

**LAPORAN PRAKTIKUM
PEMROGRAMAN MOBILE
MODUL 3**



BUILD A SCROLLABLE LIST

Oleh:

Natalie Grace Katiandagho

NIM. 2310817120003

**PROGRAM STUDI TEKNOLOGI INFORMASI
FAKULTAS TEKNIK
UNIVERSITAS LAMBUNG MANGKURAT
MEI 2025**

LEMBAR PENGESAHAN
LAPORAN PRAKTIKUM PEMROGRAMAN I
MODUL 3

Laporan Praktikum Pemrograman Mobile Modul 3: Build a Scrollable List ini disusun sebagai syarat lulus mata kuliah Praktikum Pemrograman Mobile. Laporan Praktikum ini dikerjakan oleh:

Nama Praktikan : Natalie Grace Katiandagho
NIM : 2310817120003

Menyetujui,
Asisten Praktikum

Mengetahui,
Dosen Penanggung Jawab Praktikum

Natalie Grace Katiandagho
NIM. 2310817120003

Muti`a Maulida S.Kom M.T.I
NIP. 19881027 201903 20 13

DAFTAR ISI

LEMBAR PENGESAHAN.....	2
DAFTAR ISI	3
DAFTAR GAMBAR.....	4
DAFTAR TABEL	5
SOAL 1.....	6
A. Source Code.....	8
B. Output Program	16
C. Pembahasan	16
D. Tautan Git	19

DAFTAR GAMBAR

Tabel 1. Source Code Jawaban Soal 1.....	12
--	----

DAFTAR TABEL

Tabel 1. Source Code Jawaban Soal 1	Error! Bookmark not defined.
Tabel 2. Source Code Jawaban Soal 1	10

SOAL 1

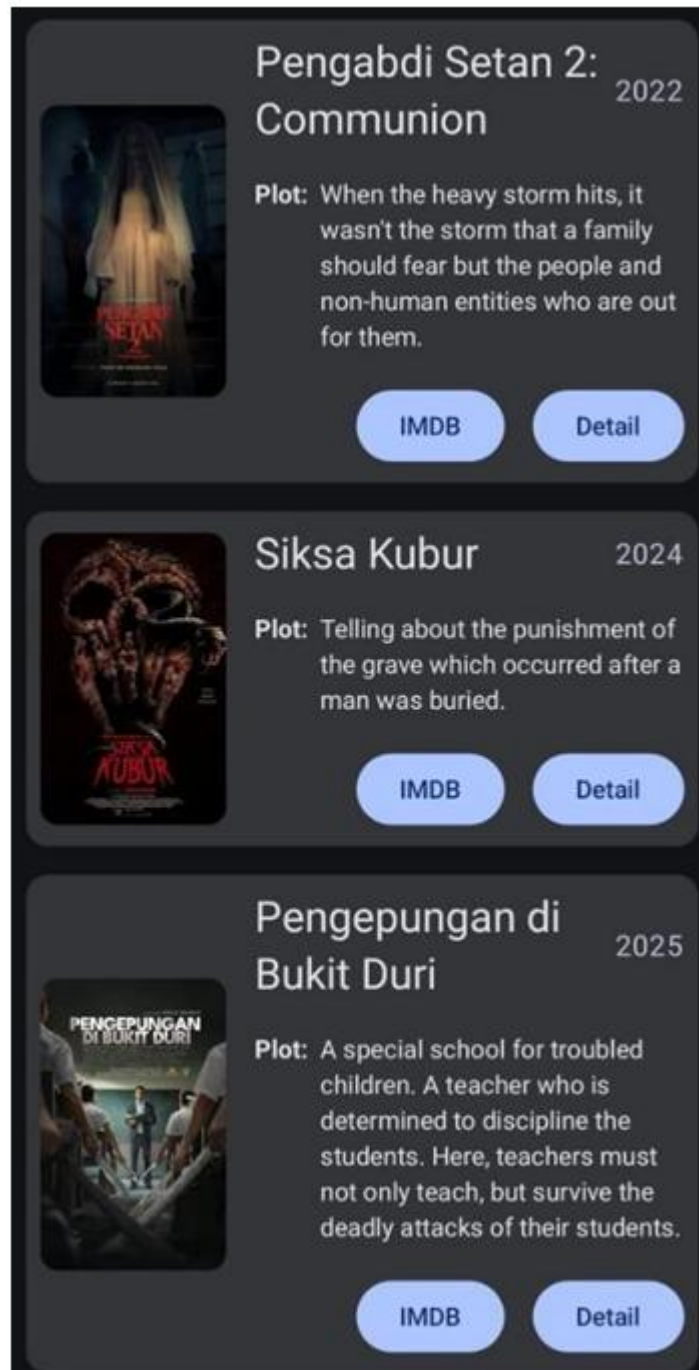
Soal Praktikum:

1. Buatlah sebuah aplikasi Android menggunakan XML atau Jetpack Compose yang dapat menampilkan list dengan ketentuan berikut:

1. List menggunakan fungsi RecyclerView (XML) atau LazyColumn (Compose)
2. List paling sedikit menampilkan 5 item. Tema item yang ingin ditampilkan bebas
3. Item pada list menampilkan teks dan gambar sesuai dengan contoh di bawah
4. Terdapat 2 button dalam list, dengan fungsi berikut:
 - a. Button pertama menggunakan intent eksplisit untuk membuka aplikasi atau browser lain
 - b. Button kedua menggunakan Navigation component/intent untuk membuka laman detail item
5. Sudut item pada list dan gambar di dalam list melengkung atau rounded corner menggunakan Radius
6. Saat orientasi perangkat berubah/dirotasi, baik ke portrait maupun landscape, aplikasi responsif dan dapat menunjukkan list dengan baik. Data di dalam list tidak boleh hilang
7. Aplikasi menggunakan arsitektur single activity (satu activity memiliki beberapa fragment)
8. Aplikasi berbasis XML harus menggunakan ViewBinding

2. Mengapa RecyclerView masih digunakan, padahal RecyclerView memiliki kode yang panjang dan bersifat boiler-plate, dibandingkan LazyColumn dengan kode yang lebih singkat?

UI item list harus berisi 1 gambar, 2 button (intent eksplisit dan navigasi), dan 2 baris teks dan setiap baris memiliki 2 teks yang berbeda. Diusahakan agar desain UI item list menyerupai UI berikut:



Desain UI laman detail bebas, tetapi diusahakan untuk mengikuti kaidah desain Material Design dan data item ditampilkan penuh di laman detail seperti contoh berikut:



Pengepungan di Bukit Duri 2025

Plot:

A special school for troubled children. A teacher who is determined to discipline the students. Here, teachers must not only teach, but survive the deadly attacks of their students.

Jawaban 1.

A. Source Code

1. MainActivity.kt


```

1 package com.example.gracemanhwa_picks
2
3 import android.os.Bundle
4 import androidx.activity.ComponentActivity
5 import androidx.activity.compose.setContent
6 import androidx.navigation.NavType
7 import androidx.navigation.compose.*
8 import androidx.navigation.navArgument
9 import com.example.gracemanhwa_picks.ui.theme.GracemanhwaPicksTheme
10
11 data class Manhwa(
12     val id: Int,
13     val title: String,
14     val author: String,
15     val description: String,
16     val imageRes: Int,
17     val url: String
18 )
19
20 val manhwaList = listOf(
21     Manhwa(
22         1,
23         "Solo Leveling",
24         "Chu-Gong",
25         "In a world where hunters — human warriors who possess supernatural abilities
— must battle deadly monsters to protect all mankind from certain annihilation, a
notoriously weak hunter named Sung Jin-woo finds himself in a seemingly endless
struggle for survival. "
26         + "One day, after narrowly surviving an overwhelmingly powerful double
dungeon that nearly wipes out his entire party, a mysterious program called the
System chooses him as its sole player and in turn, gives him the unique ability to
level up in strength. "
27         + "This is something no other hunter is able to do, as a hunter's abilities are
set once they awaken. Jinwoo then sets out on a journey as he fights against all kinds
of enemies, both man and monster, to discover the secrets of the dungeons and the
true source of his powers. "
28         + "He soon discovers that he has been chosen to inherit the position of
Shadow Monarch, essentially turning him into an immortal necromancer who has
absolute rule over the dead. "
29         + "He is the only Monarch who fights to save humanity, as the other
Monarchs are all trying to kill him and wipe out the humans.",
30         R.drawable.solo_leveling,
31         "https://www.tappytoon.com/en/book/solo-leveling-official"
32     ),
33     Manhwa(
34         2,
35         "Omniscient Reader",

