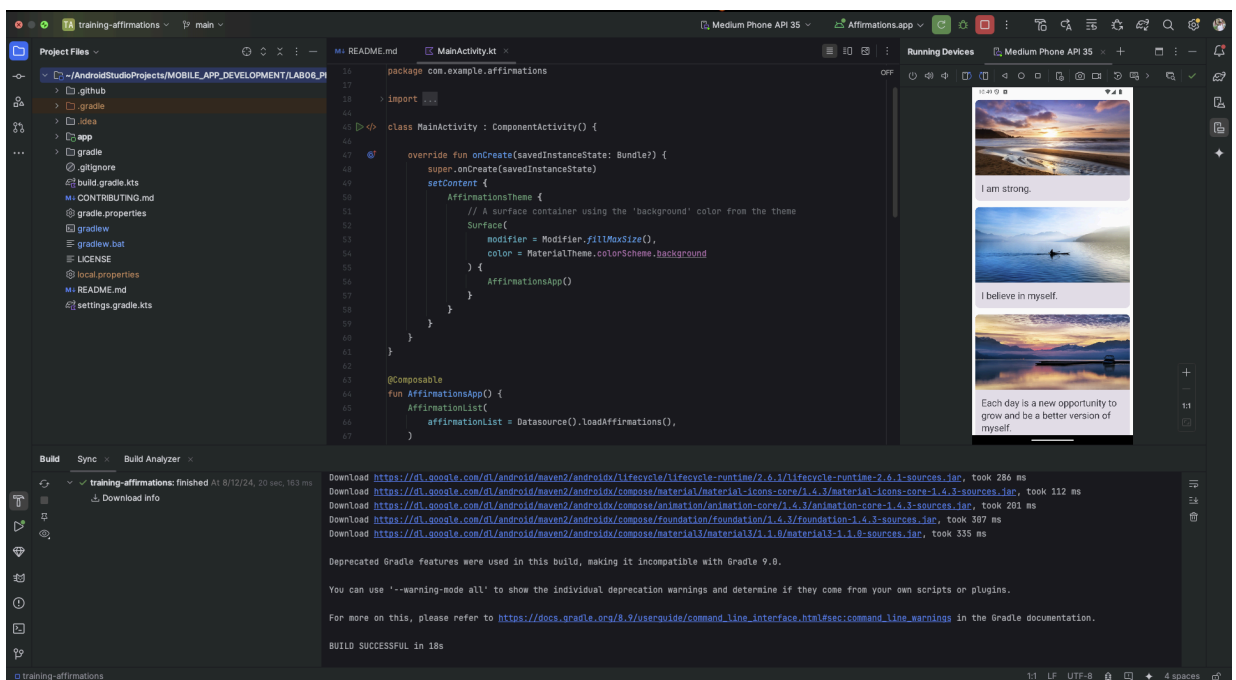**Name: PHẠM ĐỨC ĐẠT**

ID STUDENT: ITITIU20184

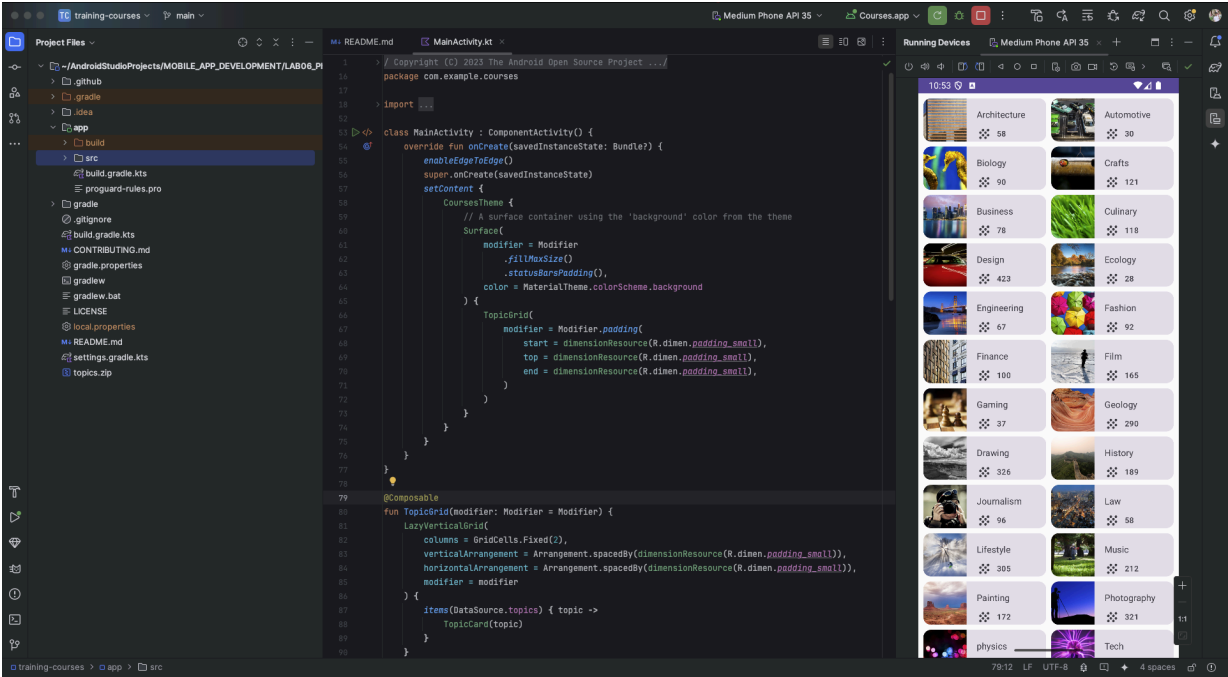# LAB 06 - Lesson 7: Activity and fragment lifecycles

