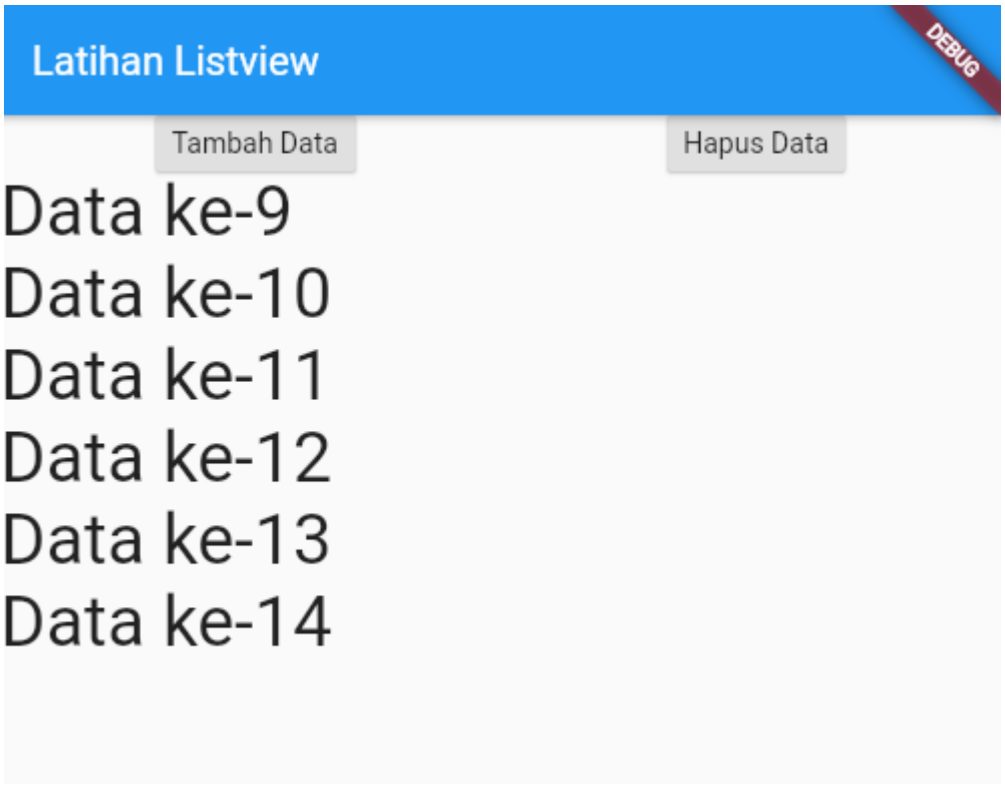

LatihanListview
DEBUG
Tambah Data
Hapus Data
Data ke-0
Data ke-1
Data ke-2
Data ke-3
Data ke-4
Data ke-5
Data ke-6
Data ke-7
Data ke-8
Data ke-9
Data ke-10
Data ke-11

Latihan ListView Widget

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

void main() => runApp(MyApp());

class MyApp extends StatefulWidget {
  MyApp({Key? key}) : super(key: key);

  @override
  _MyAppState createState() => _MyAppState();
}

class _MyAppState extends State<MyApp> {
  List<Widget> widgets = []; //buat variabel array
  int counter = 1; //inisiasi variabel counter dengan nilai 1

  @override
  Widget build(BuildContext context) {
    return MaterialApp(
      home: Scaffold(
        appBar: AppBar(
          title: Text("Latihan Listview"),
        ),
        body: ListView(
          children: <Widget>[
            Row(
              mainAxisAlignment: MainAxisAlignment.spaceAround, //rata tengah
              children: <Widget>[
                RaisedButton(
                    child: Text("Tambah Data"),
                    onPressed: () {
                      setState(() {
                        //tambah data array
                        widgets.add(Text(
                          "Data ke-" + counter.toString(),
                          style: TextStyle(fontSize: 35),
                        ));
                        counter++;
                      });
                    }),
                RaisedButton(
                    child: Text("Hapus Data"),
                    onPressed: () {
                      setState(() {
                        widgets.removeLast(); //hapus data array
                      });
                    }),
              ],
            ),
            Column(
```

```
              crossAxisAlignment: CrossAxisAlignment.start,
              children: widgets,
            )
          ],
        ),
      ),
    );
  }
}
```

Hasilnya



Latihan Wrap Widget

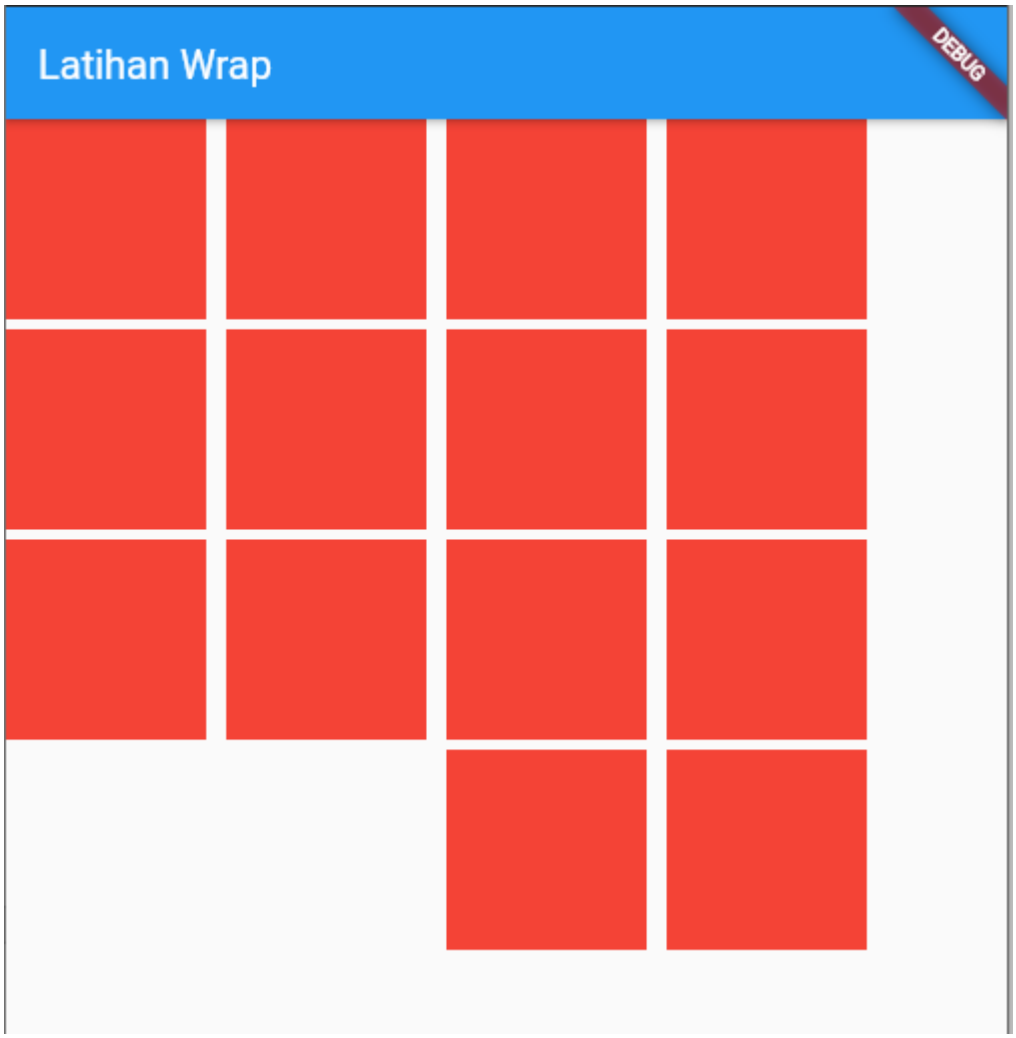
Wrap dalam flutter digunakan untuk menanggulangi masalah ketika item child yang ada melebihi batas size dari parent yang menyebabkan error overflow. Sehingga item akan muncul di bawah atau di samping untuk memenuhi ruang yang masih kosong.

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

void main() => runApp(MyApp());

class MyApp extends StatefulWidget {
  MyApp({Key? key}) : super(key: key);

  @override
  _MyAppState createState() => _MyAppState();
}

class _MyAppState extends State<MyApp> {
  @override
  Widget build(BuildContext context) {
    return MaterialApp(
      home: Scaffold(
        appBar: AppBar(
          title: Text("Latihan Wrap"),
        ),
        body: Container(
          child: Wrap(
            spacing: 10,
            runSpacing: 5,
            crossAxisAlignment: WrapCrossAlignment.start,
            alignment: WrapAlignment.end,
            direction: Axis.horizontal,
            children: [
              Container(
                width: 100,
                height: 100,
                color: Colors.red,
              ),
              Container(
                width: 100,
                height: 100,
                color: Colors.red,
              ),
              Container(
                width: 100,
                height: 100,
                color: Colors.red,
              ),
              Container(
                width: 100,
                height: 100,
                color: Colors.red,
```

```
          ),
          Container(
            width: 100,
            height: 100,
            color: Colors.red,
          ),
          Container(
            width: 100,
            height: 100,
            color: Colors.red,
          ),
          Container(
            width: 100,
            height: 100,
            color: Colors.red,
          ),
          Container(
            width: 100,
            height: 100,
            color: Colors.red,
          ),
          Container(
            width: 100,
            height: 100,
            color: Colors.red,
          ),
          Container(
            width: 100,
            height: 100,
            color: Colors.red,
          ),
          Container(
            width: 100,
            height: 100,
            color: Colors.red,
          ),
          Container(
            width: 100,
            height: 100,
            color: Colors.red,
          ),
          Container(
            width: 100,
            height: 100,
            color: Colors.red,
          ),
          Container(
            width: 100,
            height: 100,
            color: Colors.red,
          ),
        ],
      ),
    ),
  ),
);
```

```
  }
}
```

