UNIVERSITI MALAYSIA TERENGGANU

FACULTY OF OCEAN ENGINEERING TECHNOLOGY & INFORMATICS

SEMESTER 1 2023/2024

NATIVE MOBILE PROGRAMMING

CSM 3123

LAB 2 REPORT

PREPARED FOR:

DR. RABIEI BIN MAMAT

PREPARED BY:

MOHAMAD HAZIM BIN MOHD SHAKRI (S61770)

LAB 2

For this lab it is best to login using your gmail id, to tracking your progress

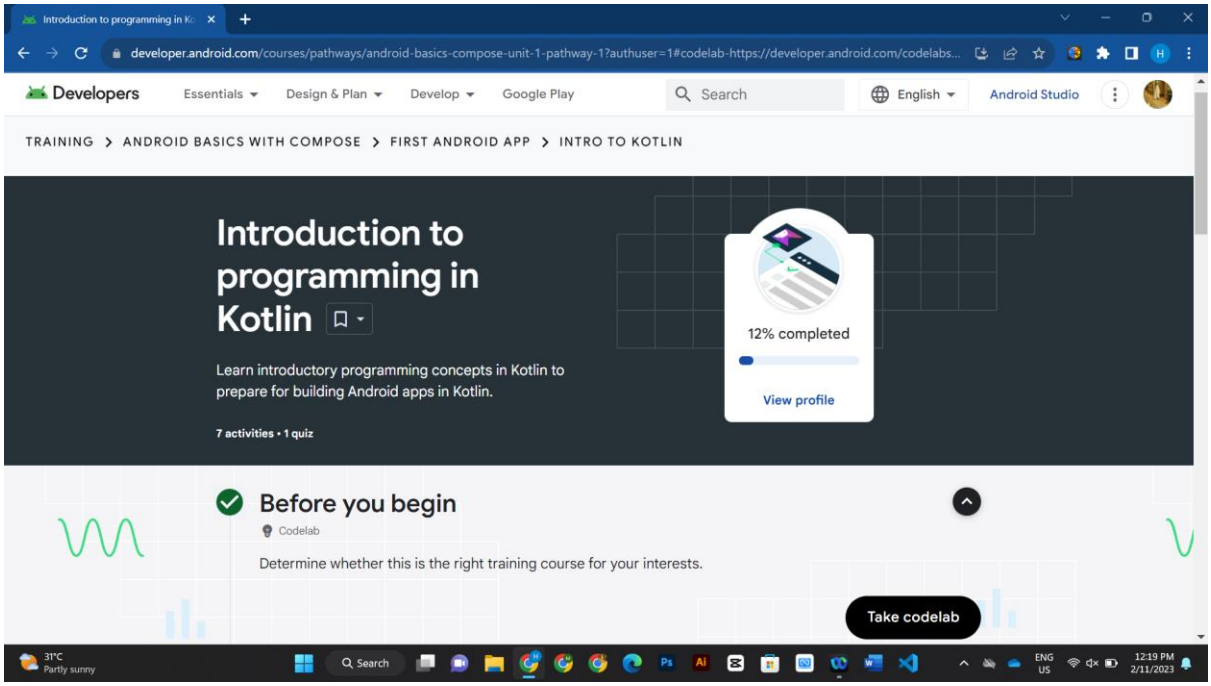
Task 1 - Introduction to Kotlin

1. Follow this link for the instructions

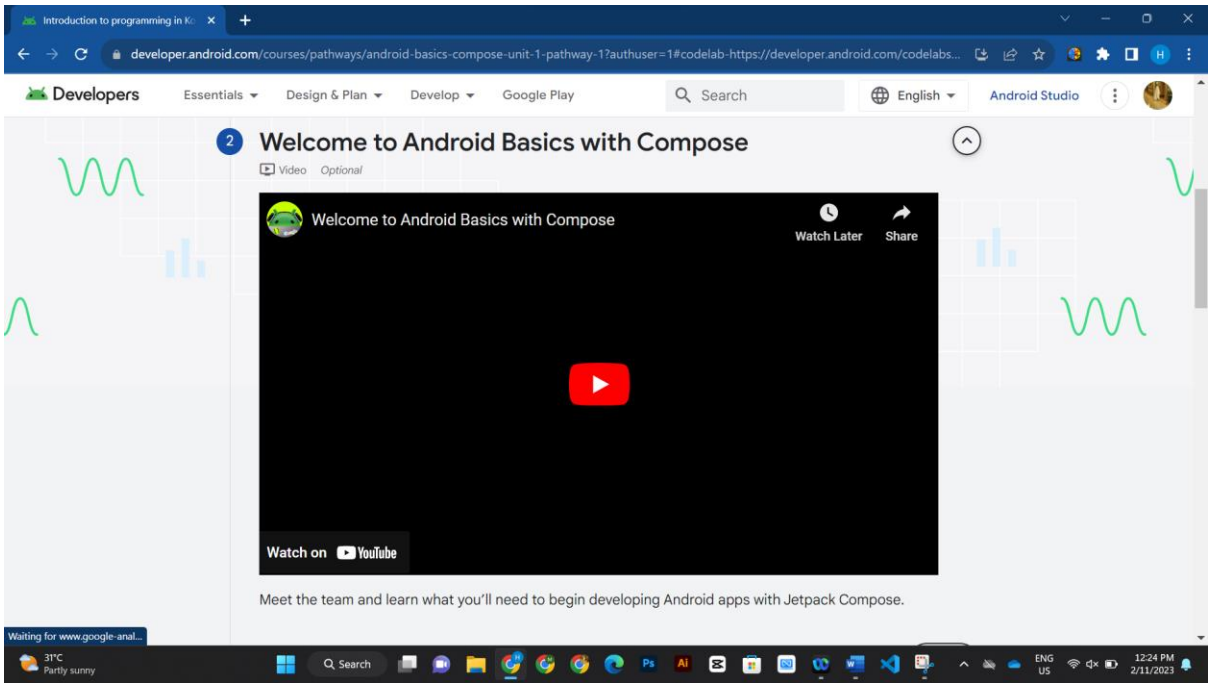
   https://developer.android.com/courses/pathways/android-basics-compose-unit-1-pathway-1

2. For Submission
   a. Attached the screenshot for each finished non-optional activity in a report
   b. Attached the pass quiz result in the report (repeat the quiz if not pass)
   c. show clearly that the result is belong to yourself

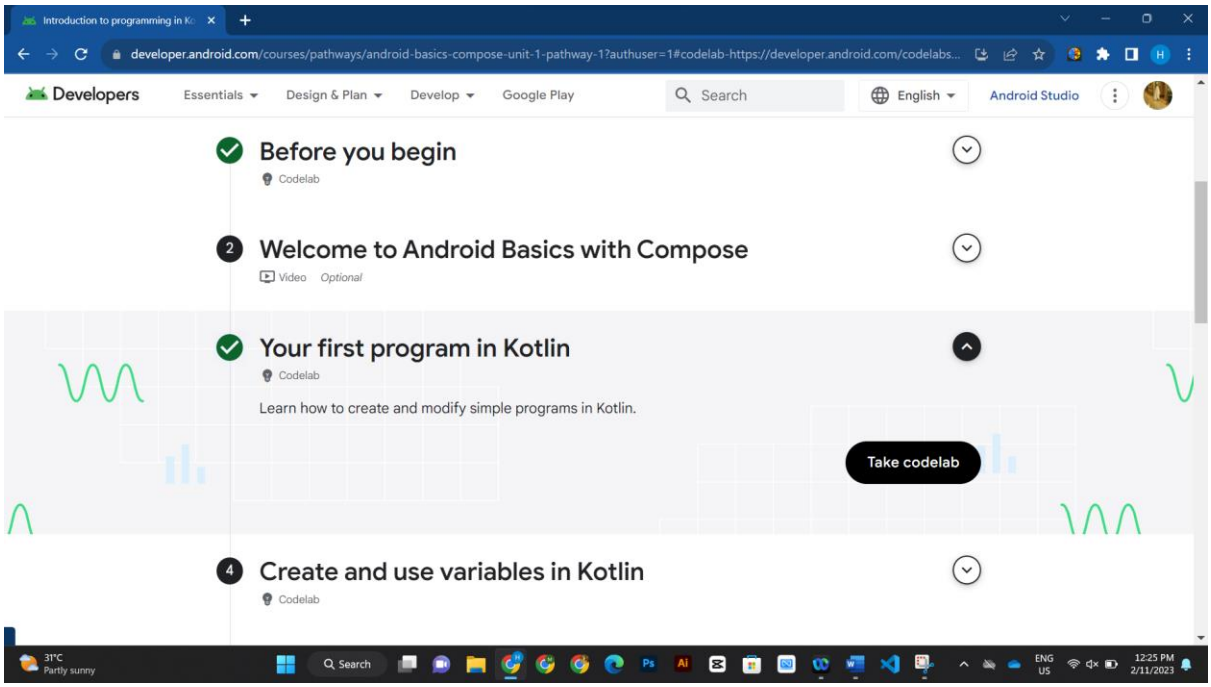
1. **Before you begin √**



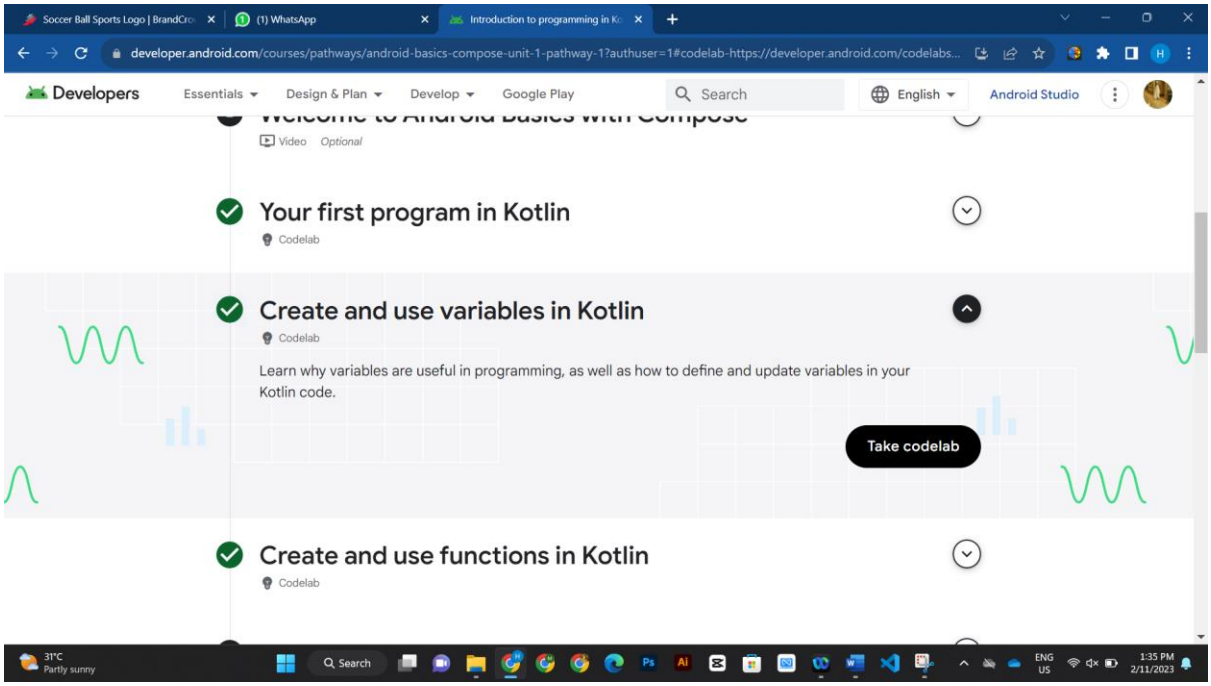
2. Welcome to Android Basics with Compose √



