



**UNIVERSITI MALAYSIA TERENGGANU**  
**NATIVE MOBILE PROGRAMMING**  
**CSM 3123**

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**TASK 1:**

<https://developer.android.com/courses/pathways/android-basics-compose-unit-2-pathway-1>

## Practice: Kotlin Fundamentals

## 1. Mobile notifications

```
fun main() {  
    val morningNotification = 51  
    val eveningNotification = 135  
  
    printNotificationSummary(morningNotification)  
    printNotificationSummary(eveningNotification)  
}  
  
fun printNotificationSummary(numberOfMessages: Int) {  
    if (numberOfMessages < 100) {  
        println("You have ${numberOfMessages} notifications.")  
    } else {  
        println("Your phone is blowing up! You have 99+ notifications.")  
    }  
}
```

You have 51 notifications.  
Your phone is blowing up! You have 99+ notifications.

Target platform: JVM Running on Kotlin v. 1.0.91

## 2. Movie-ticket price

```
fun main() {  
    val child = 5  
    val adult = 28  
    val senior = 87  
  
    val isMonday = true  
  
    println("The movie ticket price for a person aged $child is \${ticketPrice(  
        child, isMonday)}$.")  
    println("The movie ticket price for a person aged $adult is \${ticketPrice(  
        adult, isMonday)}$.")  
    println("The movie ticket price for a person aged $senior is \${ticketPrice(  
        senior, isMonday)}$.")  
}  
  
fun ticketPrice(age: Int, isMonday: Boolean): Int {  
    return when(age) {  
        in 0..12 -> 15  
        in 13..60 -> if (isMonday) 25 else 30  
        in 61..100 -> 20  
        else -> -1  
    }  
}
```

The movie ticket price for a person aged 5 is \$15.  
The movie ticket price for a person aged 28 is \$25.  
The movie ticket price for a person aged 87 is \$20.

Target platform: JVM Running on Kotlin v. 1.9.21

### 3. Temperature converter

```

fun main() {
    printFinalTemperature(27.0, "Celsius", "Fahrenheit") { 9.0 / 5.0 * it + 32 }
    printFinalTemperature(350.0, "Kelvin", "Celsius") { it - 273.15 }
    printFinalTemperature(10.0, "Fahrenheit", "Kelvin") { 5.0 / 9.0 * (it - 32) +
        273.15 }
}

fun printFinalTemperature(
    initialMeasurement: Double,
    initialUnit: String,
    finalUnit: String,
    conversionFormula: (Double) -> Double
) {
    val finalMeasurement = String.format("%.2f", conversionFormula(initialMeasurement))
    println("$initialMeasurement degrees $initialUnit is $finalMeasurement degrees $finalUnit")
}

```

27.0 degrees Celsius is 80.60 degrees Fahrenheit.  
 350.0 degrees Kelvin is 76.85 degrees Celsius.  
 10.0 degrees Fahrenheit is 260.93 degrees Kelvin.

Target platform: JVM Running on kotlin v. 1.9.21

### 4. Song catalog

```

fun main() {
    val brunoSong = Song("We Don't Talk About Bruno", "Encanto Cast", 2022,
        1_000_000)
    brunoSong.printDescription()
    println(brunoSong.isPopular)
}

class Song(
    val title: String,
    val artist: String,
    val yearPublished: Int,
    val playCount: Int
){
    val isPopular: Boolean
        get() = playCount >= 1000

    fun printDescription() {
        println("$title, performed by $artist, was released in $yearPublished.")
    }
}

```

We Don't Talk About Bruno, performed by Encanto Cast, was released in 2022.  
 true

Target platform: JVM Running on kotlin v. 1.9.21

## 5. Internet profile

```
fun main() {
    val amanda = Person("Amanda", 33, "play tennis", null)
    val atiqah = Person("Atiqah", 28, "climb", amanda)

    amanda.showProfile()
    atiqah.showProfile()
}

class Person(val name: String, val age: Int, val hobby: String?, val referrer:
    Person?) {
    fun showProfile() {
        println("Name: $name")
        println("Age: $age")
        if(hobby != null) {
            print("Likes to $hobby. ")
        }
        if(referrer != null) {
            print("Has a referrer named ${referrer.name}")
            if(referrer.hobby != null) {
                print(", who likes to ${referrer.hobby}.")
            } else {
                print(".")
            }
        } else {
            print("Doesn't have a referrer.")
        }
        print("\n\n")
    }
}
```

```
Name: Amanda
Age: 33
Likes to play tennis. Doesn't have a referrer.

Name: Atiqah
Age: 28
Likes to climb. Has a referrer named Amanda, who likes to play tennis.
```

## 6. Foldable phone

```
open class Phone(var isScreenLightOn: Boolean = false){
    open fun switchOn() {
        isScreenLightOn = true
    }

    fun switchOff() {
        isScreenLightOn = false
    }

    fun checkPhoneScreenLight() {
        val phoneScreenLight = if (isScreenLightOn) "on" else "off"
        println("The phone screen's light is $phoneScreenLight.")
    }
}

class FoldablePhone(var isFolded: Boolean = true): Phone() {
    override fun switchOn() {
        if (!isFolded) {
            isScreenLightOn = true
        }
    }

    fun fold() {
        isFolded = true
    }

    fun unfold() {
        isFolded = false
    }
}

fun main() {
    val newFoldablePhone = FoldablePhone()

    newFoldablePhone.switchOn()
    newFoldablePhone.checkPhoneScreenLight()
    newFoldablePhone.unfold()
    newFoldablePhone.switchOn()
    newFoldablePhone.checkPhoneScreenLight()
}
```

```
The phone screen's light is off.
The phone screen's light is on.
```