Hasilnya

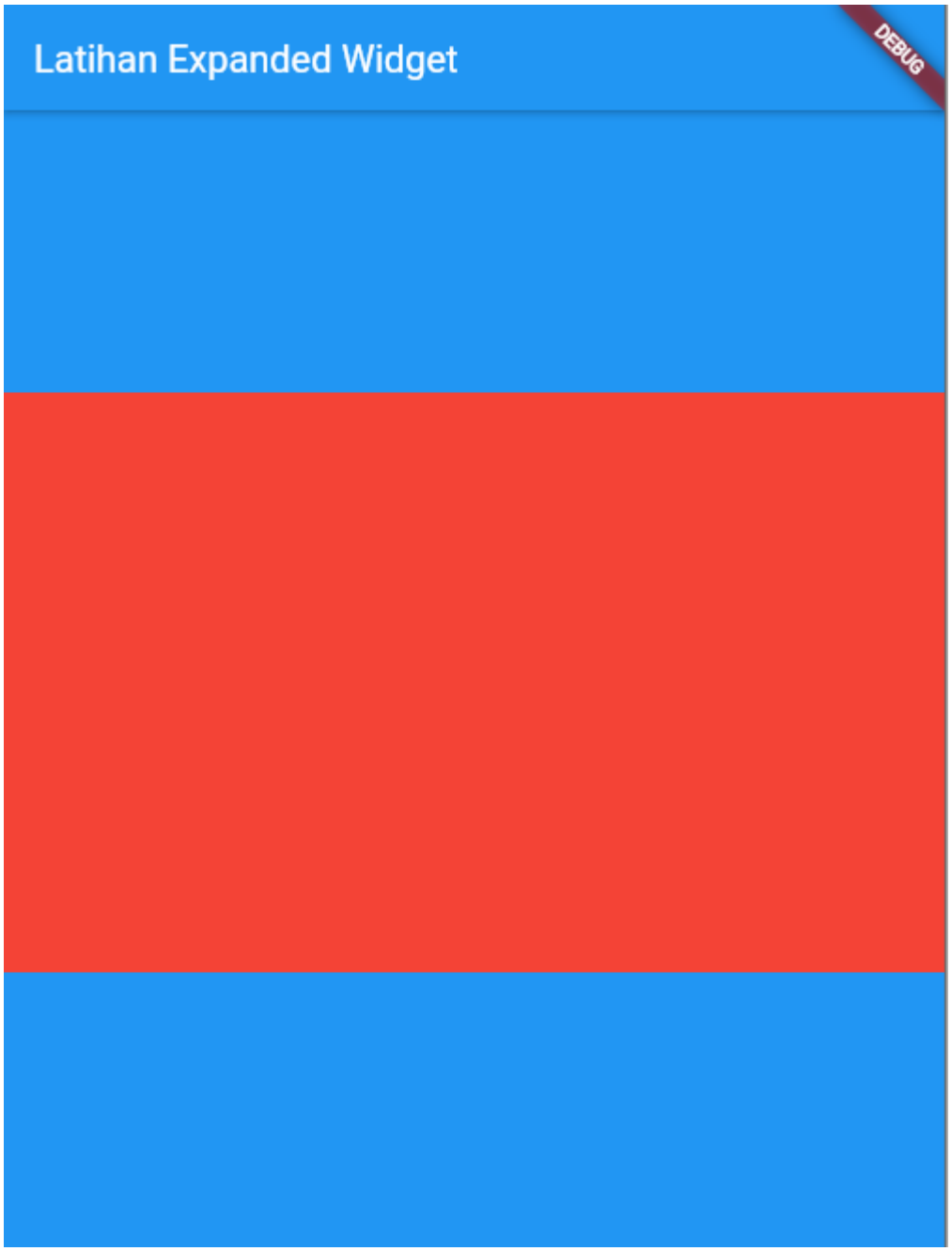


Latihan Expanded Widget

Dalam flutter, Expanded widget digunakan agar child dari widget yang lain seperti container, row, column dapat memperluas size mereka secara otomatis dan menempati ruang yang kosong (baik ruang vertikal ataupun horizontal).

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

void main() => runApp(MyApp());

class MyApp extends StatefulWidget {
  MyApp({Key? key}) : super(key: key);

