

PEMROGRAMAN MOBILE
JOBSHEET 5 – FLUTTER 2



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SIB 3C – 26

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PROGRAM STUDI D-IV SISTEM INFORMASI BISNIS
JURUSAN TEKNOLOGI INFORMASI

Praktikum 1 : Membangun Layout di Flutter

1. Buat project flutter baru dengan nama layout_flutter
2. Ubah kode main.dart seperti berikut

```
@override
Widget build(BuildContext context) {
  return MaterialApp(
    title: 'Flutter layout: Muhammad Rohman Al K / 2341760055',
    home: Scaffold(
      appBar: AppBar(title: const Text('Flutter layout demo')),
      body: Column(children: [titleSection]),
    ),
  );
}
```

3. Implementasi title row

```
7
8   Widget get titleSection => Container(
9     padding: const EdgeInsets.all(32),
10    child: Row(
11      children: [
12        Expanded(
13          /* soal 1*/
14          child: Column(
15            crossAxisAlignment: CrossAxisAlignment.start,
16            children: [
17              /* soal 2*/
18              Container(
19                padding: const EdgeInsets.only(bottom: 8),
20                child: const Text(
21                  'Wisata Gunung di Batu',
22                  style: TextStyle(fontWeight: FontWeight.bold),
23                ),
24              Text(
25                'Batu, Malang, Indonesia',
26                style: TextStyle(color: Colors.grey[500]),
27              ),
28            ],
29          ),
30        ),
31        /* soal 3*/
32        Icon(Icons.star, color: Colors.red[500]),
33        const Text("41"),
34      ],
35    ),
36  );
37
```

Hasil:



Praktikum 2 : Implementasi button row

1. Buat method Column _buildButtonColumn

```

23 Column _buildButtonColumn(Color color, IconData icon, String label) {
24   return Column(
25     mainAxisAlignment: MainAxisAlignment.min,
26     mainAxisAlignment: MainAxisAlignment.center,
27     children: [
28       Icon(icon, color: color),
29       Container(
30         margin: const EdgeInsets.only(top: 8),
31         child: Text(
32           label,
33           style: TextStyle(
34             fontSize: 12,
35             fontWeight: FontWeight.w400,
36             color: color,
37           ),
38         ),
39       ],
40     ),
41   );
42 }

```

2. Buat widget buttonSection

```

5 Widget buttonSection = Row(
6   mainAxisAlignment: MainAxisAlignment.spaceEvenly,
7   children: [
8     _buildButtonColumn(color, Icons.call, 'CALL'),
9     _buildButtonColumn(color, Icons.near_me, 'ROUTE'),
10    _buildButtonColumn(color, Icons.share, 'SHARE'),
11  ],
12 );

```

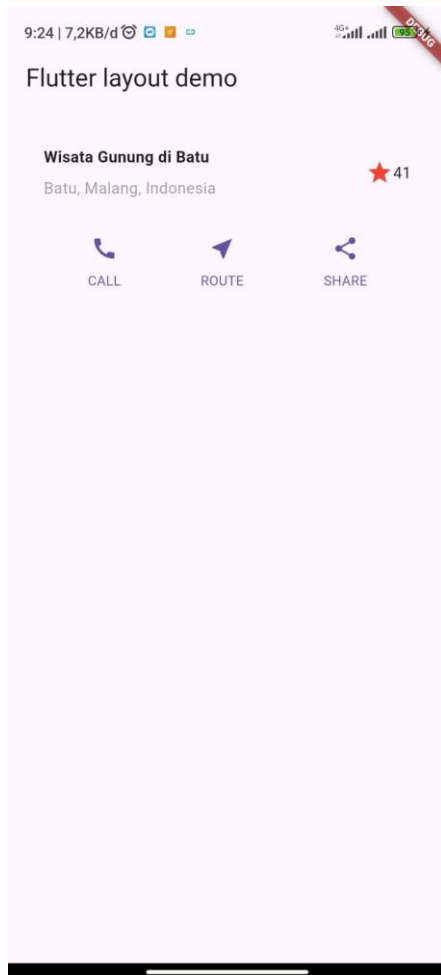
3. Tambah button section ke body

```

14   return MaterialApp(
15     title: 'Flutter layout: Muhammad Rohman Al K / 2341760055',
16     home: Scaffold(
17       appBar: AppBar(title: const Text('Flutter layout demo')),
18       body: Column(children: [titleSection, buttonSection]),
19     ),
20   );