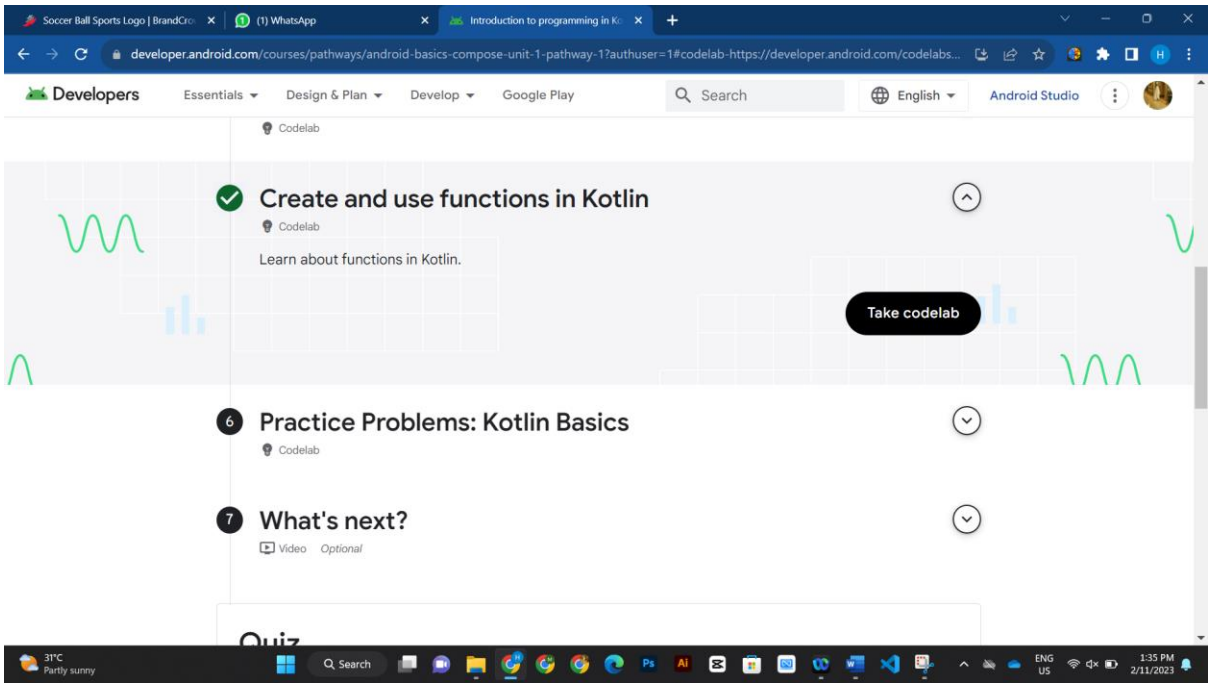
3. Your first program in Kotlin √



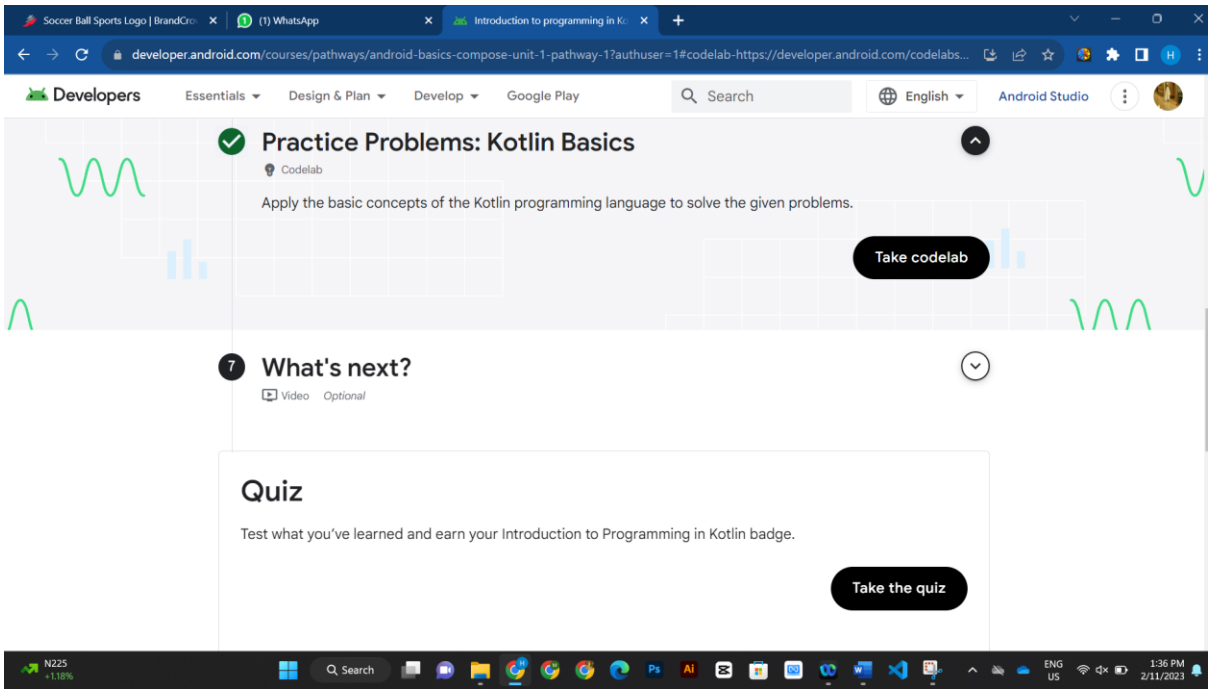
4. **Create and use variable in Kotlin √**



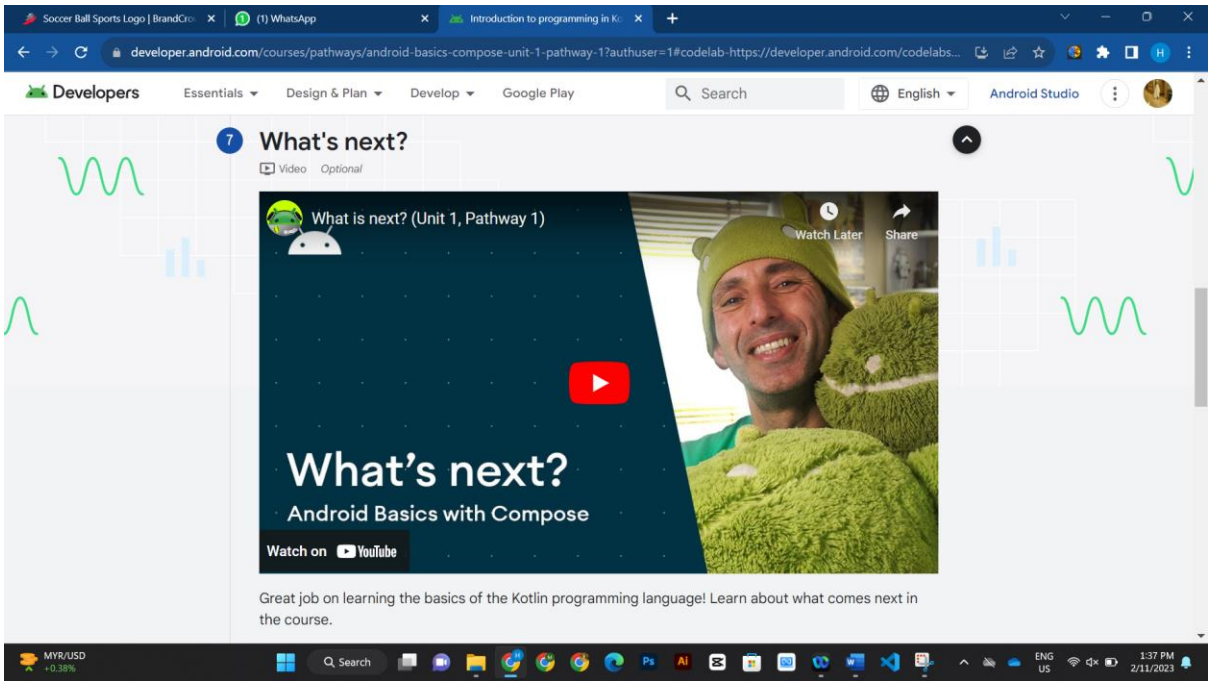
5. **Create and use function in Kotlin √**



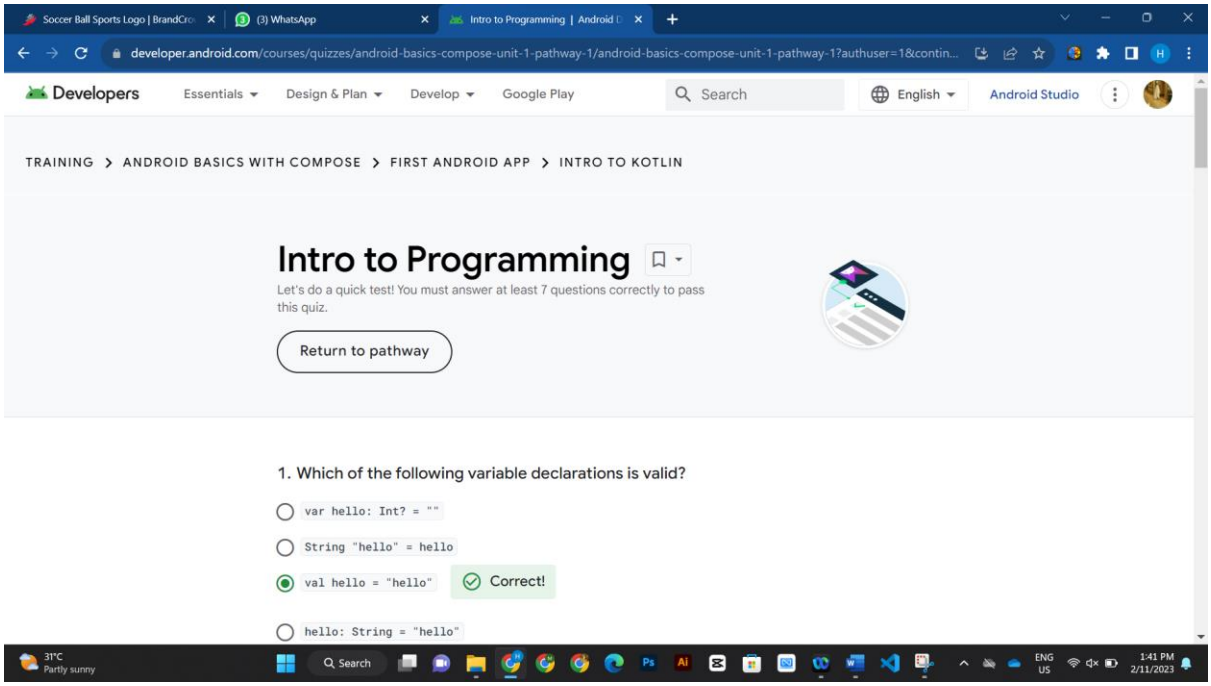
6. Practice Problems: Kotlin Basics √

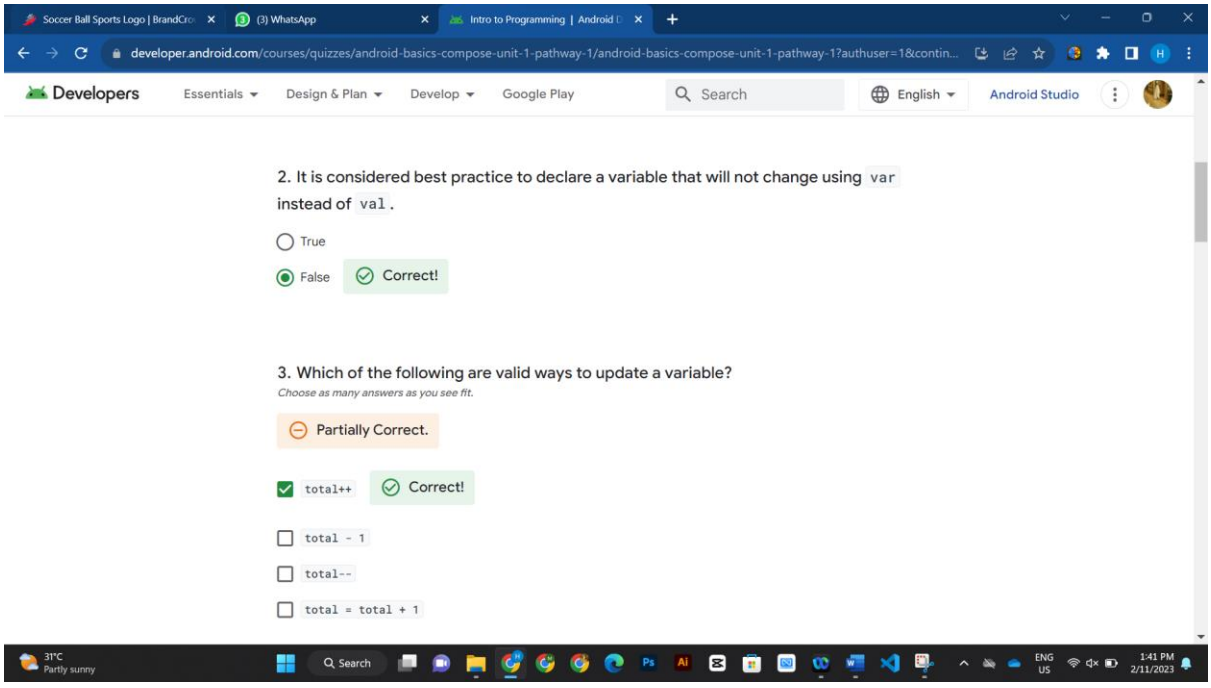


7. What's next? √



8. Quiz √


developer.android.com/courses/quizzes/android-basics-compose-unit-1-pathway-1/android-basics-compose-unit-1-pathway-1?authuser=1&contin...
Developers
Essentials
Design & Plan
Develop
Google Play
Search
English
Android Studio
TRAINING > ANDROID BASICS WITH COMPOSE > FIRST ANDROID APP > INTRO TO KOTLIN
Intro to Programming
Let's do a quick test! You must answer at least 7 questions correctly to pass this quiz.
Return to pathway
1. Which of the following variable declarations is valid?
var hello: Int? = ""
String "hello" = hello
val hello = "hello"
Correct!
hello: String = "hello"