  @override
  _MyAppState createState() => _MyAppState();
}

class _MyAppState extends State<MyApp> {
  @override
  Widget build(BuildContext context) {
    return MaterialApp(
      home: Scaffold(
          appBar: AppBar(
            title: Text("Latihan Expanded Widget"),
          ),
          body: Center(
            child: Column(
              children: [
                Container(
                  color: Colors.blue,
                  height: 150,
                  width: double.infinity,
                ),
                Expanded(
                  child: Container(
                    color: Colors.red,
                    width: double.infinity,
                  ),
                ),
                Container(
                  color: Colors.blue,
                  height: 150,
                  width: double.infinity,
                ),
              ],
            ),
          )),
    );
  }
}
```

Hasilnya



Latihan SingleChildScrollView Widget

Dalam Flutter, untuk menanggulangi masalah overflow maka dapat digunakan fitur SingleChildScrollView agar user dapat melakukan scrolling pada elemen seperti kumpulan gambar. Flutter juga menyediakan beberapa desain dan animasi yang dapat dipilih agar lebih menarik.

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

void main() => runApp(MyApp());

class MyApp extends StatefulWidget {
  MyApp({Key? key}) : super(key: key);

  @override
  _MyAppState createState() => _MyAppState();
}

class _MyAppState extends State<MyApp> {
  @override
  Widget build(BuildContext context) {
    return MaterialApp(
      home: Scaffold(
          appBar: AppBar(
            title: Text("Latihan SingleChildScrollView Widget"),
          ),
          body: Center(
            child: Container(
              height: 500,
              child: SingleChildScrollView(
                physics: BouncingScrollPhysics(),
                child: Column(
                  children: [
                    Container(
                      height: 150,
                      width: double.infinity,
                      color: Colors.red,
                    ),
                    Container(
                      height: 150,
                      width: double.infinity,
                      color: Colors.yellow,
                    ),
                    Container(
                      height: 150,
                      width: double.infinity,
                      color: Colors.green,
                    ),
                    Container(
                      height: 150,
                      width: double.infinity,
                      color: Colors.brown,
```

```
                    ),
                    Container(
                      height: 150,
                      width: double.infinity,
                      color: Colors.blueAccent,
                    ),
                  ],
                ),
              ),
            ),
          ),
        )),
    );
  }
}
```

Hasilnya

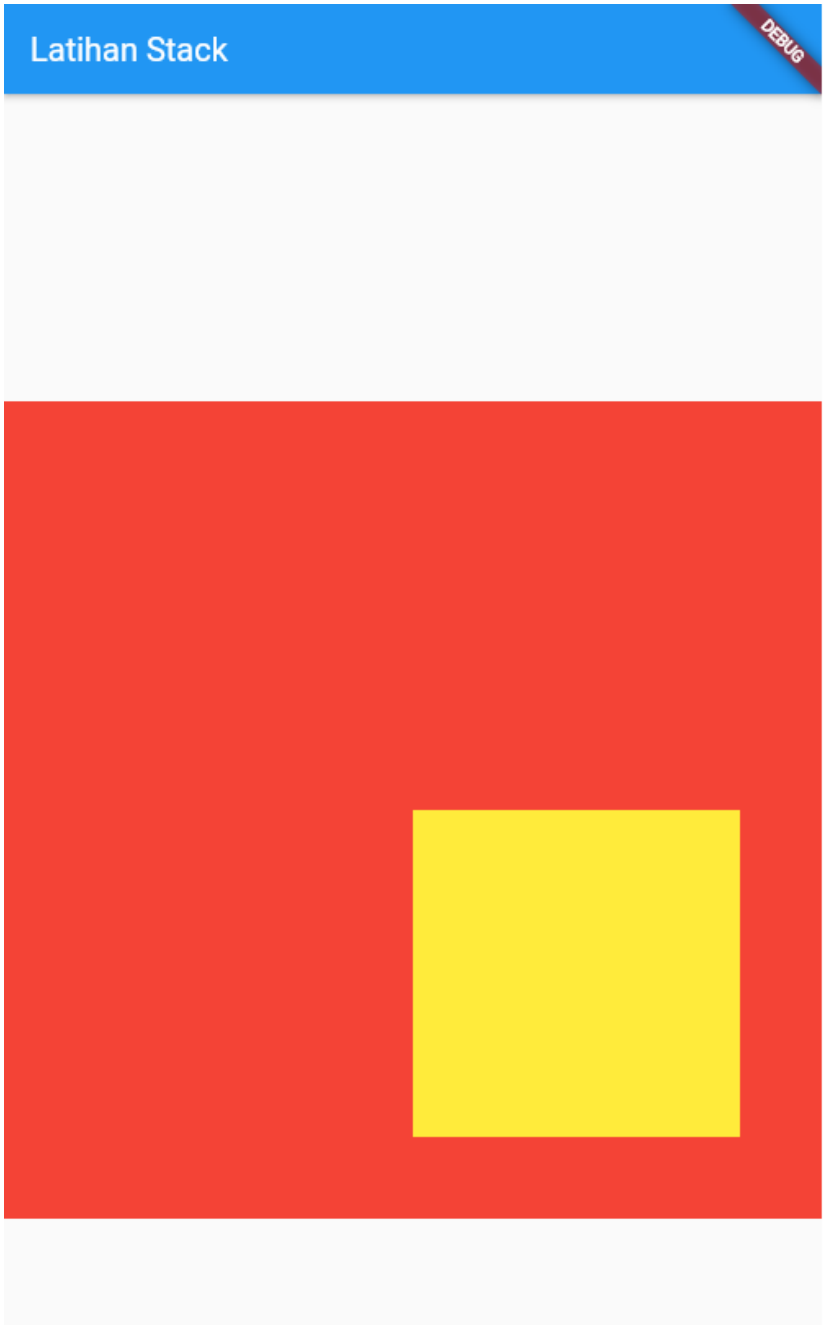
Latihan Stack Widget

Stack pada flutter digunakan untuk memberikan efek tumpang tindih pada setiap child nya sehingga bagian yang ada dibawahnya tidak hilang sama sekali dan bagian atasnya terlihat mengambang (floating) di atas bagian bawah elemen.

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

void main() => runApp(MyApp());
```

```dart
class MyApp extends StatefulWidget {
  MyApp({Key? key}) : super(key: key);