```

Hasil:



Praktikum 3 : Implementasi text section

1. Buat widget textSection

```

1   Widget textSection = Container(
2     padding: const EdgeInsets.all(32),
3     child: const Text(
4       'Nama: Muhammad Rohman Al Kautsar\n'
5       'NIM: 2341760055\n\n'
6       'Pantai Kebo adalah destinasi wisata yang terletak di Desa Ngulungwetan,'
7       'Kecamatan Munjunggan, Kabupaten Trenggalek, Jawa Timur.'
8       'Pantai ini dikenal karena keindahan alamnya yang asri,'
9       'menawarkan perpaduan antara hamparan rumput hijau layaknya sabana dan pemandangan laut yang memesona.',
10      softWrap: true,
11    ),
12  );

```

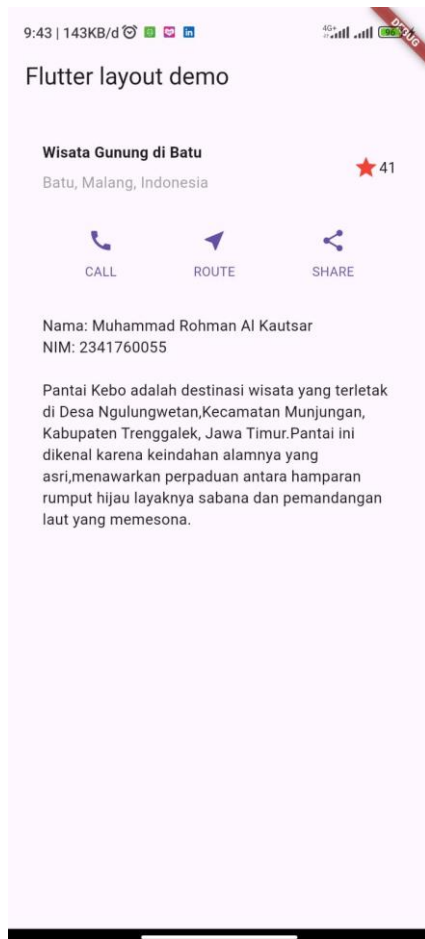
2. Tambahkan variabel text section ke body

```

13
14   return MaterialApp(
15     title: 'Flutter layout: Muhammad Rohman Al K / 2341760055',
16     home: Scaffold(
17       appBar: AppBar(title: const Text('Flutter layout demo')),
18       body: ListView(
19         children: [
20           titleSection,
21           buttonSection,
22           textSection
23         ],
24       ),
25     );
26 }

```

Hasil:



Praktikum 4 : Implementasi image section

1. Siapkan aset gambar taruh di folder images dalam project layout_flutter lalu set nama file di file pubspec.yaml

```

1 flutter:
2
3   # The following line ensures that the Material Icons font is
4   # included with your application, so that you can use the icons in
5   # the material Icons class.
6   uses-material-design: true
7   assets:
8     - images/pantaikebo.webp