```

36	"SingNSong",
37	"Kim Dokja is a young man leading a simple life, who has been the sole reader of a novel \"Three Ways to Survive in a Ruined World\" for 13 years of his life. "
38	+ "As he was reading the novel's final chapter, reality and the world of fiction started to merge, allowing him to appear at the beginning point of the story. "
39	+ "Being the only person who knew how the world could end, Kim Dokja is determined to create a different ending by solving and conquering various challenges, known as scenarios, which are operated by dokkaebi.",
40	R.drawable.omniscient_reader,
41	"https://www.webtoons.com/en/action/omniscient-reader/list?title_no=2154"
42),
43	Manhwa(
44	3,
45	"The Beginning After the End",
46	"TurtleMe",
47	"It follows the life of the late King Grey after his untimely and mysterious death. Reborn as Arthur Leywin, he seeks to correct his past mistakes in the vibrant new continent of Dicathen, a world of magic and fantastical creatures. "
48	+ "Equipped with the knowledge of a powerful king in his mid-thirties, Arthur navigates his new life as the magic-wielding child of two retired adventurers and gains purpose through each of his new experiences—something he lacked in his previous life. "
49	+ "When a kind dragon sacrifices her life to protect him, Arthur resolves to live a sincere, kind, and courageous life with those he loves. With the help of a lost elf princess and the Elven Kingdom of Elenoir, Arthur begins his long journey to find his true place in the world.\n\n"
50	+ "As the years pass, Arthur becomes more and more comfortable in this world, positioning himself as a young, but respected figure. However, deja-vu strikes as a war brews between Dicathen and the Vritra, a clan of banished deities now ruling over a faraway continent. "
51	+ "Arthur must rise as a leader, despite his fear of becoming the war-hardened monster he once was in his past life. "
52	+ "As the war rages on, Arthur discovers that he was not reborn to this world by chance...nor was he the only one.",
53	R.drawable.tbate,
54	"https://tapas.io/series/tbate-comic/info"
55),
56	Manhwa(
57	4,
58	"Eleceed",
59	"Jeho Son",
60	"Jiwoo is a kind-hearted young man who harnesses the lightning-quick reflexes of a cat to secretly make the world a better place – one saved little child or foster pet at a time. "
61	+ "Kayden is a secret agent on the run, who finds himself stuck in the body of a...um...decidedly fat old fluffy cat. "
62	+ "Together, armed with Jiwoo's superpowers and Kayden's uber-smarts,

	they're out to fight those forces who would let evil rule this world. "
63	+ "That is, if they can stand each other long enough to get the job done.",
64	R.drawable.eleceed,
65	"https://www.webtoons.com/en/action/eleceed/list?title_no=1571"
66),
67	Manhwa(
68	5,
69	"Killer Peter",
70	"Kim Junghyun",
71	"On the surface, Glory Hound is a simple human rights organization. In reality, the organization has some of the best assassins in the world, in charge of performing legendary.\n\n"
72	+ "One of their best members was simply known as Apostle Peter, and he retired in protest of the new leader, Raphael. However, resignations were not accepted, and Peter was soon ambushed. Despite his best efforts, he dies.\n\n"
73	+ "Instead of dying, though, Peter miraculously found himself back in his teenage body. He doesn't know why, but he knows one thing: he will destroy Glory Hound.",
74	R.drawable.killer_peter,
75	"https://www.webtoons.com/en/action/killer-peter/list?title_no=5816"
76),
77	Manhwa(
78	6,
79	"Player Who Can't Level Up",
80	"GaVinGe",
81	"When Kim Kigyu received his invitation to become a player (a unique-ability player, at that), he thought his struggles were over. But no matter how hard he tries, he just can't seem to get past level 1! "
82	+ "After five years of working as a guide on the lower floors of the tower, he's finally discovered his ability to link with "Egos" and raise his stats. "
83	+ "As his new skills unlock adventures in unexplored gates, Kigyu gets his chance to defy expectations and show the world that rank isn't everything.",
84	R.drawable.player_cant_level_up,
85	"https://tapas.io/episode/2414063"
86),
87	Manhwa(
88	7,
89	"SSS-Class Revival Hunter",
90	"Shinnoa",
91	"After the Tower suddenly appeared, individuals who wished to pursue their personal values began to inhabit it, coming to be called \"hunters.\" "
92	+ "Everyone had their own goals, but only a chosen few were acknowledged and given powerful skills by the mysterious structure. "
93	+ "Kim Gong-Ja, a weak F-Class hunter without any skills, is envious of those who were blessed by the Tower. "
94	+ "Letting his jealousy overcome him one day, Gong-Ja abruptly receives a S-Class skill that allows him to copy a skill from someone else—after they kill