## 7. Special auction

```
fun main() {  
    val winningBid = Bid(5000, "Private Collector")  
  
    println("Item A is sold at ${auctionPrice(winningBid, 2000)}.")  
    println("Item B is sold at ${auctionPrice(null, 3000)}.")  
}  
  
class Bid(val amount: Int, val bidder: String)  
  
fun auctionPrice(bid: Bid?, minimumPrice: Int): Int {  
    return bid?.amount ?: minimumPrice  
}  
}
```

Item A is sold at 5000.  
Item B is sold at 3000.


### Quiz result:





## Results

You scored **10 out of 10**. Congratulations! You have passed this quiz.

You earned the **Kotlin Fundamentals** badge!

The badge has been added to your profile.



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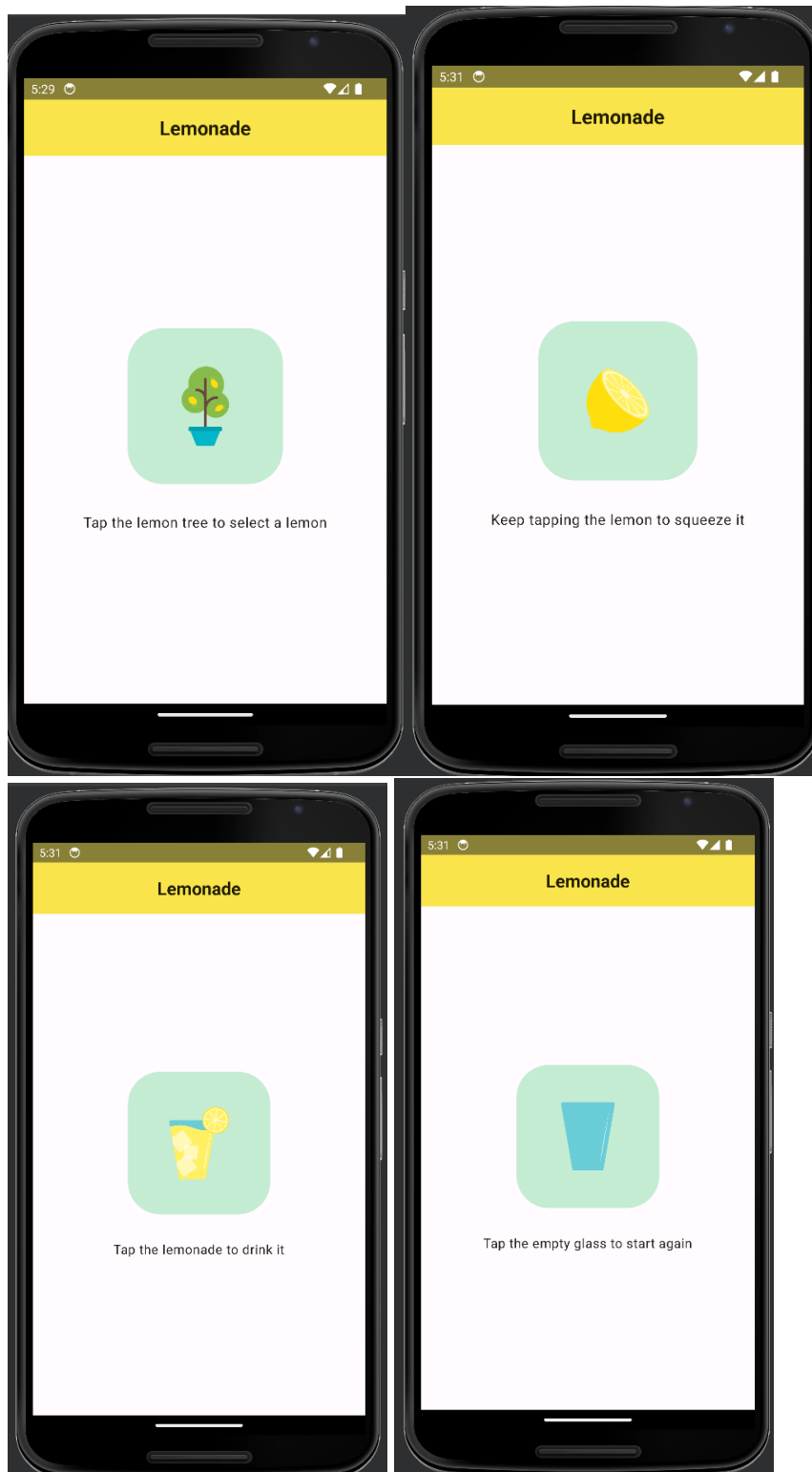
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**TASK 2:**

<https://developer.android.com/courses/pathways/android-basics-compose-unit-2-pathway-2>

Practice: Click Behavior

App name: Lemonade



## Quiz Result:

## Results

You scored **7 out of 7**. Congratulations! You have passed this quiz.

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**Submission**

Github Link:

<https://github.com/ilhamhanina/CSM3123NativeMobileProgramming.git>