developer.android.com/courses/quizzes/android-basics-compose-unit-1-pathway-1/android-basics-compose-unit-1-pathway-1?authuser=1&contin...
Developers
Essentials
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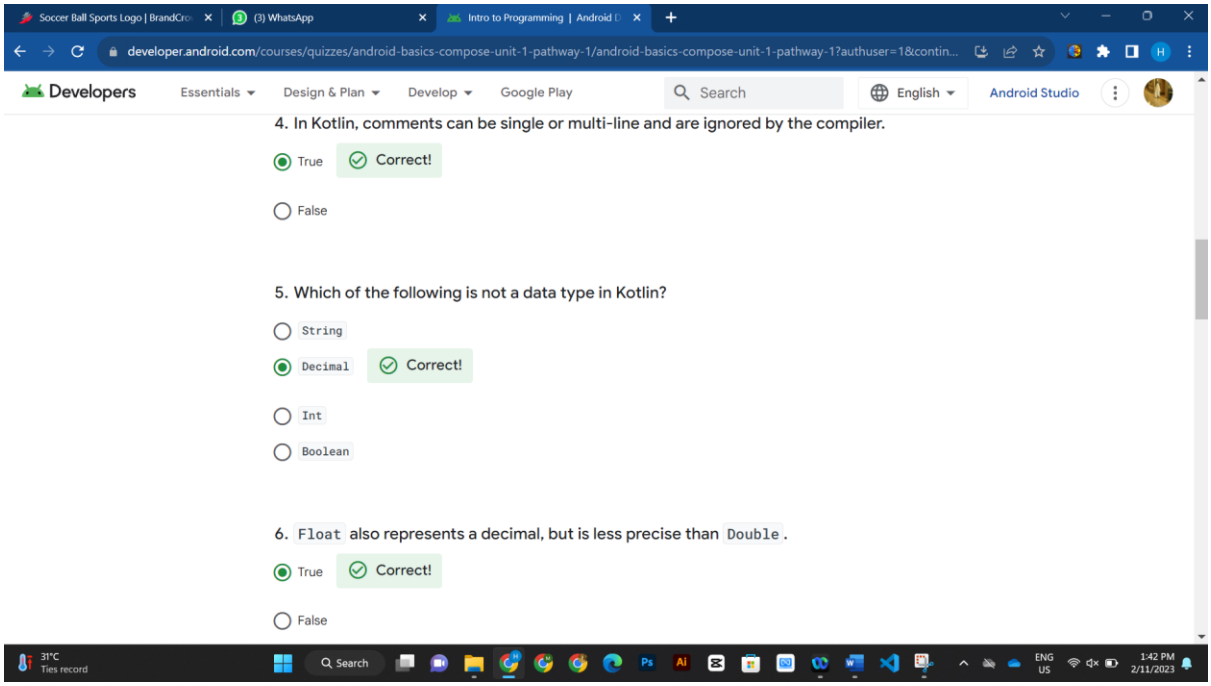
Google Play
Search
English
Android Studio
2. It is considered best practice to declare a variable that will not change using var instead of val.
True
False
Correct!
3. Which of the following are valid ways to update a variable?
Choose as many answers as you see fit.
Partially Correct.
total++
Correct!
total - 1
total--
total = total + 1


Soccer Ball Sports Logo | BrandCro
(3) WhatsApp
Intro to Programming | Android D
developer.android.com/courses/quizzes/android-basics-compose-unit-1-pathway-1/android-basics-compose-unit-1-pathway-1?authuser=1&contin...
Developers
Essentials
Design & Plan
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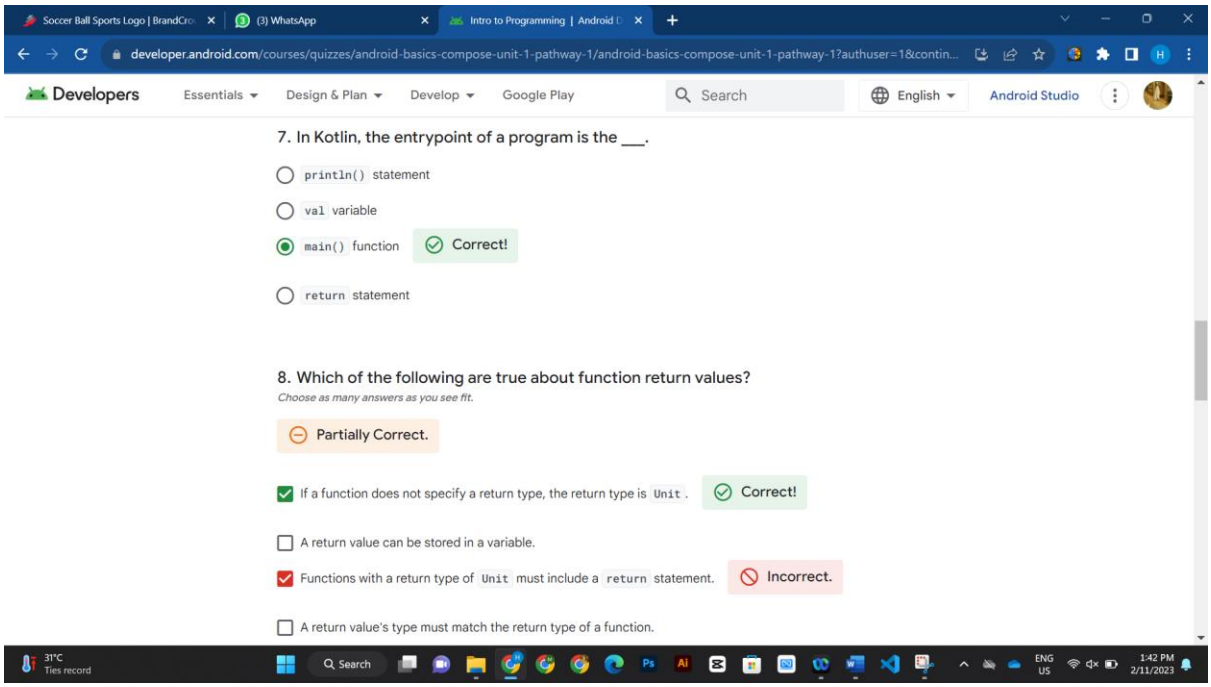
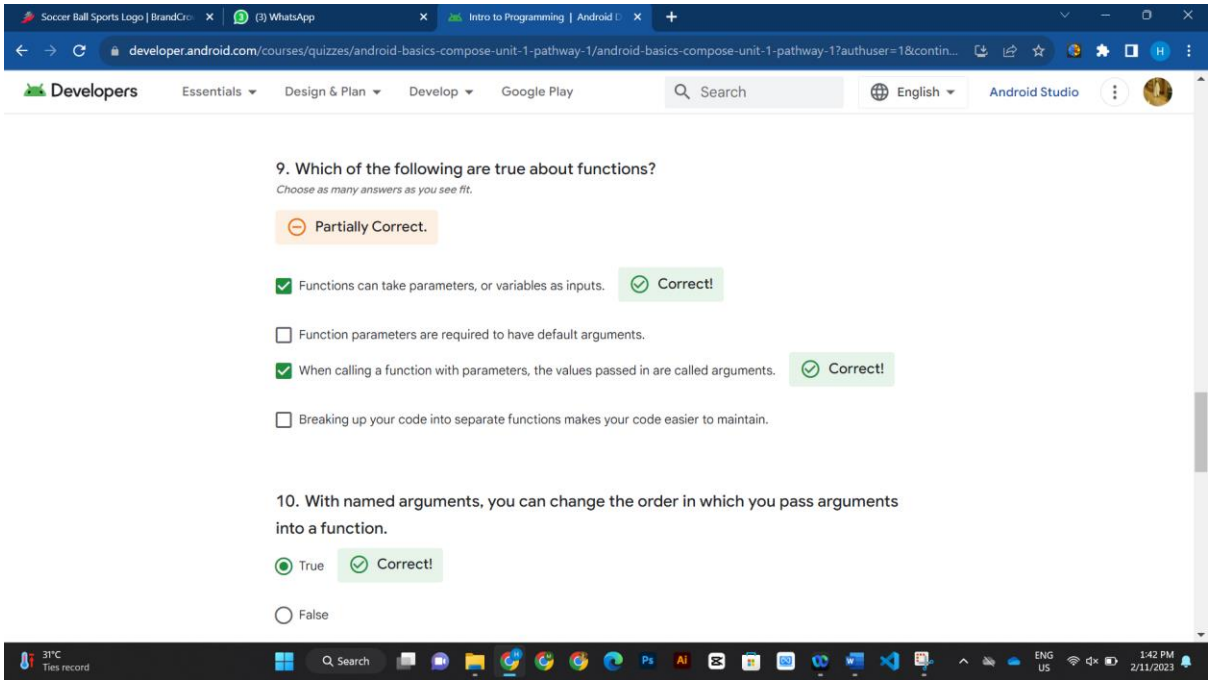
Google Play
Search
English
Android Studio
4. In Kotlin, comments can be single or multi-line and are ignored by the compiler.
True
Correct!
False
5. Which of the following is not a data type in Kotlin?
String
Decimal
Correct!
Int
Boolean
6. Float also represents a decimal, but is less precise than Double.
True
Correct!
False
31°C
Ties record
Search
ENG
US
1:42 PM
2/11/2023


Soccer Ball Sports Logo | BrandCro
(3) WhatsApp
Intro to Programming | Android D
developer.android.com/courses/quizzes/android-basics-compose-unit-1-pathway-1/android-basics-compose-unit-1-pathway-1?authuser=1&contin...
Developers
Essentials
Design & Plan
Develop
Google Play
Search
English
Android Studio
7. In Kotlin, the entrypoint of a program is the ___.
println() statement
val variable
main() function
Correct!
return statement
8. Which of the following are true about function return values?
Choose as many answers as you see fit.
Partially Correct.
If a function does not specify a return type, the return type is Unit.
Correct!
A return value can be stored in a variable.
Functions with a return type of Unit must include a return statement.
Incorrect.
A return value's type must match the return type of a function.
31°C
Ties record
Search
ENG
US
1:42 PM
2/11/2023