  @override
  _MyAppState createState() => _MyAppState();
}

class _MyAppState extends State<MyApp> {
  @override
  Widget build(BuildContext context) {
    return MaterialApp(
      home: Scaffold(
        appBar: AppBar(
          title: Text("Latihan Layout"),
        ),
        body: Center(
            child: Stack(
          children: [
            Container(
              height: 500,
              width: 500,
              color: Colors.red,
            ),
            Positioned(
              right: 0,
              bottom: 0,
              child: Container(
                height: 200,
                width: 200,
                color: Colors.yellow,
              ),
            )
          ],
        )),
      ),
    );
  }
}
```

Hasilnya



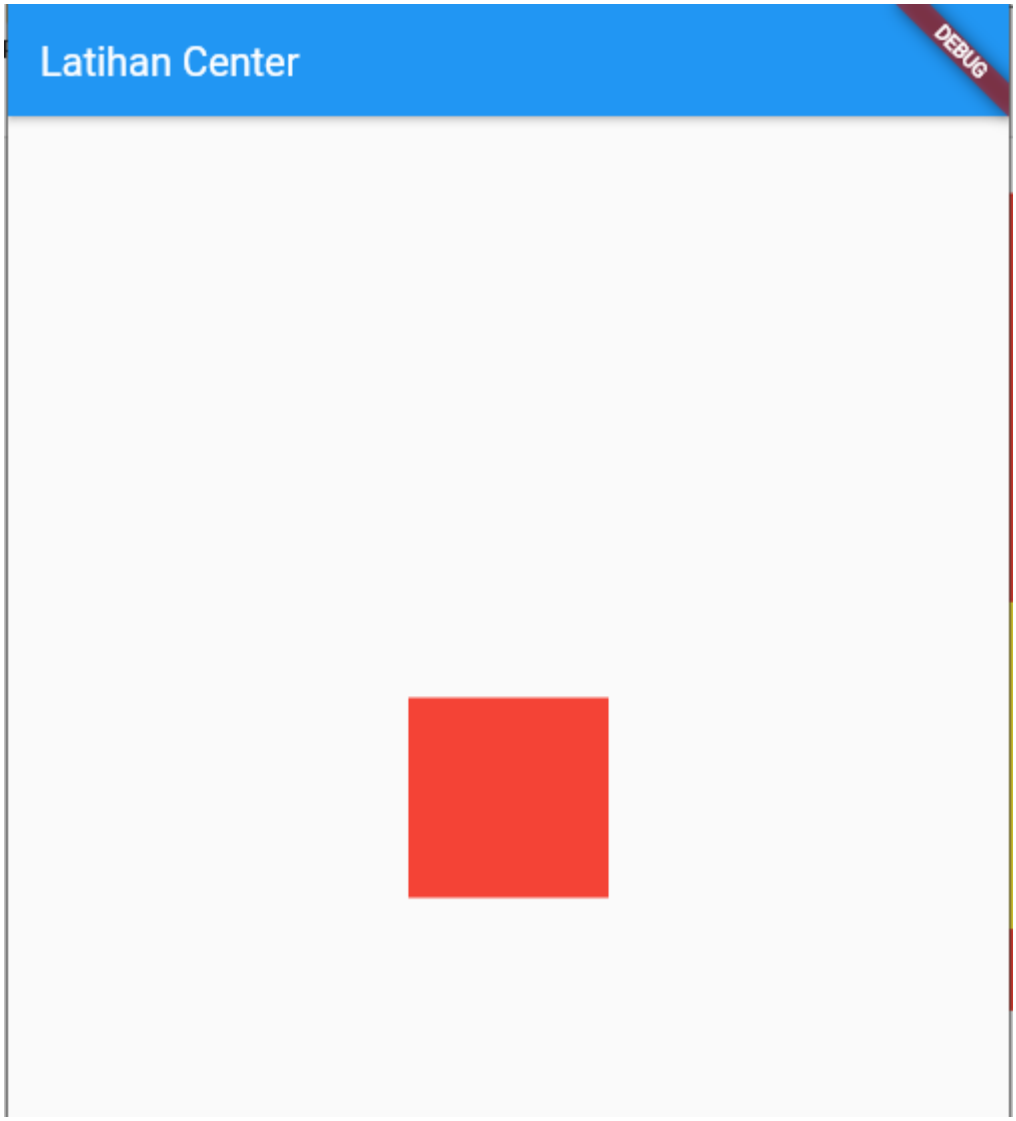
Latihan Center Widget

Di dalam flutter, fitur Center digunakan untuk melebarkan area elemen child hingga memenuhi size parent lalu memusatkan item child yang ada ke area tengah secara otomatis.

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

void main() => runApp(MyApp());

class MyApp extends StatefulWidget {
  MyApp({Key? key}) : super(key: key);
```

```
  @override
  _MyAppState createState() => _MyAppState();
}

class _MyAppState extends State<MyApp> {
  @override
  Widget build(BuildContext context) {
    return MaterialApp(
      home: Scaffold(
        appBar: AppBar(
          title: Text("Latihan Center"),
        ),
        body: Center(
          child: Container(
            height: 100,
            width: 100,
            color: Colors.red,
          ),
        ),
      ),
    );
  }
}
```

Hasilnya



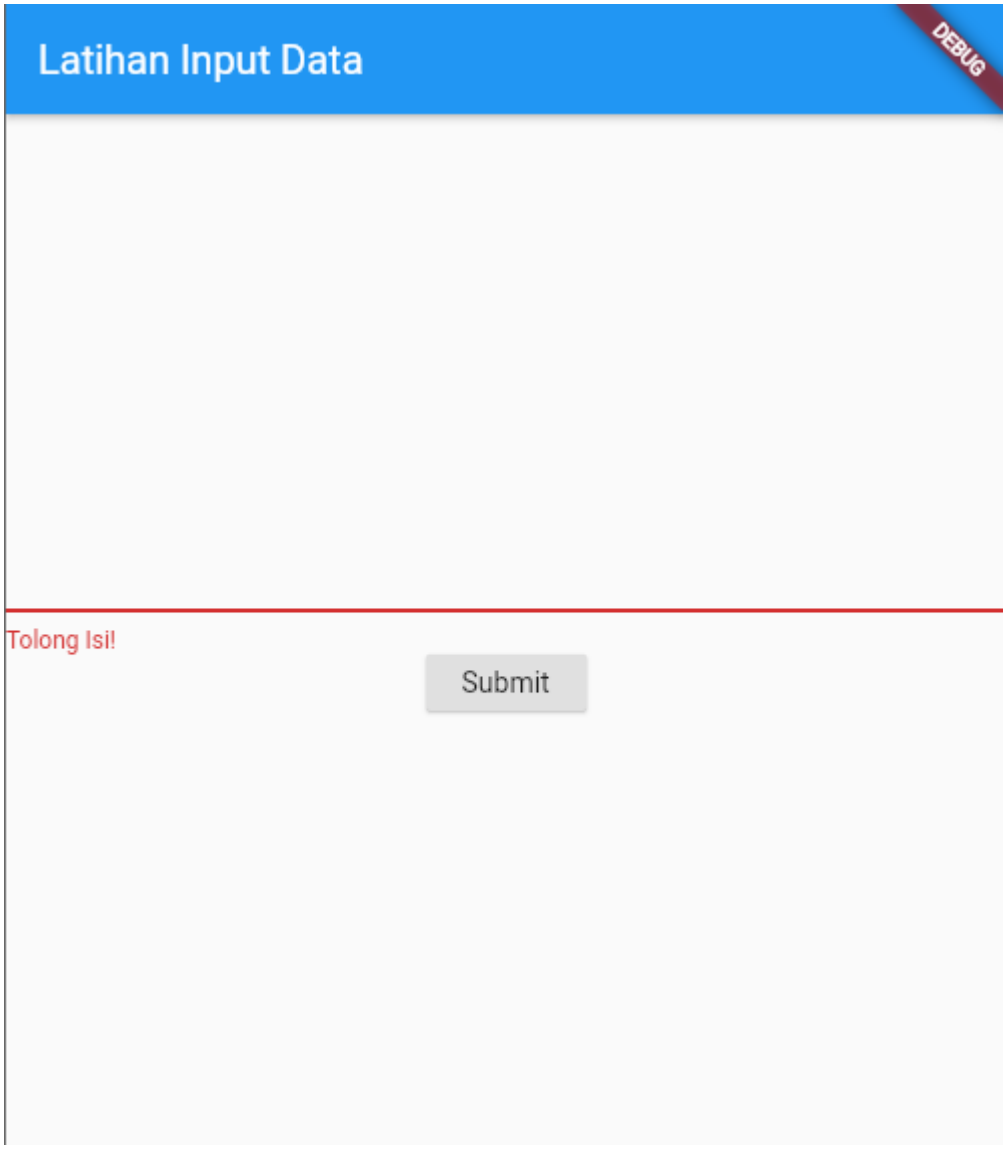
Latihan Input Form Widget

Dalam flutter, form digunakan untuk memberikan validasi jika terdapat kesalahan input pada beberapa komponen form, sehingga user dapat mengetahui apakah yang diisi sudah benar atau belum.