Part 1: Build a scrollable list

Intro to Affirmations app

Add a scrollable list

Practice: Build a grid

QUIZ

Build a scrollable list 🔖 ▾

Let's do a quick test! You must answer at least 6 questions correctly to pass this quiz.

(Return to pathway)

1. Adaptive launcher icons for Android apps consist of a foreground and background vector drawable.

◉ True   ⊘ Correct!

◯ False

2. When building a UI that requires a scrolling list with a variable number of items, which Composable should you use?

◯ `Column`

◯ `Row`

◉ `LazyColumn`   ⊘ Correct!

◯ `Card`

3. What file type is used for the launcher icon foreground and background vectors?

◯ .txt

◯ .jpg

◯ .png

◉ .xml   ⊘ Correct!

4. Which Composable should you use to create a vertically scrollable grid with an undetermined number of items?

○ `LazyColumn`

◉ `LazyVerticalGrid` ✓ Correct!

○ `LazyHorizontalGrid`

○ `Row`

5. The `Column` composable is not a good option for a list of items of unknown quantity because ___.

◉ It can only hold a small, finite number of predefined items ✓ Correct!

○ It arranges items vertically

○ It provides scrolling by default without any additional code

○ It can add content on demand

6. The ___ method is used to add content to a `LazyColumn` Composable.

○ `painterResource()`

○ `Modifier.padding()`

◉ `items()` ✓ Correct!

○ `onCreate()`

7. Which Composable arranges items horizontally?

○ `Column`

○ `Card`

○ `Image`

◉ `Row` ✓ Correct!

8. Which Composable arranges items vertically?

◉ `Column`   ⊘ Correct!

○ `Card`

○ `Image`

○ `Row`

Results

You scored **8 out of 8**. Congratulations! You have passed this quiz.

Part 2: Build beautiful apps

Material Theming with Jetpack Compose

Simple animation with Jetpack Compose

Testing for Accessibility'