Soccer Ball Sports Logo | BrandCro
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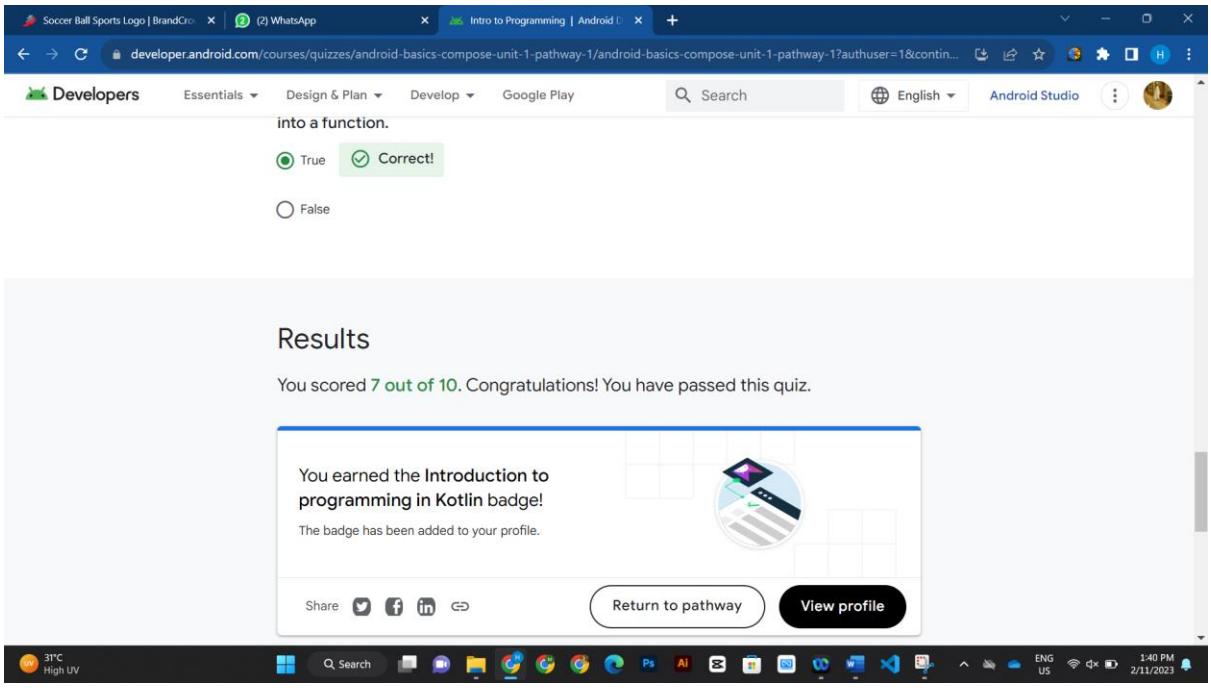
Intro to Programming | Android D
developer.android.com/courses/quizzes/android-basics-compose-unit-1-pathway-1/android-basics-compose-unit-1-pathway-1?authuser=1&contin...
Developers
Essentials
Design & Plan
Develop
Google Play
Search
English
Android Studio
9. Which of the following are true about functions?
Choose as many answers as you see fit.
Partially Correct.
Functions can take parameters, or variables as inputs.
Correct!
Function parameters are required to have default arguments.
When calling a function with parameters, the values passed in are called arguments.
Correct!
Breaking up your code into separate functions makes your code easier to maintain.
10. With named arguments, you can change the order in which you pass arguments into a function.
True
Correct!
False
31°C
Ties record
Search
ENG
US
1:42 PM
2/11/2023

Results √


Soccer Ball Sports Logo | BrandCro
(2) WhatsApp
Intro to Programming | Android D
developer.android.com/courses/quizzes/android-basics-compose-unit-1-pathway-1/android-basics-compose-unit-1-pathway-1?authuser=1&contin...
Developers
Essentials
Design & Plan
Develop
Google Play
Search
English
Android Studio
into a function.
True
Correct!
False
Results
You scored 7 out of 10. Congratulations! You have passed this quiz.
You earned the Introduction to programming in Kotlin badge!
The badge has been added to your profile.
Share
Return to pathway
View profile
31°C
High UV
Search
ENG
US
1:40 PM
2/11/2023

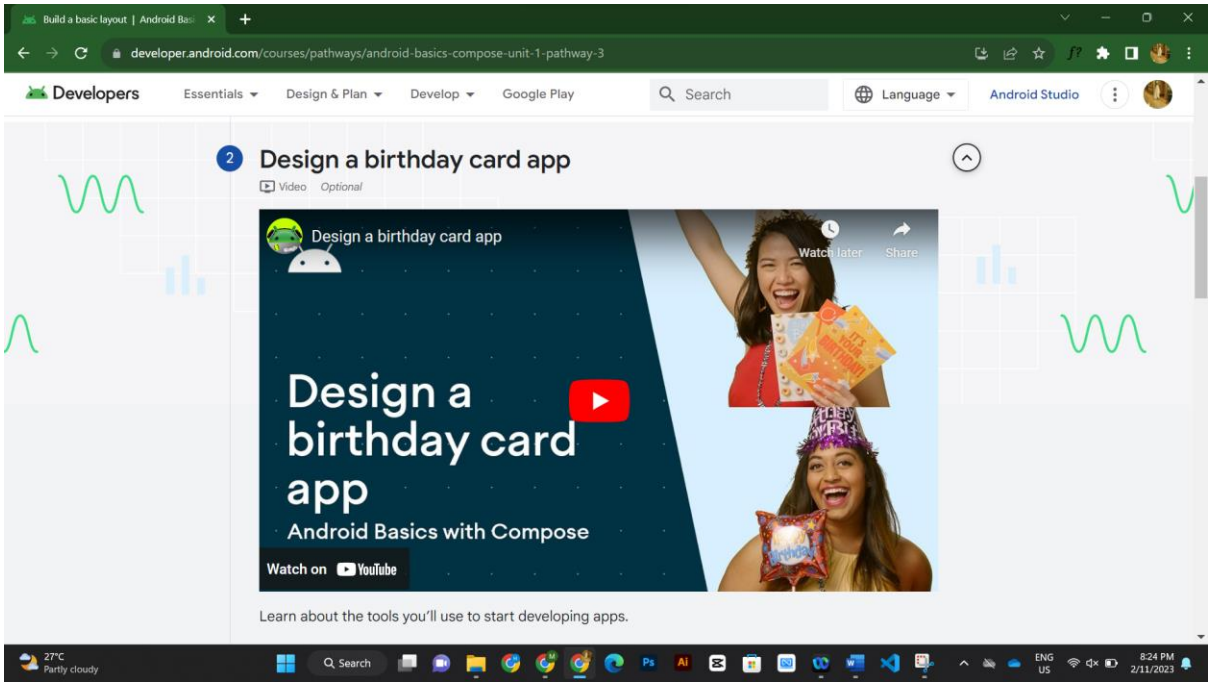
Task 2 - Using basic layout

1. Follow this link for the instructions
   https://developer.android.com/courses/pathways/android-basics-compose-unit-1-pathway-3

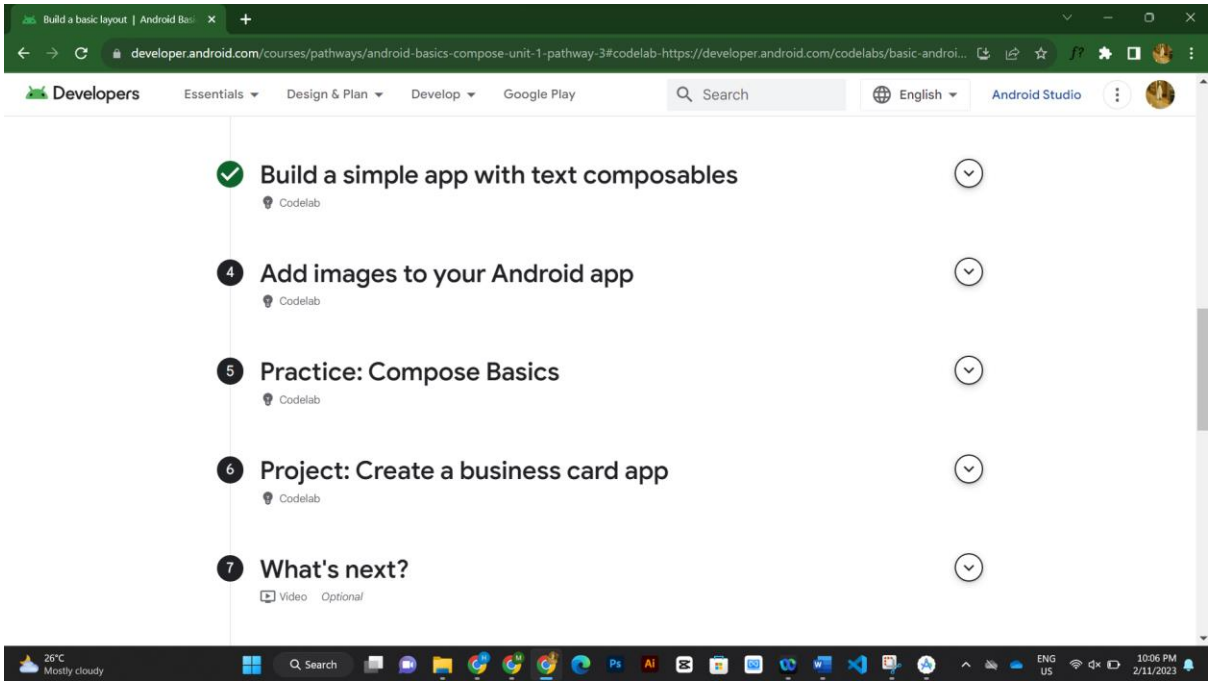
2. For submission
   a. Attached the screenshot for each finished non-optional activity in a report
   b. Attached the pass quiz result in the report (repeat the quiz if not pass)
   c. show clearly that the result is belong to yourself
   d. Attached a github link for finished task