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

void main() => runApp(MyApp());

class MyApp extends StatefulWidget {
  MyApp({Key? key}) : super(key: key);

  @override
  _MyAppState createState() => _MyAppState();
}
```

```
class _MyAppState extends State<MyApp> {
  final _formkey = GlobalKey<FormState>();
  TextEditingController _controller = TextEditingController();

  @override
  Widget build(BuildContext context) {
    return MaterialApp(
      home: Scaffold(
        appBar: AppBar(
          title: Text("Latihan Input Data"),
        ),
        body: Center(
            child: Column(
          children: <Widget>[
            Padding(padding: EdgeInsets.only(top: 200)),
            TextFormField(
              controller: _controller,
              autovalidateMode: AutovalidateMode.onUserInteraction,
              validator: (value) {
                if (value!.isEmpty) {
                  return 'Tolong Isi!';
                }
                return null;
              },
            ),
            RaisedButton(
              child: Text('Submit'),
              onPressed: () {
                if (_formkey.currentState!.validate()) {
                  print('berhasil');
                } else {
                  print('Gagal');
                }
              },
            ),
          ],
        )),
      ),
    );
  }
}
```

Hasilnya :

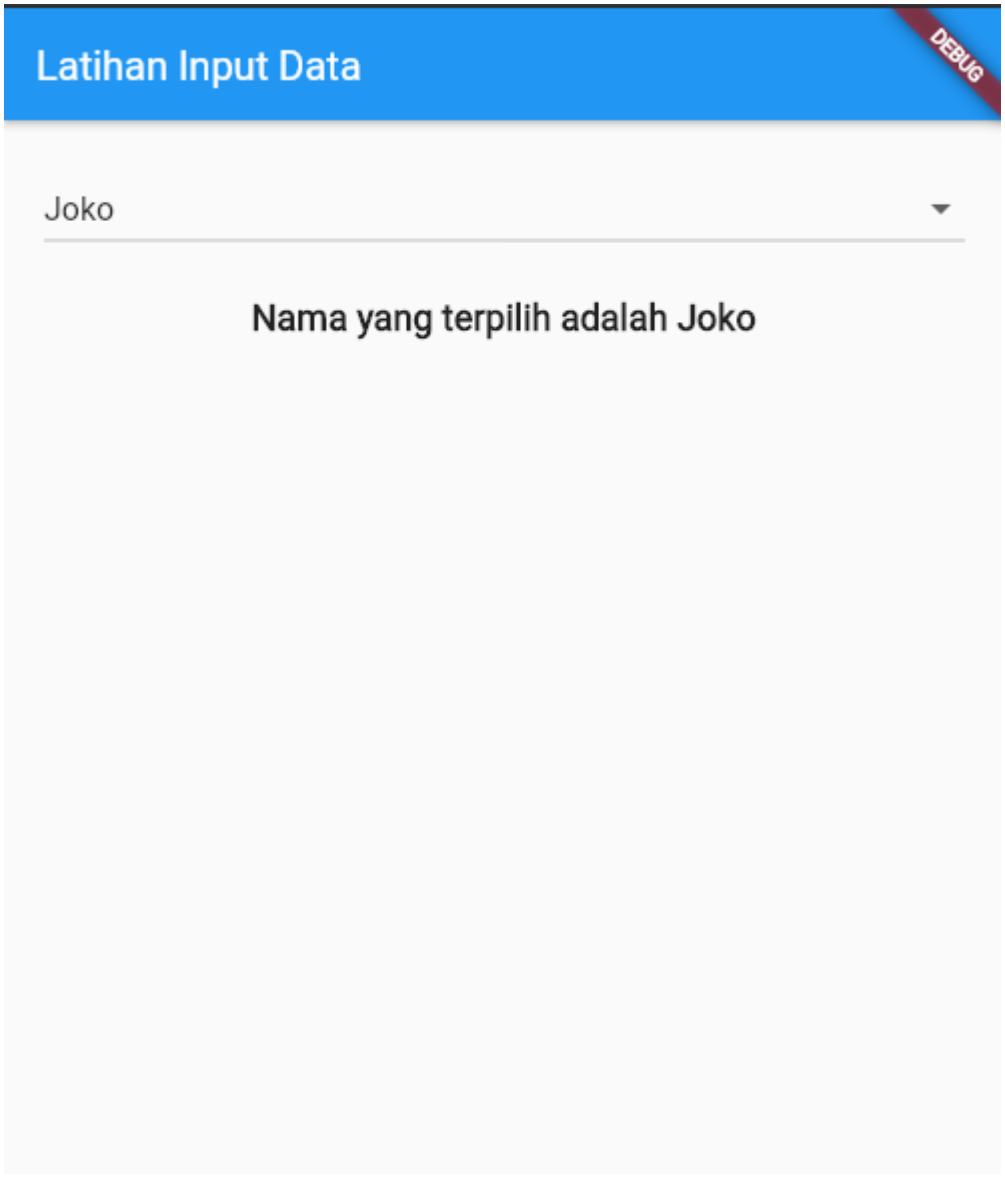


Latihan Dropdown

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

void main() => runApp(MyApp());

class MyApp extends StatefulWidget {
  @override
  _MyAppState createState() => _MyAppState();
}

class _MyAppState extends State<MyApp> {
  String selectedPerson = 'Joni';
  var listNama = ['Joni', 'Joko', 'Ahmad'];
```

```dart
  @override
  Widget build(BuildContext context) {
    return MaterialApp(
      home: Scaffold(
        appBar: AppBar(
          title: Text("Latihan Input Data"),
        ),
        body: Column(
          children: <Widget>[
            Container(
              margin: EdgeInsets.all(20),
              child: DropdownButton(
                value: selectedPerson,
                isExpanded: true,
                items: listNama.map((String item) {
                  return DropdownMenuItem(
                    value: item,
                    child: Text(item),
                  );
                }).toList(),
                onChanged: (String? item) {
                  setState(() {
                    selectedPerson = item!;
                  });
                },
              ),
            ),
            Text(
              selectedPerson == null
                  ? "Belum ada yang terpilih"
                  : "Nama yang terpilih adalah " + selectedPerson,
              style: TextStyle(
                fontSize: 18,
                fontWeight: FontWeight.bold,
              ),
            ),
          ],
        ),
      ),
    );
  }
}
```

Hasilnya



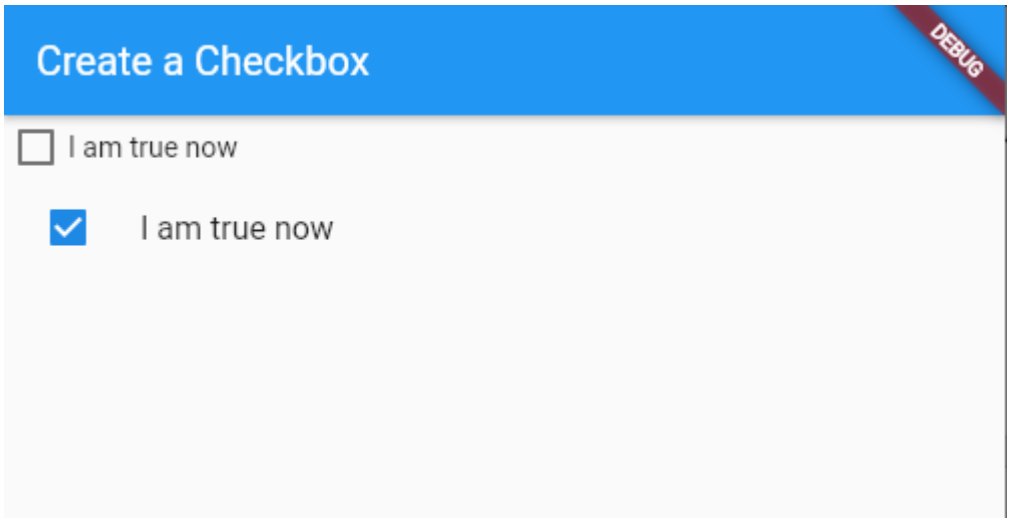
Latihan Checkbox

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

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

class MyApp extends StatelessWidget {
  // This widget is the root of your application.
  @override
  Widget build(BuildContext context) {
    return MaterialApp(
      title: 'Create a Checkbox',
```