	him.\n\n"
95	+ "Sooner than he likes, Gong-Ja gets to test his newly acquired ability on the legendary hunter known as the Flame Emperor. "
96	+ "As he is dying, Gong-Ja learns the evil truth about the man he once admired the most. "
97	+ "Receiving another potent skill that allows him to revive and go back in time by 24 hours, Gong-Ja devises a plan to travel 11 years into the past to eliminate the Flame Emperor and cement himself as the world's best hunter.",
98	R.drawable.sss_class_hunter,
99	"https://www.mangaread.org/manga/sss-class-suicide-hunter/"
100)
101)
102	
103	class MainActivity : ComponentActivity() {
104	override fun onCreate(savedInstanceState: Bundle?) {
105	super.onCreate(savedInstanceState)
106	setContent {
107	GracemanhwaPicksTheme {
108	val navController = rememberNavController()
109	NavHost(navController, startDestination = "list") {
110	composable("list") {
111	ListScreen(navController)
112	}
113	composable(
114	"detail/{id}",
115	arguments = listOf(navArgument("id") { type = NavType.IntType })
116) { backStackEntry ->
117	val id = backStackEntry.arguments?.getInt("id") ?: 0
118	val item = manhwaList.first { it.id == id }
119	DetailScreen(item)
120	}
121	}
122	}
123	}
124	}
125	}

Tabel 1. Source Code Jawaban Soal 1

2. ListScreen.kt

1	package com.example.gracemanhwa_picks
2	
3	import android.content.Intent
4	import android.net.Uri
5	import androidx.compose.foundation.Image
6	import androidx.compose.foundation.layout.*

[illegible]

54	contentScale = ContentScale.Crop,
55	modifier = Modifier
56	.fillMaxWidth()
57	.height(180.dp)
58	.clip(RoundedCornerShape(16.dp))
59)
60	Spacer(modifier = Modifier.height(8.dp))
61	Text(
62	item.title,
63	style = MaterialTheme.typography.titleLarge
64)
65	Text(
66	"By \${item.author}",
67	style = MaterialTheme.typography.bodyMedium
68)
69	Row(
70	modifier = Modifier
71	.fillMaxWidth()
72	.padding(top = 8.dp),
73	horizontalArrangement = Arrangement.SpaceEvenly
74) {
75	Button(onClick = {
76	val intent = Intent(Intent.ACTION_VIEW, Uri.parse(item.url))
77	context.startActivity(intent)
78	}) {
79	Text("Baca")
80	}
81	Button(onClick = {
82	navController.navigate("detail/\${item.id}")
83	}) {
84	Text("Detail")
85	}
86	}
87	}
88	}
89	}
90	}
91	}
92	}

Tabel 2. Source Code Jawaban Soal 1

3. DetailScreen.kt

1	package com.example.gracemanhwa_picks
2	
3	import androidx.compose.foundation.Image