1. Intro to Jetpack Compose √

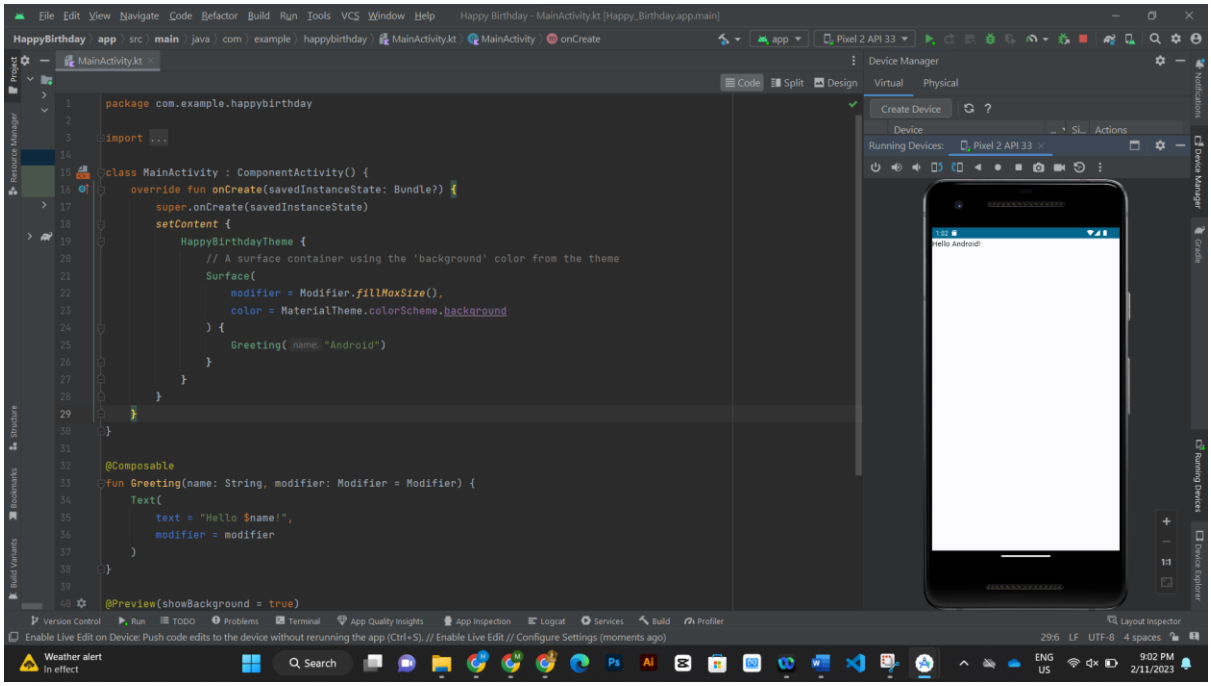
2. Design a birthday card app √

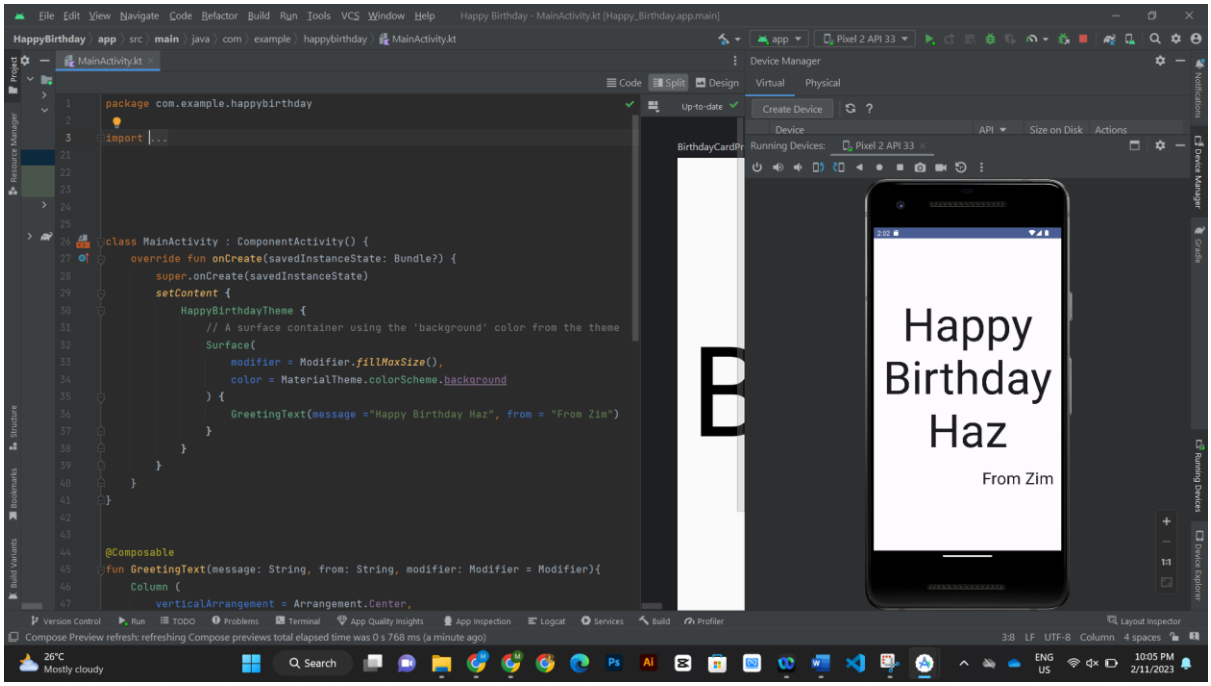


3. Build a simple app with text composables √

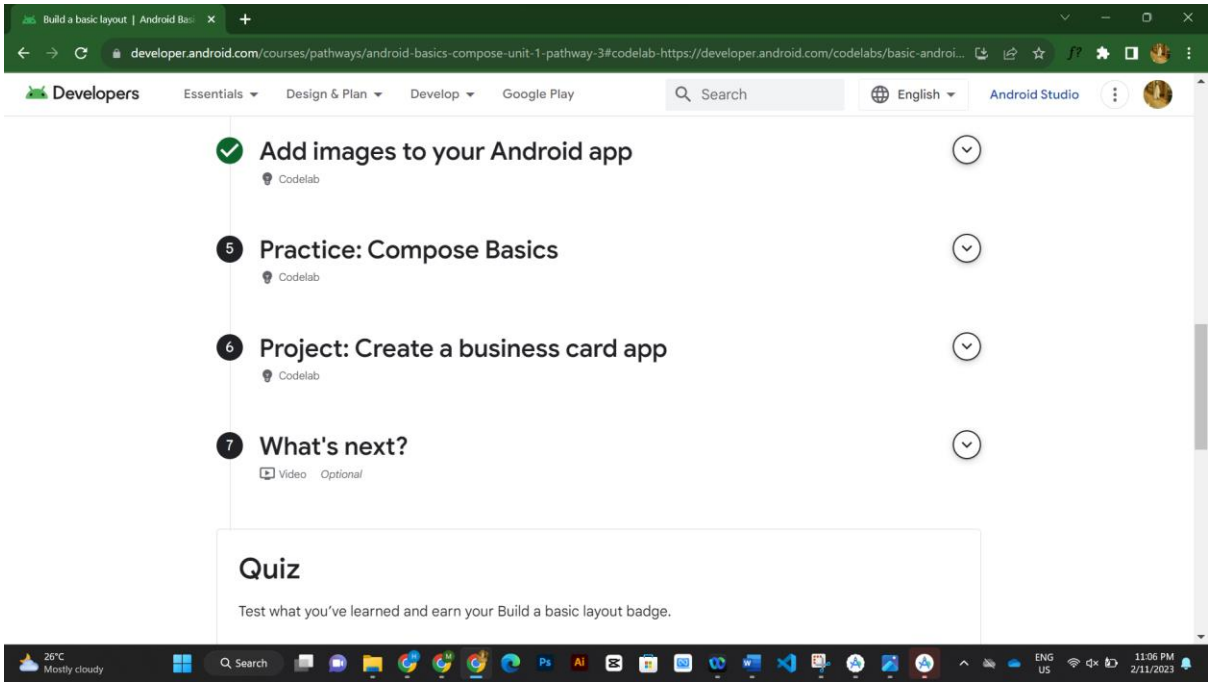


Code and Final Output:

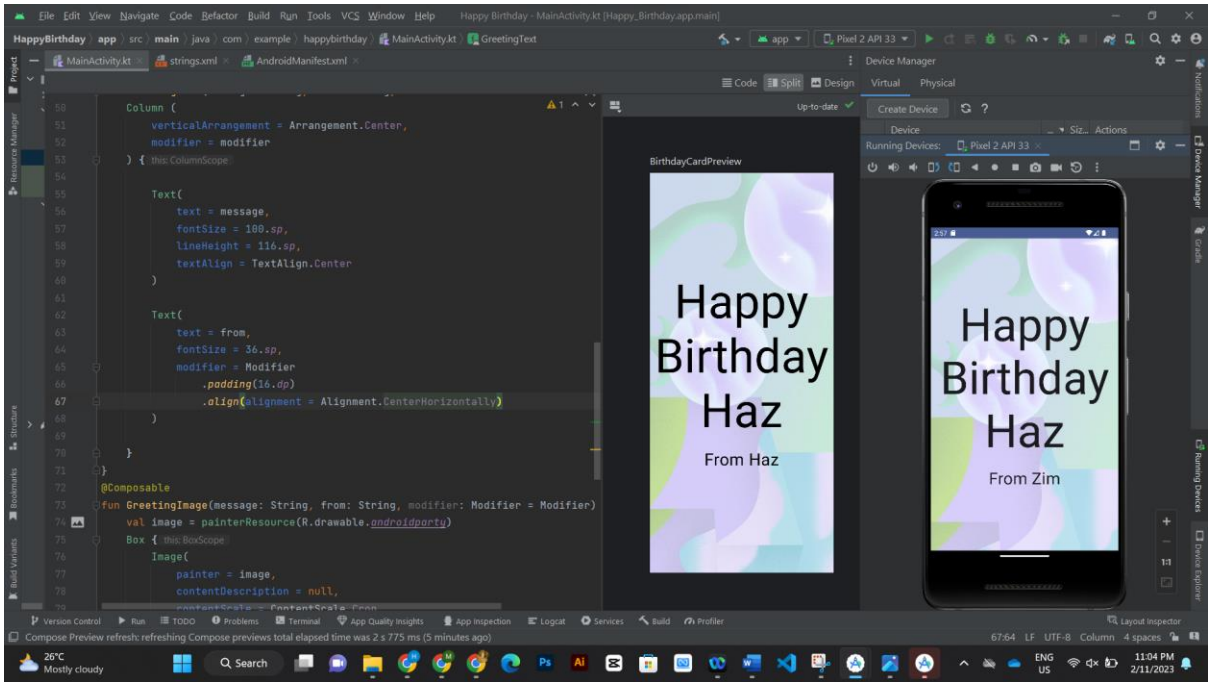


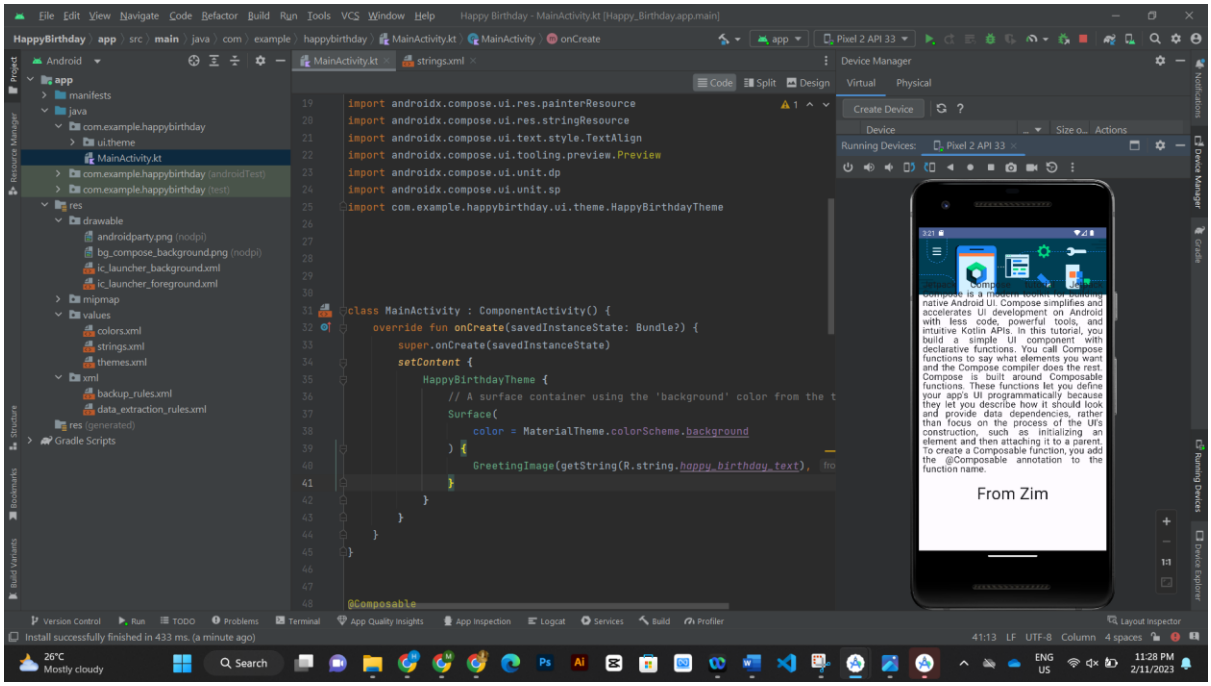

File Edit View Navigate Code Refactor Build Run Tools VCS Window Help
Happy Birthday - MainActivity.kt [Happy_Birthday.app.main]
HappyBirthday app src main java com example happybirthday MainActivity.kt
MainActivity.kt
Code Split Design
Up-to-date
package com.example.happybirthday
import ...
class MainActivity : ComponentActivity() {
override fun onCreate(savedInstanceState: Bundle?) {
super.onCreate(savedInstanceState)
setContent {
HappyBirthdayTheme {
// A surface container using the 'background' color from the theme
Surface(
modifier = Modifier.fillMaxSize(),
color = MaterialTheme.colorScheme.background
) {
GreetingText(message ="Happy Birthday Haz", from = "From Zim")
}
}
}
}
}
@Composable
fun GreetingText(message: String, from: String, modifier: Modifier = Modifier){
Column (
verticalArrangement = Arrangement.Center,
Device Manager
Virtual Physical
Create Device
Device API Size on Disk Actions
Running Devices: Pixel 2 API 33
Happy Birthday Haz
From Zim
Version Control Run TODO Problems Terminal App Quality Insights App Inspection Logcat Services Build Profiler
Layout Inspector
Compose Preview refresh: refreshing Compose previews total elapsed time was 0 s 768 ms (a minute ago)
3:8 LF UTF-8 Column 4 spaces
26°C
Mostly cloudy
Search
ENG
US
10:05 PM
2/11/2023