```
      theme: ThemeData(
        primarySwatch: Colors.blue,
      ),
      home: MyHomePage(
        title: 'Create a Checkbox',
        Key: null,
      ),
    );
  }
}

class MyHomePage extends StatefulWidget {
  MyHomePage({required Key, required this.title});
  final String title;

  @override
  _MyHomePageState createState() => _MyHomePageState();
}

class _MyHomePageState extends State<MyHomePage> {
  bool _checkbox = false;
  bool _checkboxListTile = false;

  @override
  Widget build(BuildContext context) {
    return Scaffold(
      appBar: AppBar(
        title: Text('Create a Checkbox'),
      ),
      body: Center(
        child: Column(
          children: [
            Row(
              children: [
                Checkbox(
                  value: _checkbox,
                  onChanged: (value) {
                    setState(() {
                      _checkbox = !_checkbox;
                    });
                  },
                ),
                Text('I am true now'),
              ],
            ),
            CheckboxListTile(
              controlAffinity: ListTileControlAffinity.leading,
              title: Text('I am true now'),
```

```
              value: _checkboxListTile,
              onChanged: (value) {
                setState(() {
                  _checkboxListTile = !_checkboxListTile;
                });
              },
            )
          ],
        ),
      ),
    );
  }
}
```

Hasilnya

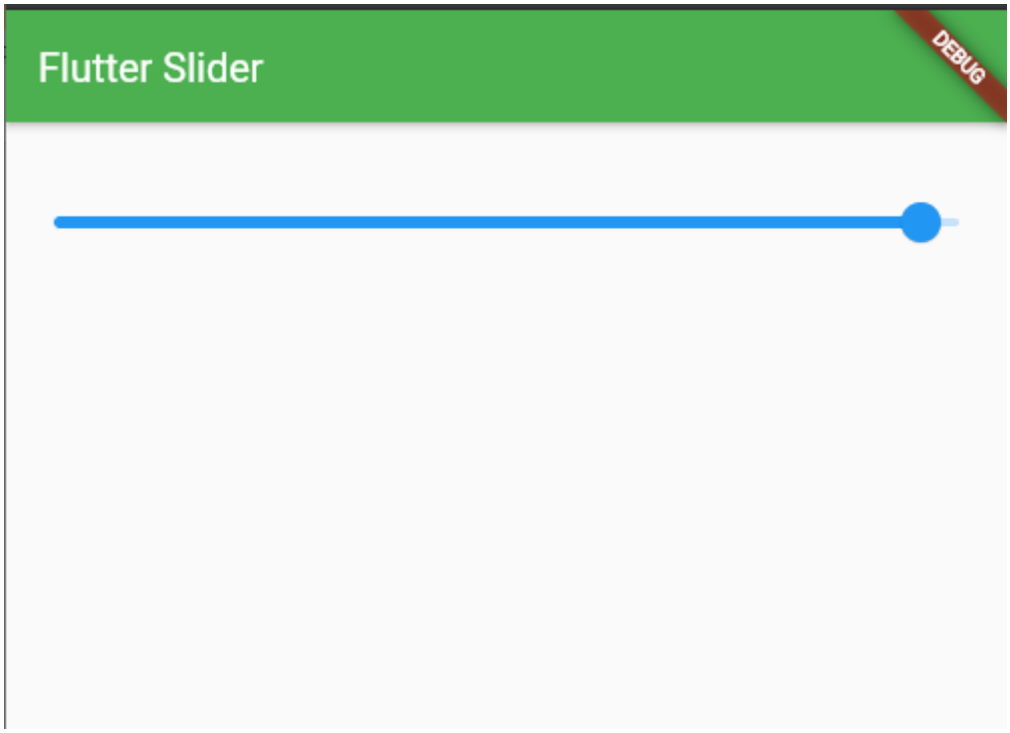


Latihan Slider

```
import 'package:flutter/cupertino.dart';
import 'package:flutter/gestures.dart';
import 'package:flutter/material.dart';
import 'package:flutter/rendering.dart';

import 'dart:async';

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

//void main() => runApp(MyApp());
```

```
class MyApp extends StatefulWidget {
  @override
  _MyState createState() {
    return _MyState();
  }
}

class _MyState extends State<MyApp> {
  bool _value = false;
  double val = 1;
  @override
  Widget build(BuildContext context) {
    return MaterialApp(
        home: Scaffold(
            appBar: AppBar(
              backgroundColor: Colors.green,
              title: Text("Flutter Slider"),
            ),
            body: Container(
                height: 100,
                child: Slider(
                  value: val,
                  onChanged: (value) {
                    setState(() {
                      val = value;
                    });
                  },
                ))));
  }
}
```

Hasilnya



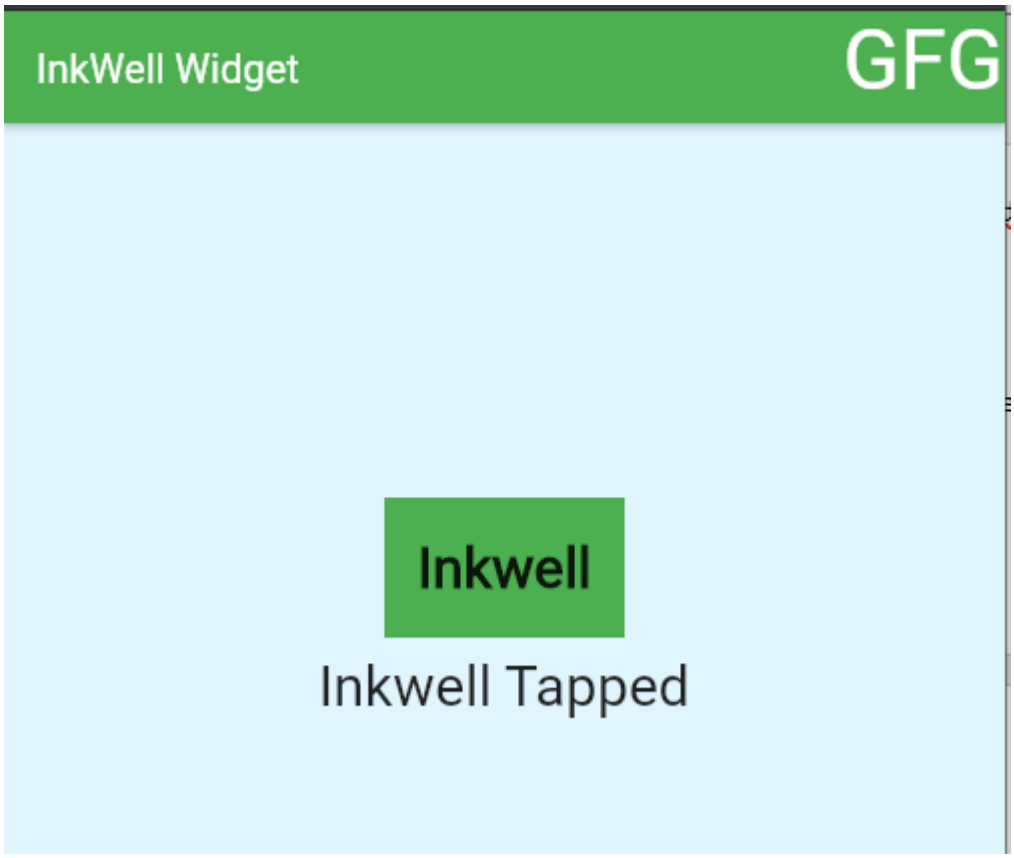
Latihan Inkwell Widget

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

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

class MyApp extends StatelessWidget {
  // This widget is the root of your application.
  @override
  Widget build(BuildContext context) {
    return MaterialApp(
      title: 'InkWell',
      theme: ThemeData(
        primarySwatch: Colors.blue,
      ),
      home: MyHomePage(),
      debugShowCheckedModeBanner: false,
    );
  }
}
```