```

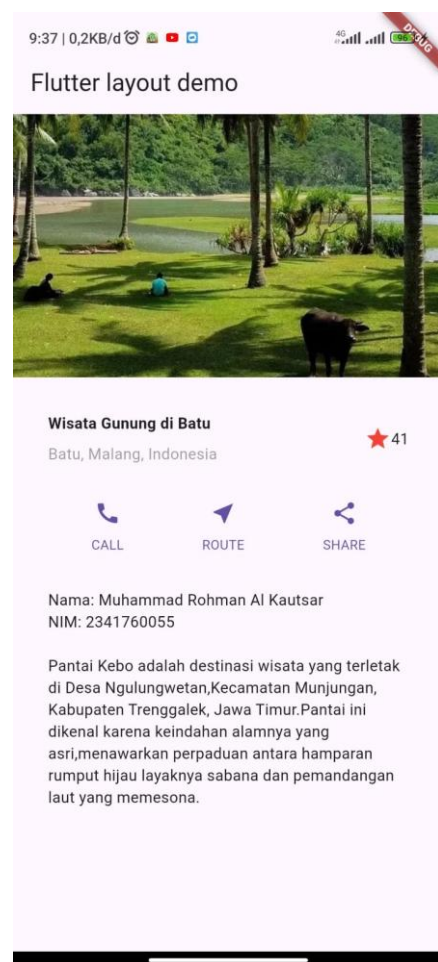
2. Tambahkan gambar ke body dan ubah menjadi listview

```

1  return MaterialApp(
2    title: 'Flutter layout: Muhammad Rohman Al K / 2341760055',
3    home: Scaffold(
4      appBar: AppBar(title: const Text('Flutter layout demo')),
5      body: ListView(
6        children: [
7          Image.asset(
8            'images/pantaikebo.webp',
9            width: 600,
10           height: 240,
11           fit: BoxFit.cover,
12         ),
13         titleSection,
14         buttonSection,
15         textSection
16       ],
17     ),
18   );
19 }

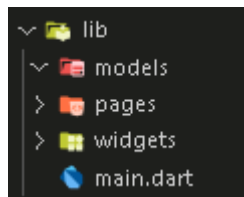
```

Hasil:



Praktikum 5 : Membangun Navigasi di Flutter

1. Siapkan project baru dengan nama belanja dan buat beberapa folder



2. Buat dua buah file dart dengan nama `home_page.dart` dan `item_page.dart` pada folder `pages` untuk mendefinisikan route

```
1 import 'package:flutter/widgets.dart';
2
3 class HomePage extends StatelessWidget{
4   @override
5   Widget build(BuildContext context) {
6     // TODO: implement build
7     throw UnimplementedError();
8   }
9 }
```

```
1 import 'package:flutter/widgets.dart';
2
3 class ItemPage extends StatelessWidget{
4   @override
5   Widget build(BuildContext context) {
6     // TODO: implement build
7     throw UnimplementedError();
8   }
9 }
```

3. Lengkapi kode di `main.dart` untuk mendefinisikan Route untuk kedua halaman

```
1 class MyApp extends StatelessWidget {
2   const MyApp({super.key});
3
4   @override
5   Widget build(BuildContext context) {
6     return (MaterialApp(
7       initialRoute: '/',
8       routes: {
9         '/': (context) => HomePage(),
10        '/item': (context) => ItemPage()
11      },
12    ));
13  }
14 }
```

4. Buat data model Item

```
1 class Item {
2   final String name;
3   final int price;
4
5   Item({required this.name, required this.price});
6 }
```

5. Definisikan model pada `home_page.dart`

```

1 class HomePage extends StatelessWidget{
2   final List<Item> items = [
3     Item(name: 'Sugar', price: 5000),
4     Item(name: 'Salt', price: 2000)
5   ];

```

6. Buat ListView dan itemBuilder

```

1 @override
2 Widget build(BuildContext context) {
3   return Scaffold(
4     appBar: AppBar(title: const Text("Shopping List")),
5     body: Container(
6       margin: EdgeInsets.all(8),
7       child: ListView.builder(
8         padding: EdgeInsets.all(8),
9         itemCount: items.length,
10        itemBuilder: (context, index) {
11          final item = items[index];
12          return Card(
13            child: Container(
14              margin: EdgeInsets.all(8),
15              child: Row(
16                children: [
17                  Expanded(child: Text(item.name)),
18                  Expanded(
19                    child: Text(
20                      item.price.toString(),
21                      textAlign: TextAlign.end,
22                    ),
23                  ),
24                ],
25              ),
26            ),
27          );
28        },
29      ),
30    ),
31  );
32 }

```

Hasil:



7. Menambahkan aksi pada ListView

```
1 return InkWell(
2   onTap: () {
3     Navigator.pushNamed(context, '/item');
4   },
5   child: Card(
```