4	import androidx.compose.foundation.layout.*
5	import androidx.compose.foundation.rememberScrollState
6	import androidx.compose.foundation.shape.RoundedCornerShape
7	import androidx.compose.foundation.verticalScroll
8	import androidx.compose.material3.*
9	import androidx.compose.runtime.Composable
10	import androidx.compose.ui.Modifier
11	import androidx.compose.ui.draw.clip
12	import androidx.compose.ui.layout.ContentScale
13	import androidx.compose.ui.res.painterResource
14	import androidx.compose.ui.unit.dp
15	
16	@Composable
17	fun DetailScreen(item: Manhwa) {
18	val scrollState = rememberScrollState()
19	
20	Column(
21	modifier = Modifier
22	.fillMaxSize()
23	.verticalScroll(scrollState)
24	.padding(16.dp)
25) {
26	Image(
27	painter = painterResource(id = item.imageRes),
28	contentDescription = item.title,
29	modifier = Modifier
30	.fillMaxWidth()
31	.height(250.dp)
32	.clip(RoundedCornerShape(16.dp)),
33	contentScale = ContentScale.Crop
34)
35	Spacer(modifier = Modifier.height(16.dp))
36	Text(item.title, style = MaterialTheme.typography.headlineMedium)
37	Text("By \${item.author}", style = MaterialTheme.typography.titleMedium)
38	Spacer(modifier = Modifier.height(8.dp))
39	Divider()
40	Spacer(modifier = Modifier.height(8.dp))
41	Text(item.description, style = MaterialTheme.typography.bodyLarge)
42	}
43	}

4.Theme.kt

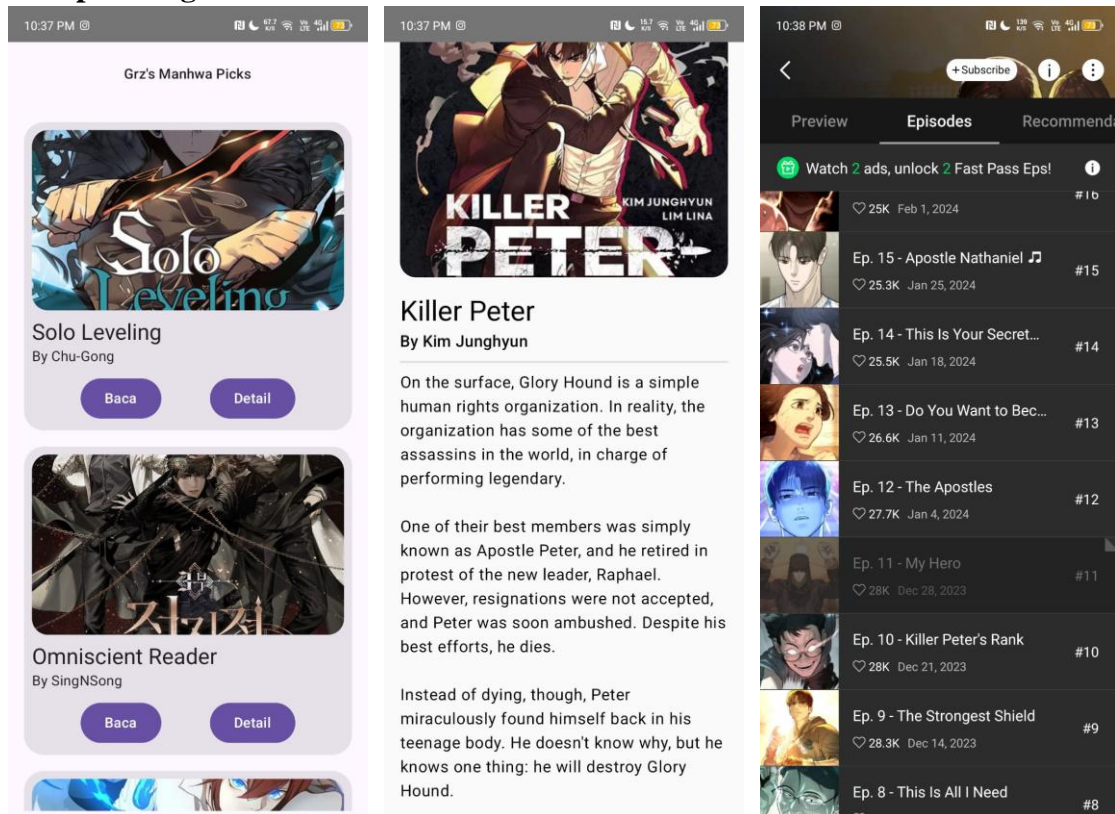
1	package com.example.gracemanhwa_picks.ui.theme
2	

```

3 import androidx.compose.material3.*
4 import androidx.compose.runtime.Composable
5
6 @Composable
7 fun GracemanhwaPicksTheme(content: @Composable () -> Unit) {
8     MaterialTheme(
9         colorScheme = lightColorScheme(),
10        typography = Typography(),
11        content = content
12    )
13 }