4. **Add images to your Android app √**

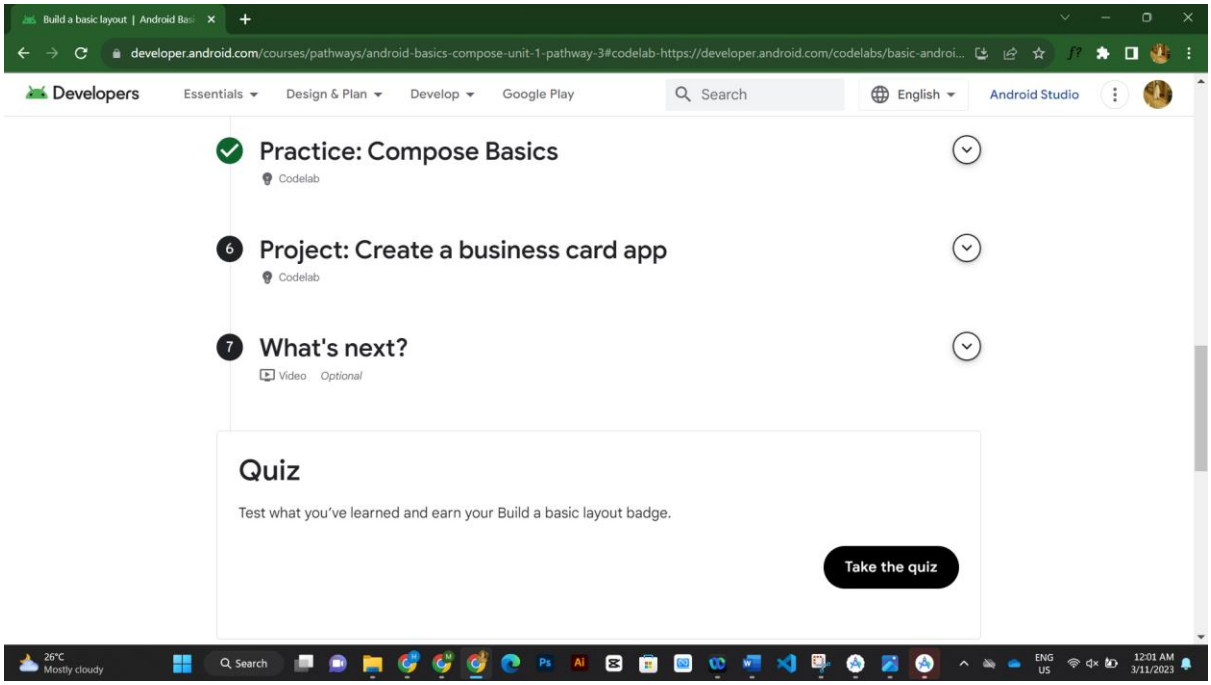


Code and Final Output:

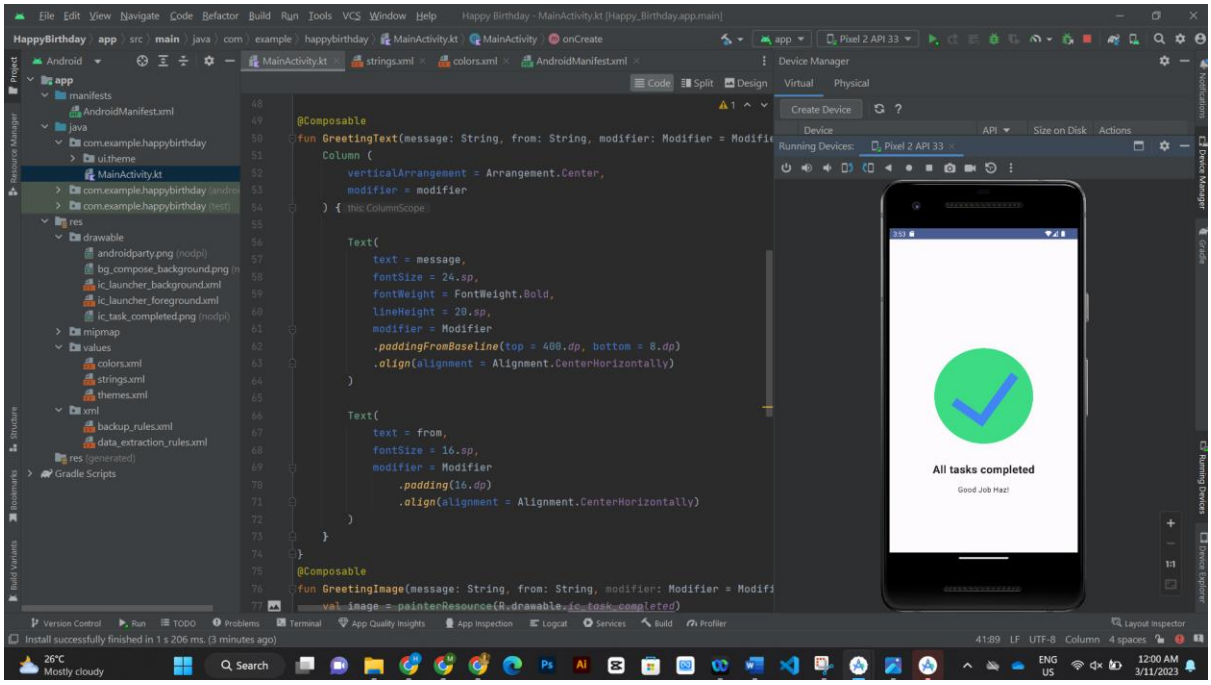



File Edit View Navigate Code Refactor Build Run Tools VCS Window Help
Happy Birthday - MainActivity.kt [Happy_Birthday.app.main]
HappyBirthday app src main java com example happybirthday MainActivity.kt MainActivity onCreate
Pixel 2 API 33
Android
app
manifests
java
com.example.happybirthday
ui.theme
MainActivity.kt
com.example.happybirthday (androidTest)
com.example.happybirthday (test)
res
drawable
androidparty.png (nodpi)
bg_compose_background.png (nodpi)
ic_launcher_background.xml
ic_launcher_foreground.xml
mipmap
values
colors.xml
strings.xml
themes.xml
xml
backup_rules.xml
data_extraction_rules.xml
res (generated)
Gradle Scripts
MainActivity.kt
strings.xml
Code
Split
Design
import androidx.compose.ui.res.painterResource
import androidx.compose.ui.res.stringResource
import androidx.compose.ui.text.style.TextAlign
import androidx.compose.ui.tooling.preview.Preview
import androidx.compose.ui.unit.dp
import androidx.compose.ui.unit.sp
import com.example.happybirthday.ui.theme.HappyBirthdayTheme
class MainActivity : ComponentActivity() {
override fun onCreate(savedInstanceState: Bundle?) {
super.onCreate(savedInstanceState)
setContent {
HappyBirthdayTheme {
// A surface container using the 'background' color from the t
Surface(
color = MaterialTheme.colorScheme.background
) {
GreetingImage(getString(R.string.happy_birthday_text),
}
}
}
}
}
@Composable
Device Manager
Virtual
Physical
Create Device
Running Devices:
Pixel 2 API 33
From Zim
Version Control
Run
TODO
Problems
Terminal
App Quality Insights
App Inspection
Logcat
Services
Build
Profiler
Layout Inspector
Install successfully finished in 433 ms. (a minute ago)
41:13 LF UTF-8 Column 4 spaces
26°C
Mostly cloudy
Search
ENG
US
11:28 PM
2/11/2023

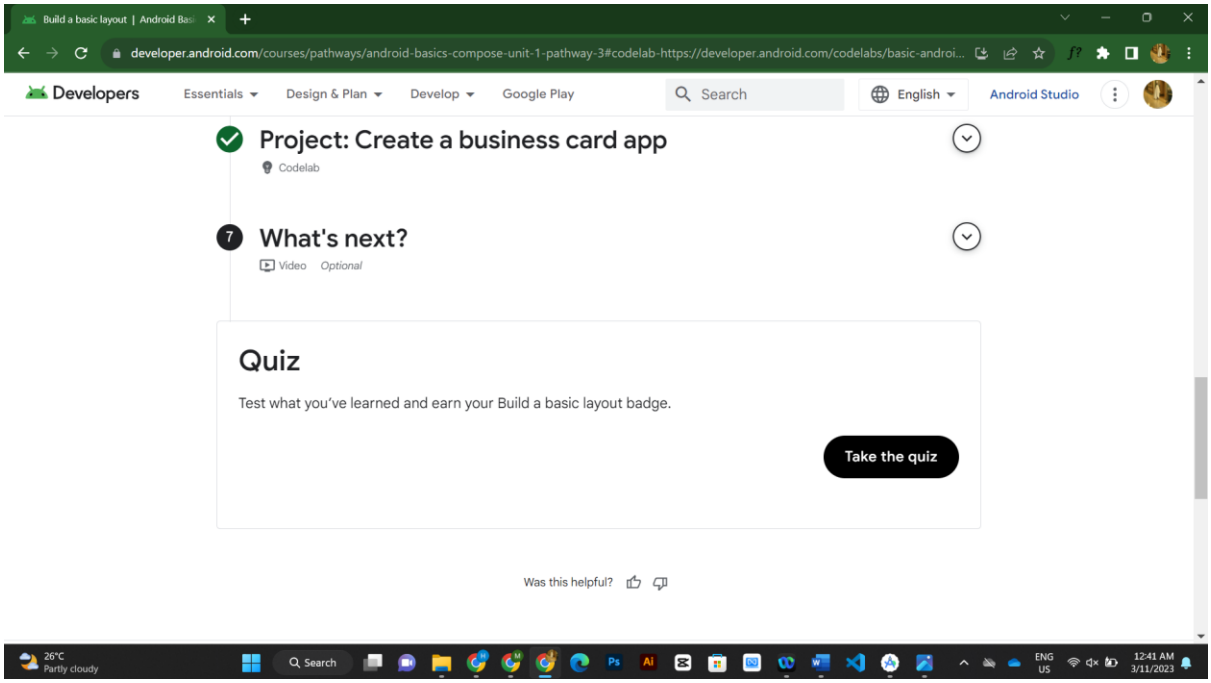
5. Practice: Compose Basics √



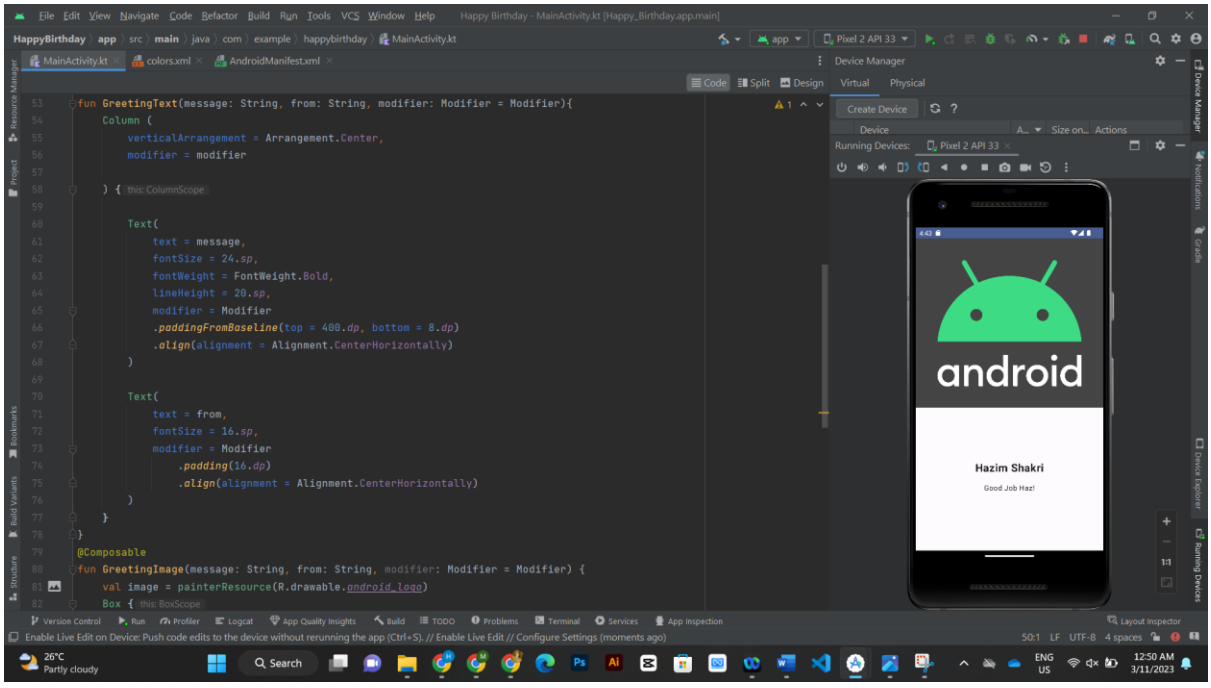
Code and Final Output:



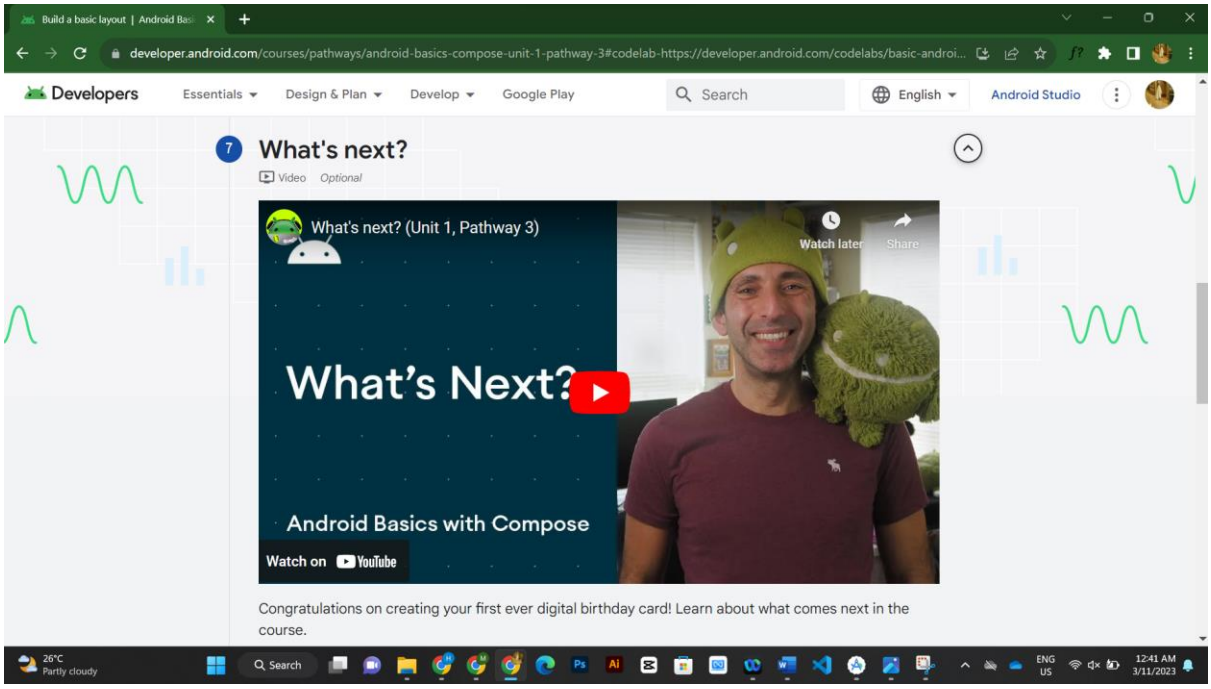
6. Project: Create a business card app √



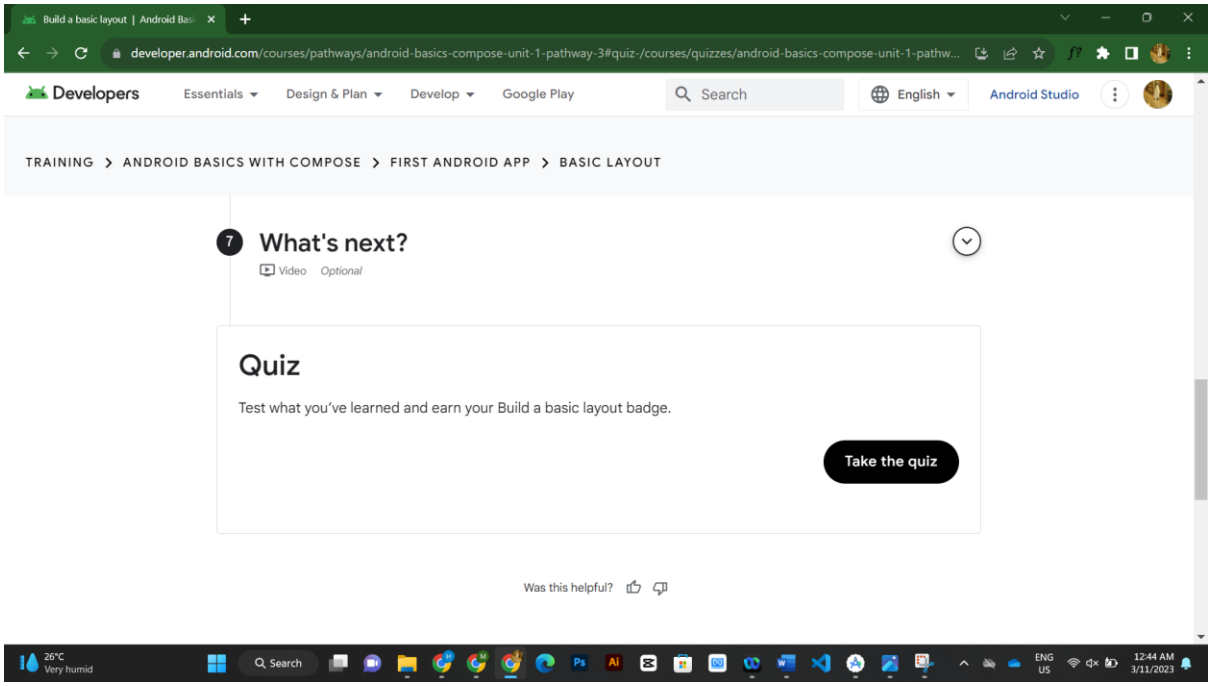
Code and Final Output:

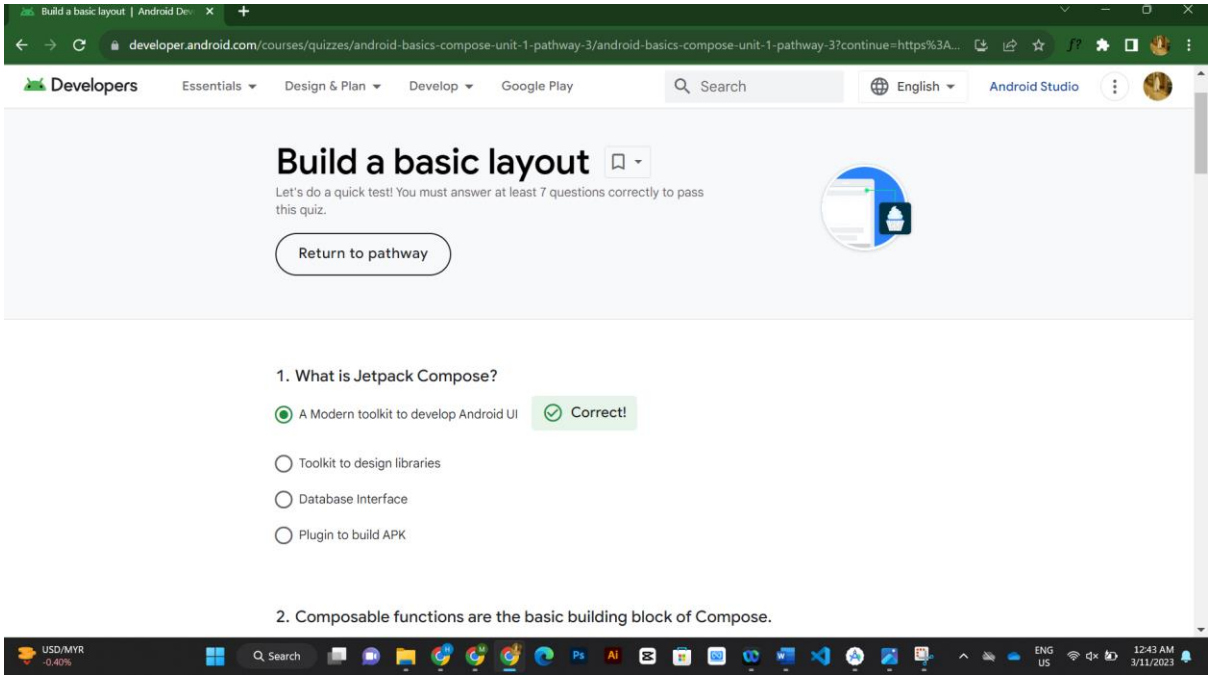


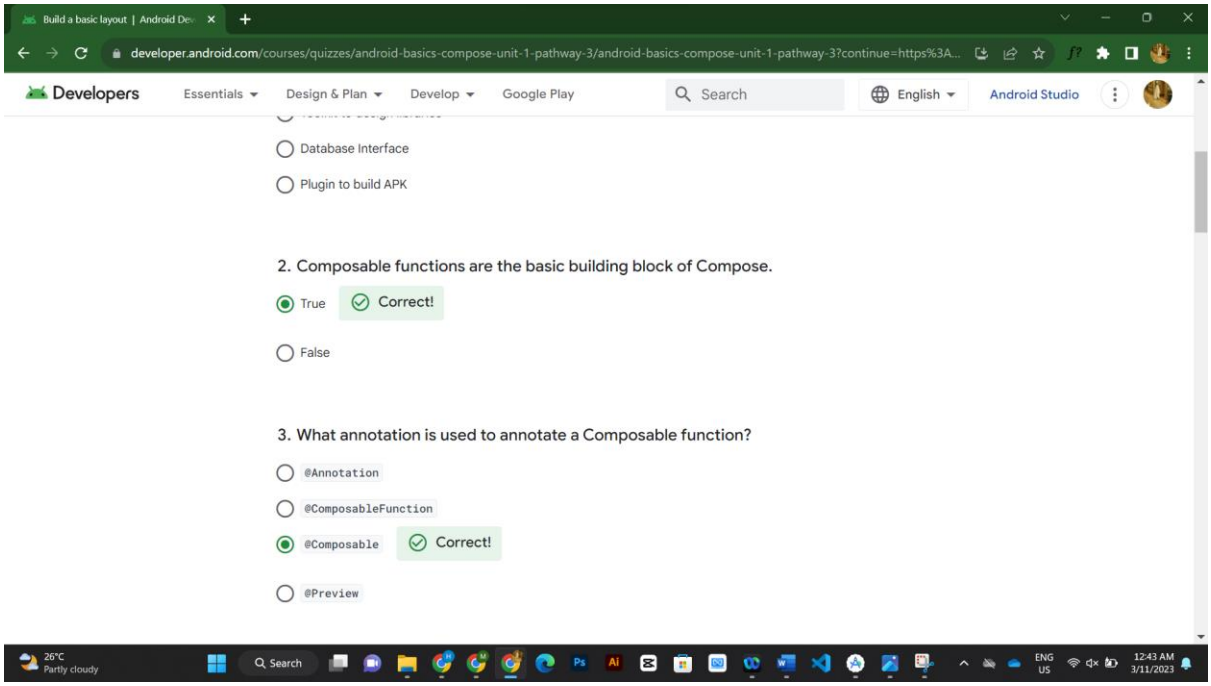
1. **What’s next? √**

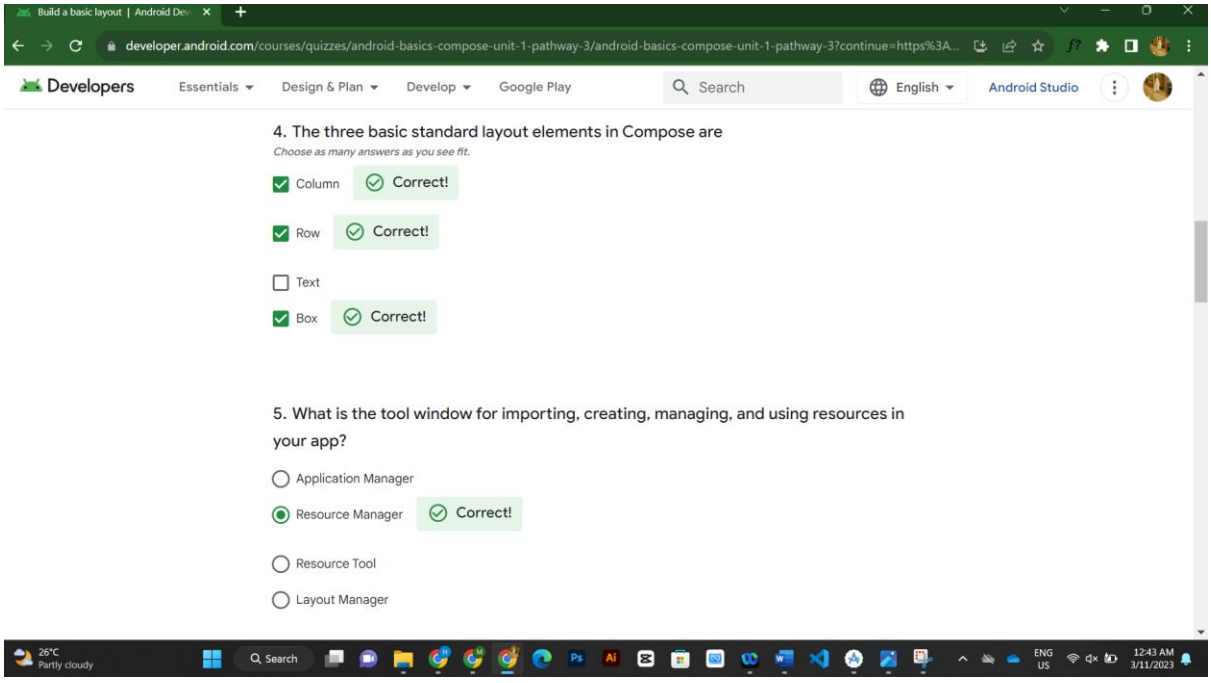

Build a basic layout | Android Basi
developer.android.com/courses/pathways/android-basics-compose-unit-1-pathway-3#codelab-https://developer.android.com/codelabs/basic-androi...
Developers
Essentials
Design & Plan
Develop
Google Play
Search
English
Android Studio
7
What's next?
Video
Optional
What's next? (Unit 1, Pathway 3)
Watch later
Share
What’s Next?
Android Basics with Compose
Watch on YouTube
Congratulations on creating your first ever digital birthday card! Learn about what comes next in the course.
26°C
Partly cloudy
Search
ENG
US
12:41 AM
3/11/2023