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

class _MyHomePageState extends State<MyHomePage> {
  String inkwell = '';

  @override
  Widget build(BuildContext context) {
    return Scaffold(
      appBar: AppBar(
        title: Text('InkWell Widget'),
        backgroundColor: Colors.green,
        actions: <Widget>[
          Text(
            'GFG',
            textScaleFactor: 3,
          )
        ],
      ),
      backgroundColor: Colors.lightBlue[50],
      body: Center(
        child: Column(
          mainAxisAlignment: MainAxisAlignment.center,
          children: <Widget>[
            InkWell(
              onTap: () {
                setState(() {
                  inkwell = 'Inkwell Tapped';
                });
              },
              onLongPress: () {
                setState(() {
                  inkwell = 'InkWell Long Pressed';
                });
              },
              child: Container(
                  color: Colors.green,
                  width: 120,
                  height: 70,
                  child: Center(
                      child: Text(
                    'Inkwell',
                    textScaleFactor: 2,
                    style: TextStyle(fontWeight: FontWeight.bold),
                  ))),
            ),
```

```
            Padding(
              padding: const EdgeInsets.all(8.0),
              child: Text(
                inkwell,
                textScaleFactor: 2,
              ),
            )
          ],
        ),
      ),
    );
  }
}
```

Hasilnya



Latihan Textfield Widget

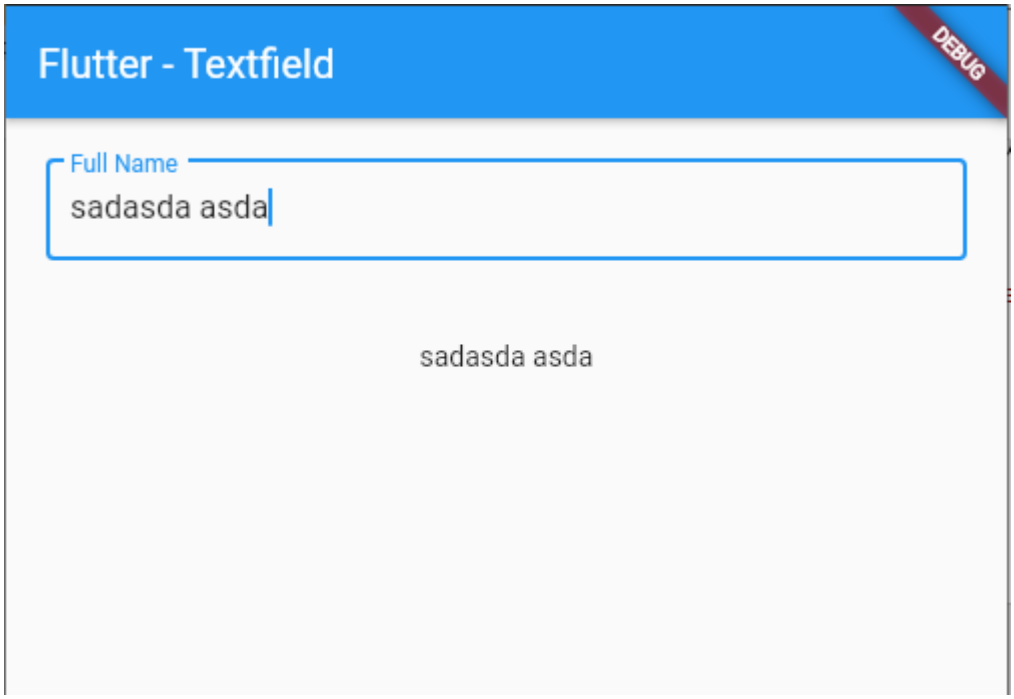
Text field adalah widget yang memperbolehkan user untuk memberikan input berupa kumpulan teks dalam suatu kolom.

Text field juga bisa ditambahkan fungsi ketika user mengetik, selesai mengetik, atau saat di submit, kemudian dari segi desain juga dapat ditambahkan hint text (petunjuk), warna, dan juga border sesuai dengan kebutuhan.

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

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

class MyApp extends StatefulWidget {
  @override
  _MyAppState createState() => _MyAppState();
}

class _MyAppState extends State<MyApp> {
  TextEditingController nameController = TextEditingController();
  String fullName = '';

  @override
  Widget build(BuildContext context) {
    return MaterialApp(
      home: Scaffold(
          appBar: AppBar(
            title: Text('Flutter - Textfield'),
          ),
          body: Center(
              child: Column(children: <Widget>[
            Container(
                margin: EdgeInsets.all(20),
                child: TextField(
                  controller: nameController,
                  decoration: InputDecoration(
                    border: OutlineInputBorder(),
                    labelText: 'Full Name',
                  ),
                  onChanged: (text) {
                    setState(() {
                      fullName = text;
                    });
                  },
                )),
            Container(
              margin: EdgeInsets.all(20),
```

```
              child: Text(fullName),
            )
          ])),
    );
  }
}
```

Hasilnya



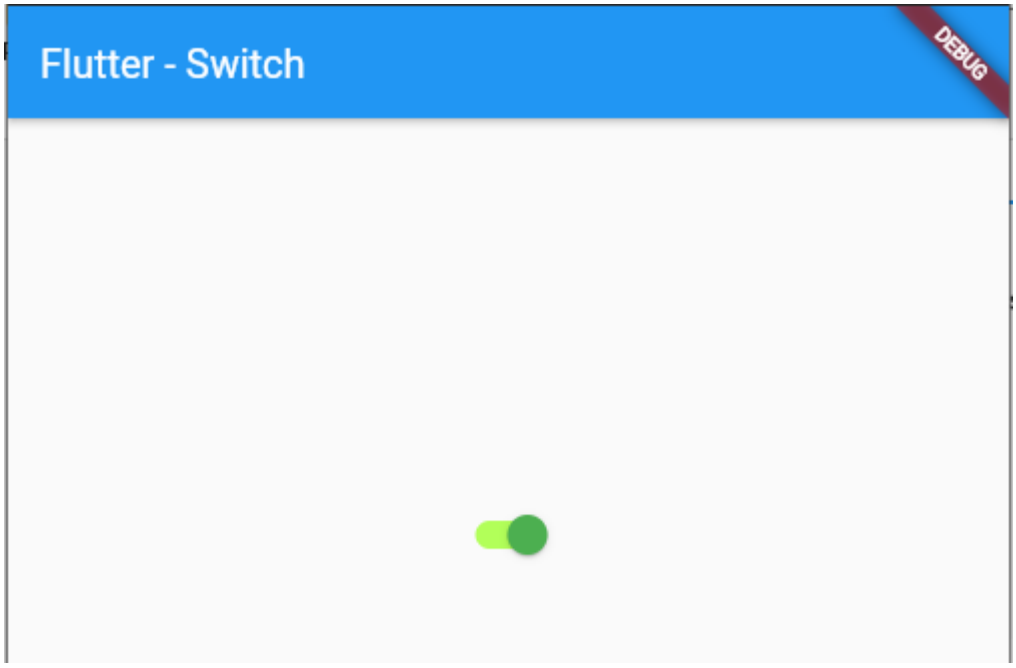
Latihan Switch Widget

Fungsi switch dalam flutter adalah untuk mengubah pengaturan dari on dan off, atau true dan false. switch dapat diberikan judul dan juga icon agar mempermudah user dalam membuat keputusan.