Tugas Praktikum

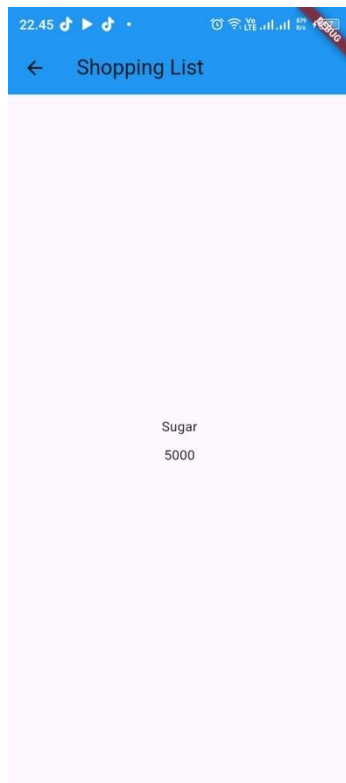
1. Melakukan pengiriman data ke halaman berikutnya, tambahkan informasi arguments pada penggunaan Navigator

```
1 return InkWell(
2   onTap: () {
3     Navigator.pushNamed(context, '/item', arguments: item);
4   },
```

2. Pembacaan nilai yang dikirimkan pada halaman sebelumnya dapat dilakukan menggunakan ModalRoute. Tambahkan kode berikut pada blok fungsi build dalam halaman ItemPage

```
8 @override
9 Widget build(BuildContext context) {
10   final itemArgs = ModalRoute.of(context)!.settings.arguments as Item;
11 }
```

Hasil:



3. Tambahkan atribut foto produk, stok, dan rating. Ubahlah tampilan menjadi GridView

```

1 class Item {
2   String name;
3   int price;
4   int stok;
5   double rating;
6   String image;
7   String desk;
8
9   Item({
10    this.name = '',
11    this.price = 0,
12    this.stok = 0,
13    this.rating = 0,
14    this.image = '',
15    this.desk = '',
16  });
17 }
18

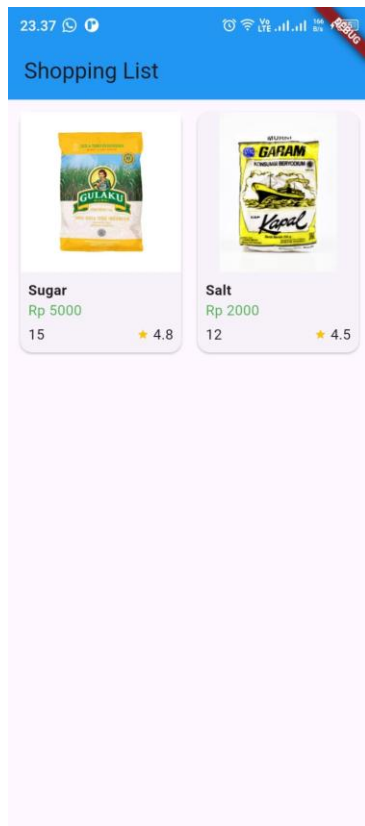
```

```

1 @override
2 Widget build(BuildContext context) {
3   return Scaffold(
4     appBar: AppBar(
5       title: Text('Shopping List'),
6       backgroundColor: Colors.blue,
7     ),
8     body: GridView.builder(
9       padding: EdgeInsets.all(8),
10      gridDelegate: SliverGridDelegateWithFixedCrossAxisCount(
11        crossAxisCount: 2,
12        crossAxisSpacing: 10,
13        mainAxisSpacing: 10,
14        childAspectRatio: 0.65,
15      ),

```

Hasil:



4. Implementasikan Hero widget pada home_page dan item_page

```

1 Hero(
2   tag: 'item-${item.name}',
3   child: AspectRatio(
4     aspectRatio: 1,
5     child: Image.asset(
6       item.image,
7       fit: BoxFit.cover,
8     ),
9   ),
10 ),

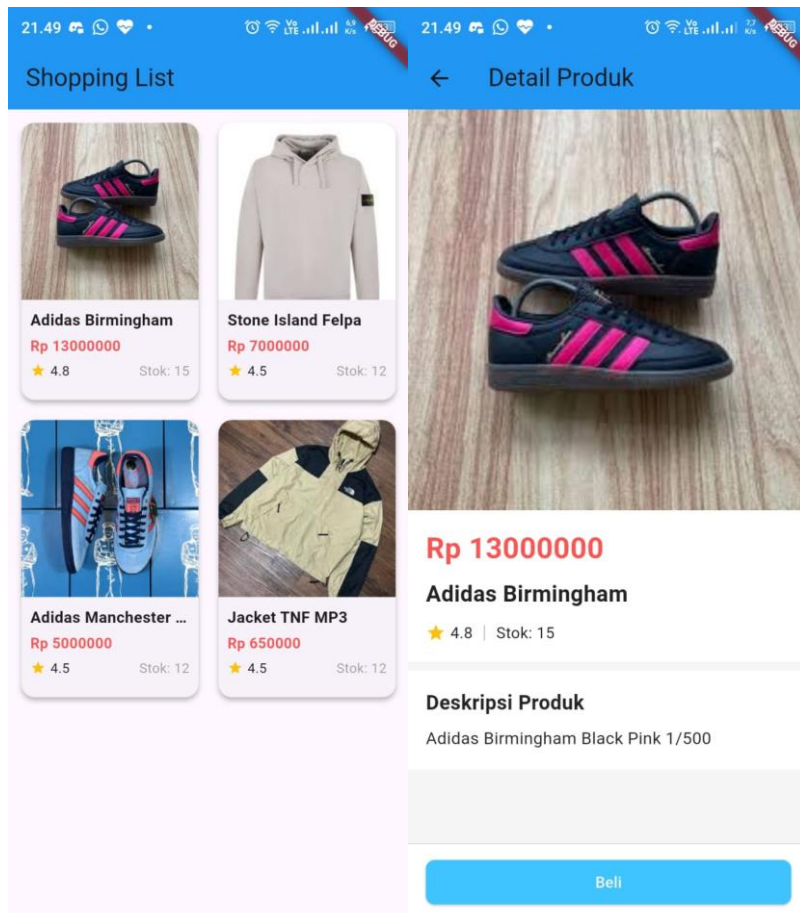
```

```

1 Hero(
2   tag: 'item-${item.name}',
3   child: AspectRatio(
4     aspectRatio: 1,
5     child: Image.asset(
6       item.image,
7       fit: BoxFit.cover,
8       width: double.infinity,
9     ),
10   ),
11 ),

```

Hasil:



5. Modifikasi tampilan dan pecah widget menjadi kode kecil
- Widget `item_card` untuk card grid pada `home_page`

```

1  import 'package:flutter/material.dart';
2  import '../models/item.dart';
3
4  class ItemCard extends StatelessWidget {
5    final Item item;
6    final VoidCallback onTap;
7
8    const ItemCard({super.key, required this.item, required this.onTap});
9
10   @override
11   Widget build(BuildContext context) {
12     return InkWell(
13       onTap: onTap,
14       child: Card(
15         elevation: 3,
16         shape: RoundedRectangleBorder(
17           borderRadius: BorderRadius.circular(12),
18         ),
19         clipBehavior: Clip.antiAlias,
20         child: Column(
21           crossAxisAlignment: CrossAxisAlignment.start,
22           children: [
23             Hero(
24               tag: 'item-${item.name}',
25               child: AspectRatio(
26                 aspectRatio: 1,
27                 child: Image.asset(
28                   item.image,
29                   fit: BoxFit.cover,
30                 ),
31             ),
32             Padding(
33               padding: const EdgeInsets.all(8.0),
34               child: Column(
35                 crossAxisAlignment: CrossAxisAlignment.start,
36                 children: [
37                   Text(
38                     item.name,
39                     style: const TextStyle(
40                       fontWeight: FontWeight.bold,
41                       fontSize: 14,
42                     ),
43                     maxLines: 1,
44                     overflow: TextOverflow.ellipsis,
45                   ),
46                   const SizedBox(height: 4),
47                   Text(
48                     'Rp ${item.price}',
49                     style: const TextStyle(
50                       color: Colors.redAccent,
51                       fontWeight: FontWeight.w600,
52                       fontSize: 13,
53                     ),
54                   ),
55                   const SizedBox(height: 4),
56                   Row(
57                     children: [
58                       const Icon(Icons.star, color: Colors.amber, size: 14),
59                       const SizedBox(width: 4),
60                       Text(
61                         item.rating.toString(),
62                         style: const TextStyle(fontSize: 12),
63                       ),
64                       const Spacer(),
65                       Text(
66                         'Stok: ${item.stok}',
67                         style: const TextStyle(fontSize: 12, color: Colors.grey),
68                       ),
69                     ],
70                   ),
71                 ],
72             ),
73             ),
74             ),
75             ),
76             ),
77             ),
78             );
79   }
80 }
81