Woof App

The Woof app is a list of dog photos with information about them including their name, age, and favorite activity. This app also uses Material Design to create a beautiful app experience for the user.
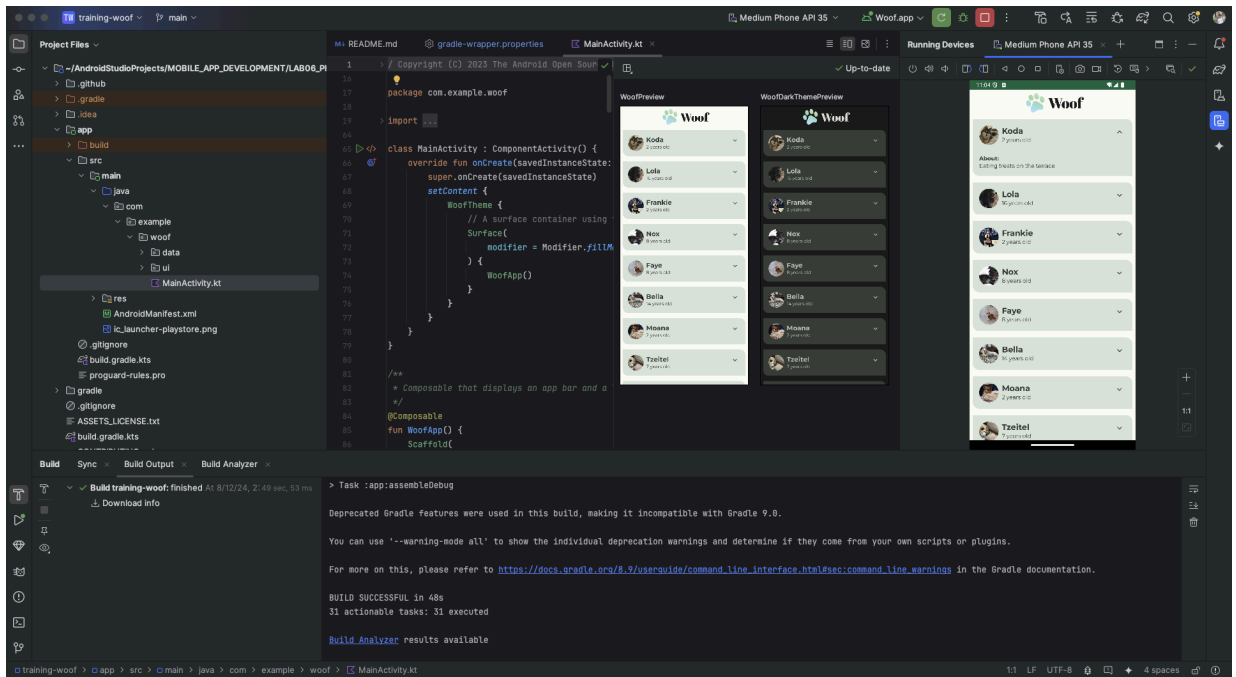
Practice: Build Superheroes app

Superheroes app

Material theming is used to display a list of superheroes in this app. The app also demonstrates simple animations.

Android ∨

> app
> Gradle Scripts

README.md | MainActivity.kt

```kotlin
/ Copyright (C) 2023 The Android Open Source Project .../

package com.example.superheroes

import ...

class MainActivity : ComponentActivity() {
    override fun onCreate(savedInstanceState: Bundle?) {
        super.onCreate(savedInstanceState)
        enableEdgeToEdge()
        setContent {
            SuperheroesTheme {
                // A surface container using the 'background' color from the theme
                Surface(
                    modifier = Modifier.fillMaxSize(),
                    color = MaterialTheme.colorScheme.background
                ) {
                    SuperheroesApp()
                }
            }
        }
    }
}

/**
 * Composable that displays an app bar and a list of heroes.
 */
@Composable
fun SuperheroesApp() {
    Scaffold(
        modifier = Modifier.fillMaxSize(),
        topBar = {
            TopAppBar()
        }
    ) {
        /* Important: It is not a good practice to access data source directly from the UI.
         In later units you will learn how to use ViewModel in such scenarios that takes the
         data source as a dependency and exposes heroes.
         */
        val heroes = HeroesRepository.heroes
        HeroesList(heroes = heroes, contentPadding = it)
    }
}
```
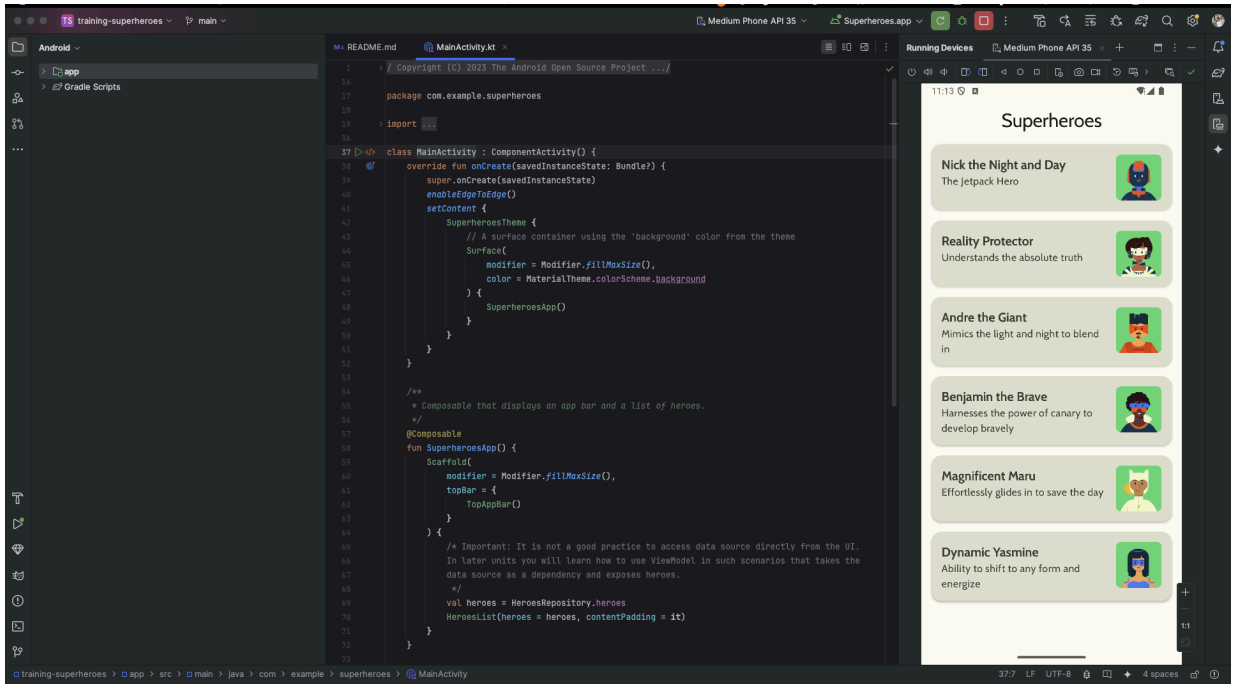
Running Devices | Medium Phone API 35