```

B. Output Program



Gambar 1. Screenshot Hasil Jawaban Soal 1

C. Pembahasan

1. MainActivity.kt:

Pada line 1, file ini berada di dalam package com.example.gracemanhwa_picks.
 Pada line 3-9, mengimpor berbagai fungsionalitas untuk aplikasi:

- Line 3: Bundle untuk membawa data antar aktivitas.
- Line 4: ComponentActivity untuk aktivitas dengan Jetpack Compose.
- Line 5: setContent untuk menetapkan tampilan UI.
- Line 6: NavType untuk jenis data navigasi.
- Line 7: NavController untuk kontrol navigasi.
- Line 8: navArgument untuk mendefinisikan parameter navigasi.
- Line 9: GracemanhwaPicksTheme untuk tema aplikasi.

Pada line 11-18, didefinisikan sebuah data class bernama Manhwa. data class digunakan untuk membuat sebuah kelas yang hanya berfungsi untuk menyimpan data.

- val id: Int: Menyimpan ID manhwa, berupa bilangan bulat (Int).
- val title: String: Menyimpan judul manhwa, berupa teks (String).
- val author: String: Menyimpan nama pengarang manhwa, berupa teks (String).
- val description: String: Menyimpan deskripsi manhwa, berupa teks (String).
- val imageRes: Int: Menyimpan resource ID gambar yang digunakan untuk manhwa, berupa bilangan bulat (Int), biasanya menunjuk ke file gambar.
- val url: String: Menyimpan URL (tautan) untuk membaca manhwa, berupa teks (String).

Lalu selanjutnya ada val manhwa list yang ada manhwa() isinya list masing-masing property yang mencakup atau yang berisi : id, title, author, description, imageRes, url.

Begitu seterusnya lalu selanjutnya ada di line 103-119 :

Line 103: MainActivity adalah kelas utama aplikasi yang mewarisi dari ComponentActivity.

Line 104-105: onCreate dipanggil saat aktivitas dibuat, dan super.onCreate(savedInstanceState) memastikan aktivitas diinisialisasi dengan benar.

Line 106: setContent digunakan untuk menetapkan tampilan UI aplikasi dengan Jetpack Compose.

Line 107: GracemanhwaPicksTheme menetapkan tema aplikasi.

Line 108: NavController dibuat untuk mengelola navigasi antar layar.

Line 109-110: NavHost mendefinisikan struktur navigasi, dengan layar awal "list".

Line 111-113: Menampilkan ListScreen saat navigasi ke "list".

Line 114-116: Menetapkan layar "detail/{id}" untuk menerima argumen id dan menavigasi ke detail.

Line 117-118: Mengambil id dari argumen navigasi dan memberi nilai default 0 jika tidak ada.

Line 119: Mencari item dari manhwaList yang memiliki id sesuai argumen.

2. ListScreen.kt

1 file berada di package utama

3-18 buat import: ngatur halaman, ubah URL supaya bisa dibaca nampilin gambar, nyediakan layoutm komponen scrollable (kayak recyle view tpi ver compose), sudutnya agar bulat, import material 3, buat fungsi UI dengan @Composable, ngatur ukuran dan posisi dengan Modifier, potong tampilan jadi sudut bulat pakai clip, atur skala gambar biar pas di tempatnya, ambil context Android buat buka link, ambil gambar dari drawable pakai

resource, atur ukuran elemen dengan satuan dp, dan terakhir, navigasi antar layar pakai NavController.

Line 20, kode ini akan menggunakan API eksperimental -- padahal belum stabil tapi supaya bisa dipakai makanya pakai ini

Line 21, ngasih tau list screen itu composable

Line 22, definisi fungsi yang ada parameter dari NavController buat navigasi layar di app

Line 23, buat dapetin context yang dibutuhkan

Line 25, ngasih layout dasar struktur umum top bar, bottom bar, dan konten utama

Line 26, top bar ada center aligned

Line 27, judul posisi tengah.