```

- Item_detail_head.dart untuk tampilan detail produk (gambar, harga, stok, rating)

```

1 import 'package:flutter/material.dart';
2 import '../models/item.dart';
3
4 class ItemDetailHead extends StatelessWidget {
5   final Item item;
6
7   const ItemDetailHead({super.key, required this.item});
8
9   @override
10  Widget build(BuildContext context) {
11    return GestureDetector(
12      onTap: () {
13        Navigator.pop(context);
14      },
15      child: Column(
16        crossAxisAlignment: CrossAxisAlignment.start,
17        children: [
18          Hero(
19            tag: 'item-${item.name}',
20            child: AspectRatio(
21              aspectRatio: 1,
22              child: Image.asset(
23                item.image,
24                fit: BoxFit.cover,
25                width: double.infinity,
26              ),
27            ),
28          ),
29          Container(
30            color: Colors.white,
31            padding: const EdgeInsets.all(16),
32            child: Column(
33              crossAxisAlignment: CrossAxisAlignment.start,
34              children: [
35                Text(
36                  'Rp ${item.price}',
37                  style: const TextStyle(
38                    color: Colors.redAccent,
39                    fontSize: 26,
40                    fontWeight: FontWeight.bold,
41                  ),
42                ),
43                const SizedBox(height: 8),
44                Text(
45                  item.name,
46                  style: const TextStyle(
47                    fontSize: 20,
48                    fontWeight: FontWeight.w600,
49                    color: Colors.black87,
50                  ),
51                ),
52                const SizedBox(height: 10),
53                Row(
54                  children: [
55                    const Icon(Icons.star, color: Colors.amber, size: 18),
56                    const SizedBox(width: 4),
57                    Text(item.rating.toString(), style: const TextStyle(fontSize: 14)),
58                    const SizedBox(width: 10),
59                    Container(height: 14, width: 1, color: Colors.grey.shade400),
60                    const SizedBox(width: 10),
61                    Text('Stok: ${item.stok}', style: const TextStyle(fontSize: 14)),
62                  ],
63                ),
64              ],
65            ),
66          ),
67        ],
68      ),
69    );
70  }
71 }
72

```

- Item_detail_desk untuk tampilan deskripsi produk

```

1 import 'package:flutter/material.dart';
2 import '../models/item.dart';
3
4 class ItemDetailDesk extends StatelessWidget {
5   final Item item;
6
7   const ItemDetailDesk({super.key, required this.item});
8
9   @override
10  Widget build(BuildContext context) {
11    return Container(
12      color: Colors.white,
13      width: double.infinity,
14      padding: const EdgeInsets.all(16),
15      child: Column(
16        crossAxisAlignment: CrossAxisAlignment.start,
17        children: [
18          const Text(
19            'Deskripsi Produk',
20            style: TextStyle(
21              fontSize: 18,
22              fontWeight: FontWeight.bold,
23              color: Colors.black87,
24            ),
25          ),
26          const SizedBox(height: 8),
27          Text(
28            item.desk,
29            style: const TextStyle(fontSize: 15, color: Colors.black87, height: 1.5),
30            textAlign: TextAlign.justify,
31          ),
32        ],
33      ),
34    );
35  }
36 }
37