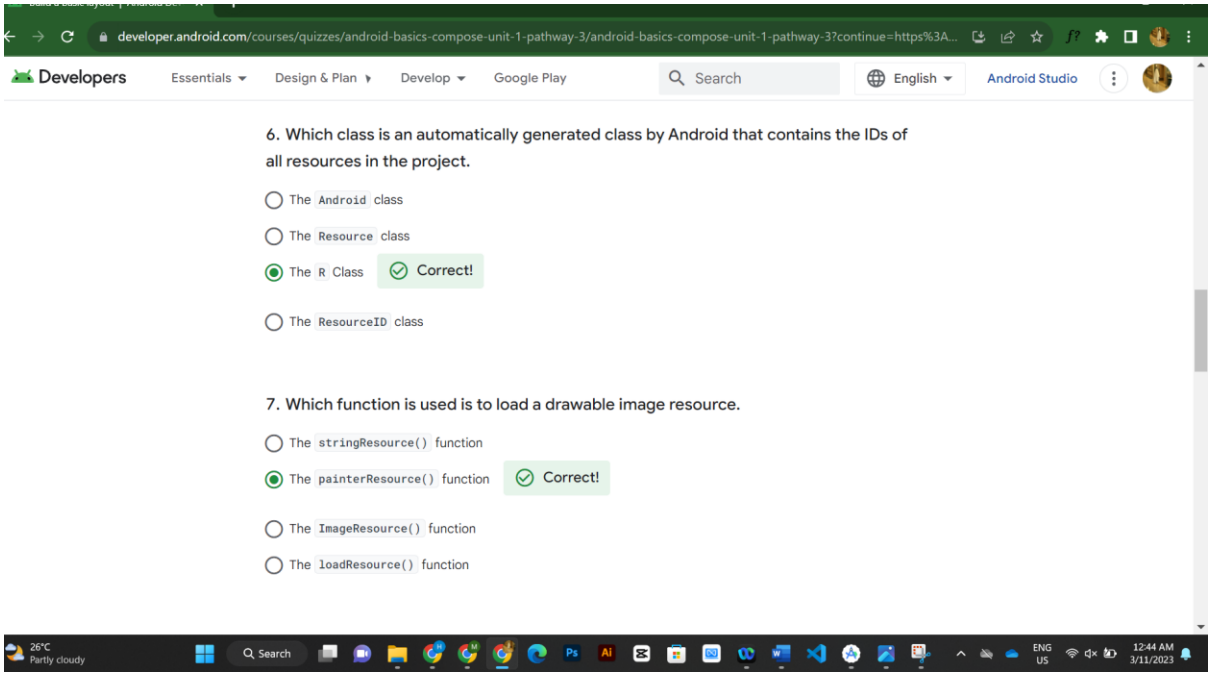
Quiz √


Build a basic layout | Android Basi
developer.android.com/courses/pathways/android-basics-compose-unit-1-pathway-3#quiz-/courses/quizzes/android-basics-compose-unit-1-pathw...
Developers
Essentials
Design & Plan
Develop
Google Play
Search
English
Android Studio
TRAINING > ANDROID BASICS WITH COMPOSE > FIRST ANDROID APP > BASIC LAYOUT
7 What's next?
Video Optional
Quiz
Test what you've learned and earn your Build a basic layout badge.
Take the quiz
Was this helpful?
26°C
Very humid
Search
ENG
US
12:44 AM
3/11/2023


Build a basic layout | Android Dev
developer.android.com/courses/quizzes/android-basics-compose-unit-1-pathway-3/android-basics-compose-unit-1-pathway-3?continue=https%3A...
Developers
Essentials
Design & Plan
Develop
Google Play
Search
English
Android Studio
Build a basic layout
Let's do a quick test! You must answer at least 7 questions correctly to pass this quiz.
Return to pathway
1. What is Jetpack Compose?
A Modern toolkit to develop Android UI
Correct!
Toolkit to design libraries
Database Interface
Plugin to build APK
2. Composable functions are the basic building block of Compose.
USD/MYR
-0.40%
Search
ENG
US
12:43 AM
3/11/2023


Build a basic layout | Android Dev
developer.android.com/courses/quizzes/android-basics-compose-unit-1-pathway-3/android-basics-compose-unit-1-pathway-3?continue=https%3A...
Developers
Essentials
Design & Plan
Develop
Google Play
Search
English
Android Studio
Database Interface
Plugin to build APK
2. Composable functions are the basic building block of Compose.
True
Correct!
False
3. What annotation is used to annotate a Composable function?
@Annotation
@ComposableFunction
@Composable
Correct!
@Preview
26°C
Partly cloudy
Search
ENG
US
12:43 AM
3/11/2023


Build a basic layout | Android Dev
developer.android.com/courses/quizzes/android-basics-compose-unit-1-pathway-3/android-basics-compose-unit-1-pathway-3?continue=https%3A...
Developers
Essentials
Design & Plan
Develop
Google Play
Search
English
Android Studio
4. The three basic standard layout elements in Compose are
Choose as many answers as you see fit.
Column
Correct!
Row
Correct!
Text
Box
Correct!
5. What is the tool window for importing, creating, managing, and using resources in your app?
Application Manager
Resource Manager
Correct!
Resource Tool
Layout Manager
26°C
Partly cloudy
Search
ENG
US
12:43 AM
3/11/2023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6. Which class is an automatically generated class by Android that contains the IDs of all resources in the project.
The Android class
The Resource class
The R Class
Correct!
The ResourceID class
7. Which function is used is to load a drawable image resource.
The stringResource() function
The painterResource() function
Correct!
The ImageResource() function
The loadResource() function
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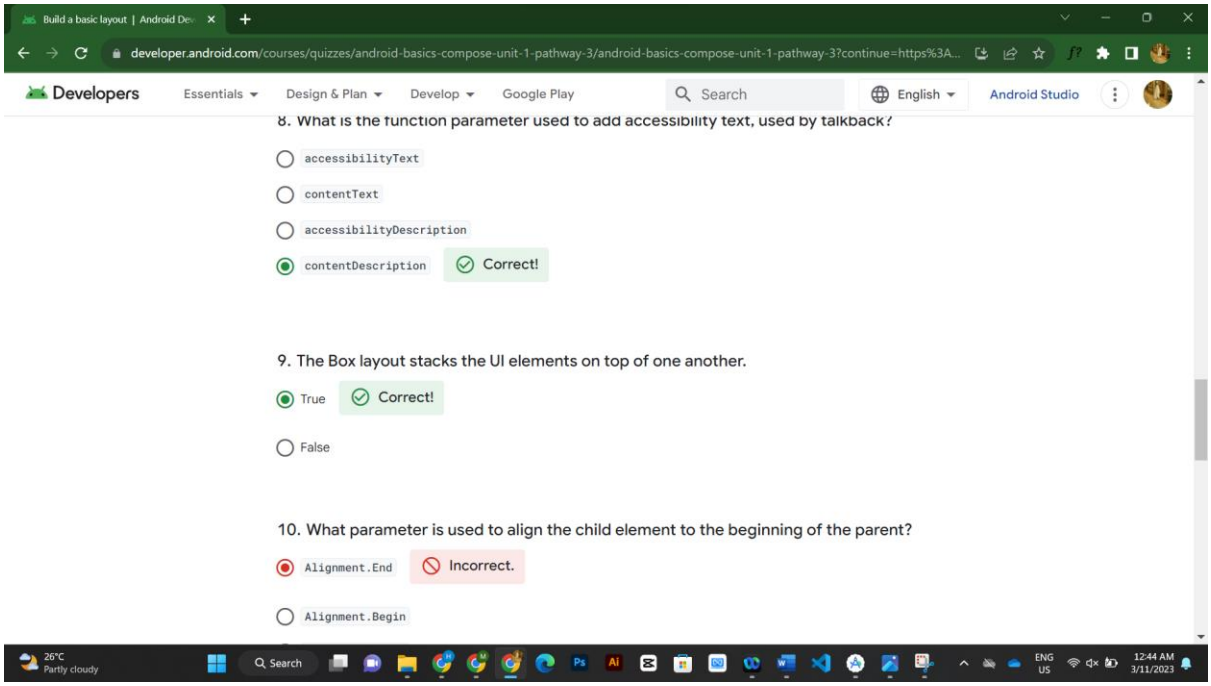
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8. What is the function parameter used to add accessibility text, used by talkback?
accessibilityText
contentText
accessibilityDescription
contentDescription
Correct!
9. The Box layout stacks the UI elements on top of one another.
True
Correct!
False
10. What parameter is used to align the child element to the beginning of the parent?
Alignment.End
Incorrect.
Alignment.Begin
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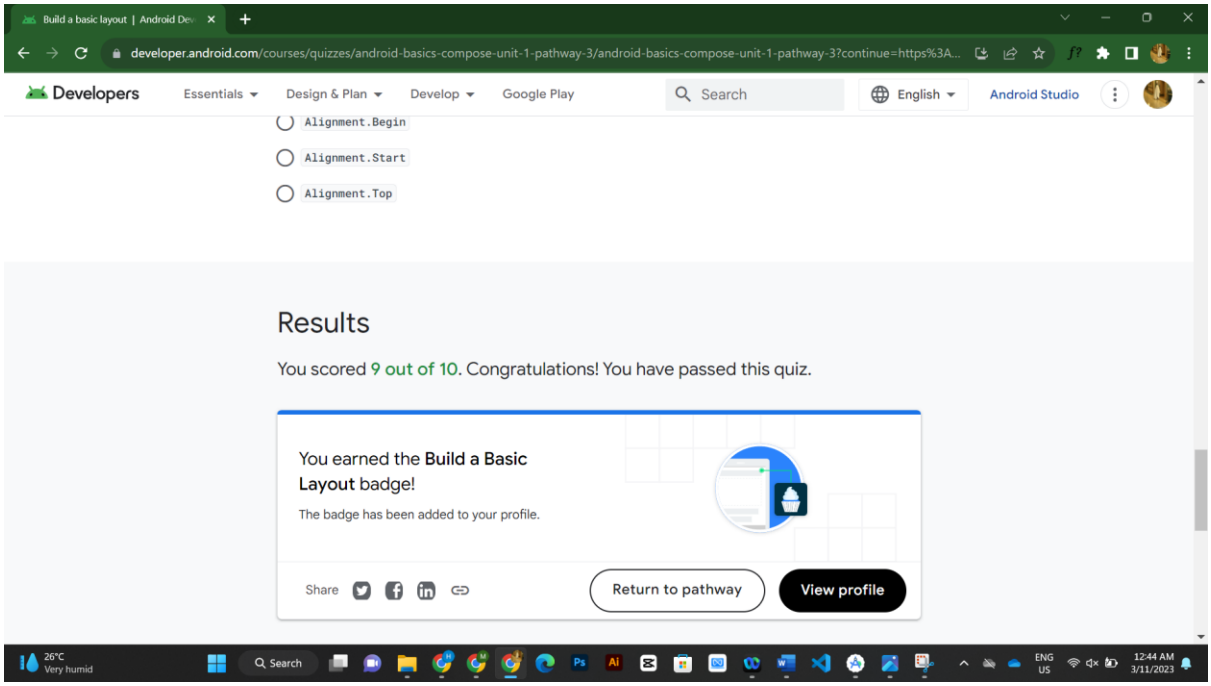
Results:



GitHub Link:

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