Line 28-31, judul titlenya kecil

LazyColumn, yang memuat setiap item hanya saat dibutuhkan untuk efisiensi. Setiap item dibungkus dalam Card dengan sudut melengkung dan padding, yang berisi gambar, judul manhwa, nama pengarang, dan dua tombol. Gambar ditampilkan dengan efek crop agar sesuai dengan ukuran yang telah ditentukan dan memiliki sudut melengkung. Setelah gambar, terdapat teks yang menampilkan judul dan pengarang manhwa dengan gaya teks yang telah disesuaikan. Di bagian bawah, terdapat dua tombol: tombol pertama untuk membuka URL manhwa di browser menggunakan Intent, dan tombol kedua untuk menavigasi ke layar detail manhwa dengan NavController

3. DetailScreen.kt

Pada line 1 itu menunjukkan kalau file ada di package utama pada aplikasi

Line 3-14 itu fungsinya untuk import :

- 3 nampilin gambar
- 4 layout dasar
- 5 ingat status scroll
- 6 sudut lengkung
- 7 column scroll vertikal
- 8 material design 3
- 9 nandain kalau composable
- 10 modifier -- tata letak, uk., padding, dll
- 11 motong bentuk tampilan
- 12 ngatur gambar ditampilkannya gimana
- 13 membuat gambar dari file lain
- 14 untuk ukuran supaya konsisten

16 buat nandain itu compose

Line 17 nampilin detail manhwa

18 supaya bisa scroll + diingat

20 isinya column buat nyusus komponen vertikal

21 fill max size berarti ukuran layarnya penuh

22 bisa di scroll ke bawah + diingat

23 jarak

26 image -- buat nampilin gambar

27-33 ngambil gambar dari file, ada deskripsi konten, di modifier ada lebar gambar yang ngikutin lebar layar, tingginya 250, gambarnya sudutnya dibulatkan, gambarnya dipastiin penuh

35 beri jarak vertikal 16dp per elemen

36 nampilin judul ukurannya medium

37 nampilin nama author tulisannya sedang juga

38 jarak setelah garis 8dp

39 divider buat garis horizontal tipis

40 jarak lagi setelah garis 8dp

41 deskripsi panjangnya

4. Theme.kt

Pada line 1 ada package untuk tema dari aplikasi

Pada line 3-4 digunakan untuk import elemen compose material 3 dan composable function

Pada line 6 ada composable -- untuk UI

Lalu line 7 untuk menerima composable lain buat parameternya, jadi UI nya dibungkus.

Pada line 8 ada material theme -- ini fungsi untuk tema

Line 9 ada skema warnanya di mode terang

Line 10 untuk mengatur gaya huruf

Line 11 terdapat content untuk menampilkan isi UI yang dibungkus

D. Tautan Git

Berikut adalah tautan untuk source code yang telah dibuat.

[natnutnot/PrakMobile at master](#)

Jawaban nomor 2 .

Meskipun LazyColumn menawarkan kode yang lebih singkat dan deklaratif dibandingkan RecyclerView, ada beberapa alasan mengapa RecyclerView masih banyak digunakan dalam pengembangan Android. Pertama, banyak aplikasi yang sudah ada menggunakan RecyclerView, dan migrasi ke LazyColumn memerlukan upaya besar. Kedua,

RecyclerView memberikan kontrol lebih besar dalam hal kustomisasi, seperti animasi item dan dekorasi, yang penting untuk aplikasi yang membutuhkan tampilan dan interaksi yang lebih spesifik. Selain itu, RecyclerView didukung oleh banyak pustaka pihak ketiga yang membantu mempercepat pengembangan dan menambahkan fungsionalitas tambahan. Pada kasus daftar yang sangat besar atau kompleks, RecyclerView sering kali memberikan kinerja yang lebih baik. Terakhir, banyak pengembang Android yang sudah berpengalaman dengan RecyclerView dan lebih nyaman menggunakannya, terutama dalam proyek yang memerlukan kontrol detail. Secara keseluruhan, meskipun LazyColumn lebih modern, RecyclerView tetap relevan, terutama dalam proyek besar atau yang membutuhkan kustomisasi tinggi.