11:13

Superheroes

Nick the Night and Day
The Jetpack Hero

Reality Protector
Understands the absolute truth

Andre the Giant
Mimics the light and night to blend in

Benjamin the Brave
Harnesses the power of canary to develop bravely

Magnificent Maru
Effortlessly glides in to save the day

Dynamic Yasmine
Ability to shift to any form and energize

Quiz

Build beautiful apps 🔖 ▾

Let's do a quick test! You must answer at least 9 questions correctly to pass this quiz.

(Return to pathway)

1. Animations in your Android app can:

○ Add visual cues about what's going on in your app.

○ Add a polished look to your app.

○ Help the user see what changed.

◉ All of the above. ✓ Correct!

2. Spring animation is based on:

○ Start and end values over the specified duration.

◉ Damping ratio and stiffness. ✓ Correct!

○ Snapshot values specified at different timestamps.

○ Interpolation between two keyframe values.

3. Spring animation is a physics-based animation driven by spring force.

◉ True ✓ Correct!

○ False

4. In the Material theming, the ___ color is the color displayed most frequently across your app's screens and components.

○ primary   ⊘ Correct!

○ secondary

○ surface

○ background

5. The following file is used to define shapes of components in Compose.

○ `Theme.kt`

○ `Color.kt`

⊙ `Shape.kt`   ⊘ Correct!

○ `Colors.kt`

6. You can only have one `@Preview` composable

○ True

⊙ False   ⊘ Correct!

7. A hex color code starts with a pound (#) character, and is followed by six letters and/or numbers that represent the red, green, and blue (RGB) components of that color.

⊙ True   ⊘ Correct!

○ False

8. The ___ file is the file that holds all the information about the theme of the app which is defined through color, shape, and typography.

⊙ Theme.kt   ⊘ Correct!

○ Color.kt

○ Shape.kt

○ Colors.kt

9. ___ creates contrast between the Card and the background by adding a shadow to make the app look more realistic and visually interesting?

◉ Elevation   ⊘ Correct!

○ Shape

○ Color

○ Theme

10. What are reasons that someone may use Dark Theme on their device?

○ It can reduce power usage by a significant amount (depending on the device's screen technology).

○ It improves visibility for users with low vision and those who are sensitive to bright light.

○ It makes it easier for anyone to use a device in a low-light environment.

◉ All of the above.   ⊘ Correct!

11. TalkBack allows a user to navigate an app using switches instead of the touchscreen.

○ True

◉ False   ⊘ Correct!

12. Which attribute allows TalkBack to speak a meaningful representation of an image or icon?

○ `elevation`

○ `shape`

◉ `contentDescription`   ⊘ Correct!

○ `style`

Results

You scored 12 out of 12. Congratulations! You have passed this quiz.