```

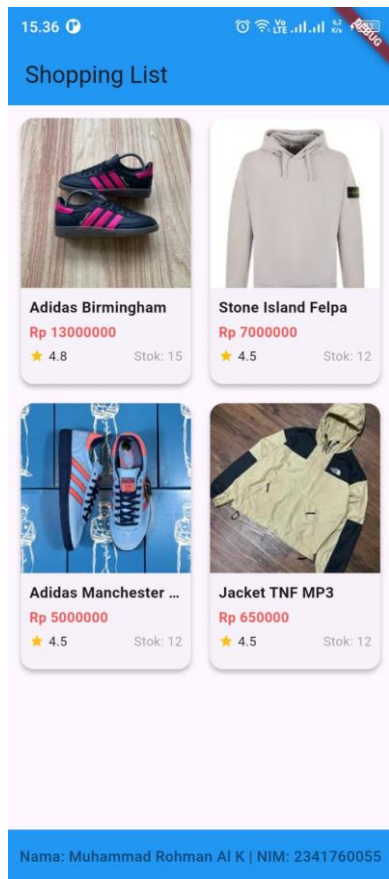
6. Tambahkan footer NIM dan Nama

```

1 import 'package:flutter/material.dart';
2
3 class Footer extends StatelessWidget {
4   const Footer({super.key});
5
6   @override
7   Widget build(BuildContext context) {
8     return Container(
9       height: 50,
10      color: Colors.blue,
11      child: const Center(
12        child: Text(
13          'Nama: Muhammad Rohman Al K | NIM: 2341760055',
14          style: TextStyle(
15            fontSize: 14,
16            fontWeight: FontWeight.w500,
17            color: Colors.black54,
18          ),
19        ),
20      ),
21    );
22  }
23 }
24

```

Hasil:



7. Gunakan plugin GoRoute untuk route

- Install plugin GoRoute

```
PS C:\JSFlutter\belanja> flutter pub add go_router
Resolving dependencies...
Downloading packages... (2.2s)
  characters 1.4.0 (1.4.1 available)
  flutter_lints 5.0.0 (6.0.0 available)
+ flutter_web_plugins 0.0.0 from sdk flutter
+ go_router 16.2.4
  lints 5.1.1 (6.0.0 available)
+ logging 1.3.0
```

- Ubah kode main.dart


```

1 import 'package:belanja/models/item.dart';
2 import 'package:belanja/pages/home_page.dart';
3 import 'package:belanja/pages/item_page.dart';
4 import 'package:flutter/material.dart';
5 import 'package:go_router/go_router.dart';
6
7 void main() {
8   runApp(const MyApp());
9 }
10
11 class MyApp extends StatelessWidget {
12   const MyApp({super.key});
13
14   @override
15   Widget build(BuildContext context) {
16     final GoRouter router = GoRouter(
17       routes: [
18         GoRoute(path: '/', builder: (context, state) => HomePage()),
19         GoRoute(
20           path: '/item',
21           builder: (context, state) {
22             final item = state.extra as Item;
23             return ItemPage(item: item);
24           },
25         ),
26       ],
27     );
28
29     return MaterialApp.router(
30       routerConfig: router,
31       debugShowCheckedModeBanner: false,
32     );
33   }
34 }
35

```

- Ubah navigator pada home_page.dart

```

1 return ItemCard(
2   item: item,
3   onTap: () => context.push('/item', extra: item),
4 );

```

- Ubah kode item_page.dart untuk pemanggilan item

```

1 class ItemPage extends StatelessWidget {
2   final Item item;
3
4   const ItemPage({super.key, required this.item});
5
6   @override
7   Widget build(BuildContext context) {
8     return Scaffold(

```

```

1   body: SingleChildScrollView(
2     child: Column(
3       children: [
4         ItemDetailHead(item: item),
5         SizedBox(height: 8),
6         ItemDetailDesk(item: item),
7         SizedBox(height: 16),
8       ],
9     ),
10  ),

```

