

Assignment 1, Mobile Programming

Done by: Miras Assubay

Exercise 1: Kotlin Syntax Basics

```
"/Applications/Android Studio.app/Contents/jbr/Contents/Home/bin/java" ...  
Int value is 1  
String value is String  
Double value is 1.2  
boolean value is true  
Number is zero  
Number 1 is positive  
Number -1 is negative  
Nums using for loop:  
12345678910  
Nums using while loop:  
12345678910  
Sum of [1, 2, 3, 4, 5] is 15  
Done by Miras Assubay  
  
Process finished with exit code 0  
|
```

```
fun printAllVals() {  
    println("Int value is $int")  
    println("String value is $string")  
    println("Double value is $double")  
    println("boolean value is $boolean")  
}
```

```
fun checkNum(int: Int) {  
    if (int > 0) {  
        println("Number $int is positive")  
    }  
    else if (int < 0) {  
        println("Number $int is negative")  
    }  
    else {  
        println("Number is zero")  
    }  
}
```

```
fun tenNums() {  
    println("Nums using for loop:")  
    for (i in 1 ≤ .. ≤ 10) {  
        print(i)  
    }  
    println()  
    println("Nums using while loop:")  
    var i = 1  
    while (i ≤ 10) {  
        print(i)  
        i++  
    }  
    println()  
}
```

Exercise 2: Kotlin OOP (Object-Oriented Programming)

```
fun main() {
    val person = Person(name: "Miras", email: "miras.asubai@gmail.com", age: 23)
    person.displayInfo()
    val employee = Employee(name: "Miras", email: "miras.asubai@gmail.com", age: 23, salary: 2000)
    employee.displayInfo()

    val bankAccount = BankAccount(balance: 200)
    bankAccount.deposit(sum: 100)
    bankAccount.withdraw(sum: 400)
}

open class Person(
    val name: String,
    val email: String,
    val age: Int
) {
    open fun displayInfo() {
        println("Name is $name, email is $email, age is $age")
    }
}

class Employee(
    name: String,
    email: String,
    age: Int,
    val salary: Int
): Person(name, email, age) {
    override fun displayInfo() {
        println("Name is $name, email is $email, age is $age, salary is $salary")
    }
}

class BankAccount(
    private var balance: Int
) {
    fun deposit(sum: Int) {
        balance += sum
        println("Your balance is: $balance")
    }
}
```

```
fun withdraw(sum: Int) {
    if (sum > balance) {
        println("Error, you can't withdraw more than your balance, your balance is $balance")
    } else {
        balance -= sum
        println("Your balance is: $balance")
    }
}
```

```
Name is Miras, email is miras.asubai@gmail.com, age is 23
Name is Miras, email is miras.asubai@gmail.com, age is 23, salary is 2000
Your balance is: 300
Error, you can't withdraw more than your balance, your balance is 300

Process finished with exit code 0
```

Exercise 3: Kotlin Functions

```
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fun main() {
    fun twoSum(i: Int, j: Int): Int { return i + j }

    println(twoSum(i: 1, j: 2))
    val multiply: (Int, Int) -> Int = {a, b -> a * b}

    println(multiply(5, 6))

    fun applyOperation(a: Int, b: Int, operation: (Int, Int) -> Int): Int {
        return operation(a, b)
    }

    val sumByOperation = applyOperation(a: 5, b: 2) {a, b -> a + b}
    println(sumByOperation)

    val multiplyByOperation = applyOperation(a: 5, b: 2) {a, b -> a * b}
    println(multiplyByOperation)
}
```

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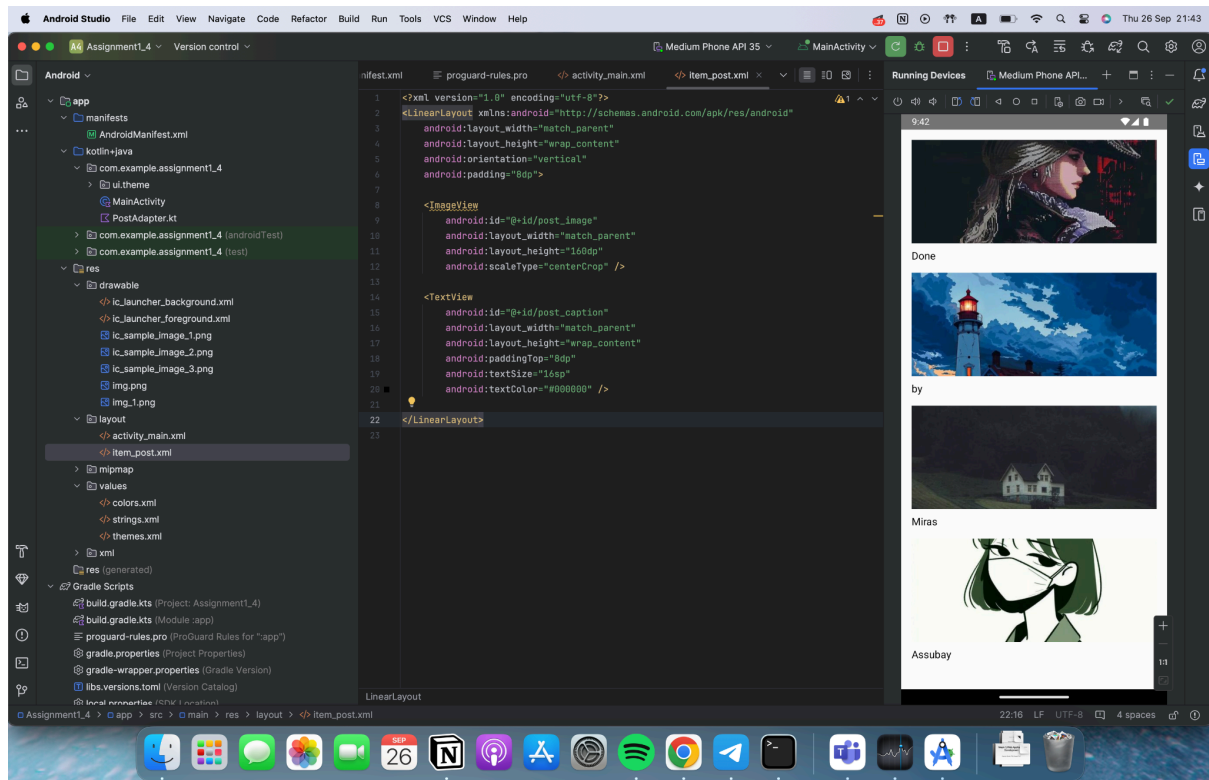
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Process finished with exit code 0

Exercise 4: Android Layout in Kotlin (Instagram-like Layout)



```
class MainActivity : AppCompatActivity() {

    private lateinit var recyclerView: RecyclerView
    private lateinit var postAdapter: PostAdapter
    private lateinit var postList: List<Post>

    override fun onCreate(savedInstanceState: Bundle?) {
        super.onCreate(savedInstanceState)
        setContentView(R.layout.activity_main)

        recyclerView = findViewById(R.id.recyclerView)
        recyclerView.layoutManager = LinearLayoutManager(context: this)

        postList = listOf(
            Post(R.drawable.img_1, caption: "Done"),
            Post(R.drawable.ic_sample_image_2, caption: "by"),
            Post(R.drawable.ic_sample_image_3, caption: "Miras"),
            Post(R.drawable.img, caption: "Assubay")
        )

        postAdapter = PostAdapter(postList)
        recyclerView.adapter = postAdapter
    }
}
```