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

void main() {
  runApp(MaterialApp(
    home: MyApp(),
  ));
}

class MyApp extends StatefulWidget {
  @override
  _State createState() => _State();
```

```
}

class _State extends State<MyApp> {
  bool isSwitched = false;

  @override
  Widget build(BuildContext context) {
    return Scaffold(
        appBar: AppBar(
          title: Text('Flutter - Switch'),
        ),
        body: Center(
          child: Switch(
            value: isSwitched,
            onChanged: (value) {
              setState(() {
                isSwitched = value;
                print(isSwitched);
              });
            },
            activeTrackColor: Colors.lightGreenAccent,
            activeColor: Colors.green,
          ),
        ));
  }
}
```

Hasilnya



Latihan Chips Widget

Salah satu metode untuk menampilkan data dalam aplikasi adalah dengan menggunakan fitur chips dalam flutter. Chips sendiri merupakan compact element yang terdapat attribute text dan action di dalamnya, dan Flutter juga memberikan banyak sekali pilihan bagi developer.

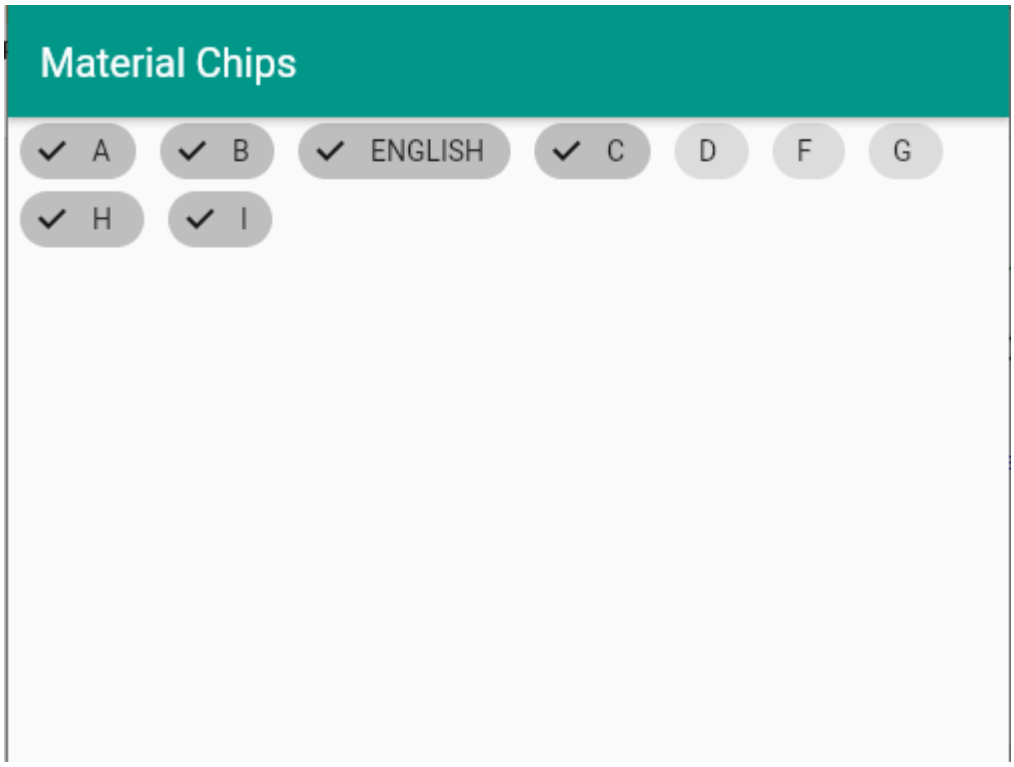
Beberapa bentuk dari Chips ialah sebagai berikut:
-Input chips (chips yang memberikan informasi dalam bentuk yang ringkas, biasanya digunakan pada form).
-Choice chips (mirip radio button, jika dipilih salah satu, maka itu saja yang dapat dipilih).
-Filter chips (chips yang memiliki beberapa kategori di dalamnya, dan bisa di delete, dan di pilih).
-Action chips (digunakan untuk memicu suatu aksi).

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

void main() => runApp(MyApp());

class MyApp extends StatelessWidget {
  // This widget is the root of your application.
  @override
  Widget build(BuildContext context) {
    return MaterialApp(
      title: 'Material Chips',
      debugShowCheckedModeBanner: false,
      theme: ThemeData(
        primarySwatch: Colors.teal,
      ),
      home: ChipsDemo(),
      // MyHomePage(title: 'Flutter Api Call'),
```

```
    );
  }
}

class ChipsDemo extends StatefulWidget {
  const ChipsDemo({Key? key}) : super(key: key);
  @override
  _ChipsDemoState createState() => _ChipsDemoState();
}

class _ChipsDemoState extends State<ChipsDemo> {
  var thumbType = ["A", "B", "ENGLISH", "C", "D ", "F ", "G ", "H ", "I"];
  List<bool> selectedList = [];
  List<String> selectedLanguage = [];
  @override
  Widget build(BuildContext context) {
    return Scaffold(
      appBar: AppBar(
        brightness: Brightness.dark,
        title: Text("Material Chips"),
      ),
      body: Wrap(
        children: [for (int i = 0; i < thumbType.length; i++) _listItem(i)],
      ),
    );
  }

  Widget _listItem(int i) {
    selectedList.add(false);
    return Container(
      margin: EdgeInsets.only(left: 6, right: 6, top: 3, bottom: 3),
      child: FilterChip(
        label: Text(thumbType[i]),
        selected: selectedList[i],
        onSelected: (bool value) {
          setState(() {
            if (value) {
              selectedLanguage.add(thumbType[i]);
            } else {
              selectedLanguage.remove(thumbType[i]);
            }
            selectedList[i] = value;
            //get selected language
            debugPrint("selected Language :  $selectedLanguage");
          });
        },
      ),
    );
```

```
  }
}
```

Hasilnya



Latihan Navigation & Routing

Flutter memiliki fitur dimana user dapat mengklik tombol untuk pindah ke halaman lain, tombol tersebut dapat diberikan ukuran dan juga teks sesuai kebutuhan. Fitur ini juga dapat membuat user kembali ke halaman sebelumnya jika user menekan tombol kembali di kiri atas.

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

void main() => runApp(MyApp());

class MyApp extends StatelessWidget {
  @override
  Widget build(BuildContext context) {
    return MaterialApp(
      title: 'Flutter Demo',
      theme: ThemeData(
        primarySwatch: Colors.red,
      ),
```

```
      home: MyHomePage(
        title: 'Navigation',
        Key: null,
      ),
    );
  }
}

class MyHomePage extends StatefulWidget {
  MyHomePage({required Key, required this.title});
  final String title;

  @override
  _MyHomePageState createState() => _MyHomePageState();
}

class _MyHomePageState extends State<MyHomePage> {
  @override
  Widget build(BuildContext context) {
    return Scaffold(
        appBar: AppBar(
          title: Text(widget.title),
        ),
        body: Center(
          child: RaisedButton(
              onPressed: () => {
                    Navigator.push(context,
                        MaterialPageRoute(builder: (context) => SecondScreen()
))
                  },
              child: Text('Next Screen')),
        ));
  }
}

class SecondScreen extends StatelessWidget {
  @override
  Widget build(BuildContext context) {
    return Scaffold(
        appBar: AppBar(
          title: Text('Second Screen'),
        ),
        body: Center(
          child: RaisedButton(
              onPressed: () => {Navigator.pop(context)},
              child: Text('Go Back')),
        ));
  }
```

```
}
```

Hasilnya