

Android Study Jams

Prior Programming Experience Track: Session 1

Learning Objectives

- Learn the essentials of the Kotlin programming language
- Build a variety of Android apps
- Best practices for Android development
- Discover resources to continue learning



Prerequisites

- Basic computer literacy
- Machine with Android Studio installed
- Internet connection



android

What's your favorite programming language and why?

Today's Schedule

TOPIC	TIME
Presentation	16:15 - 16:30
Kotlin Koans	16:30 - 17:30
Break	17:30 - 17:45
Kotlin Koans (continued)	17:45 - 18:15
Celebrate	

Logistics

Kotlin Koans



Playground Hands-on Examples

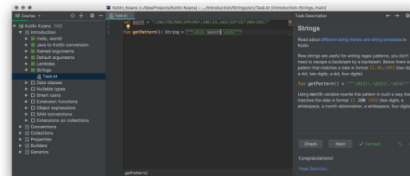
Progress:0%

- Introduction
- Conventions
- Collections
- Properties
- Builders
- Generics

Kotlin Koans

Start now

Kotlin Koans is a series of exercises to get you familiar with the Kotlin syntax and some idioms. Each exercise is created as a unit test, and your job is to make it pass. Here you can play with Koans online, but the same version of exercises is also available as a JetBrains educational plugin right [inside IntelliJ IDEA](#) or [Android Studio](#).



Kotlin Koans in EduTools Plugin for IntelliJ Idea and Android Studio

According to our surveys, Kotlin Koans is one of the most popular and most effective ways to get into Kotlin for people who already know Java. In just a few hours, you'll feel able to write idiomatic Kotlin code.

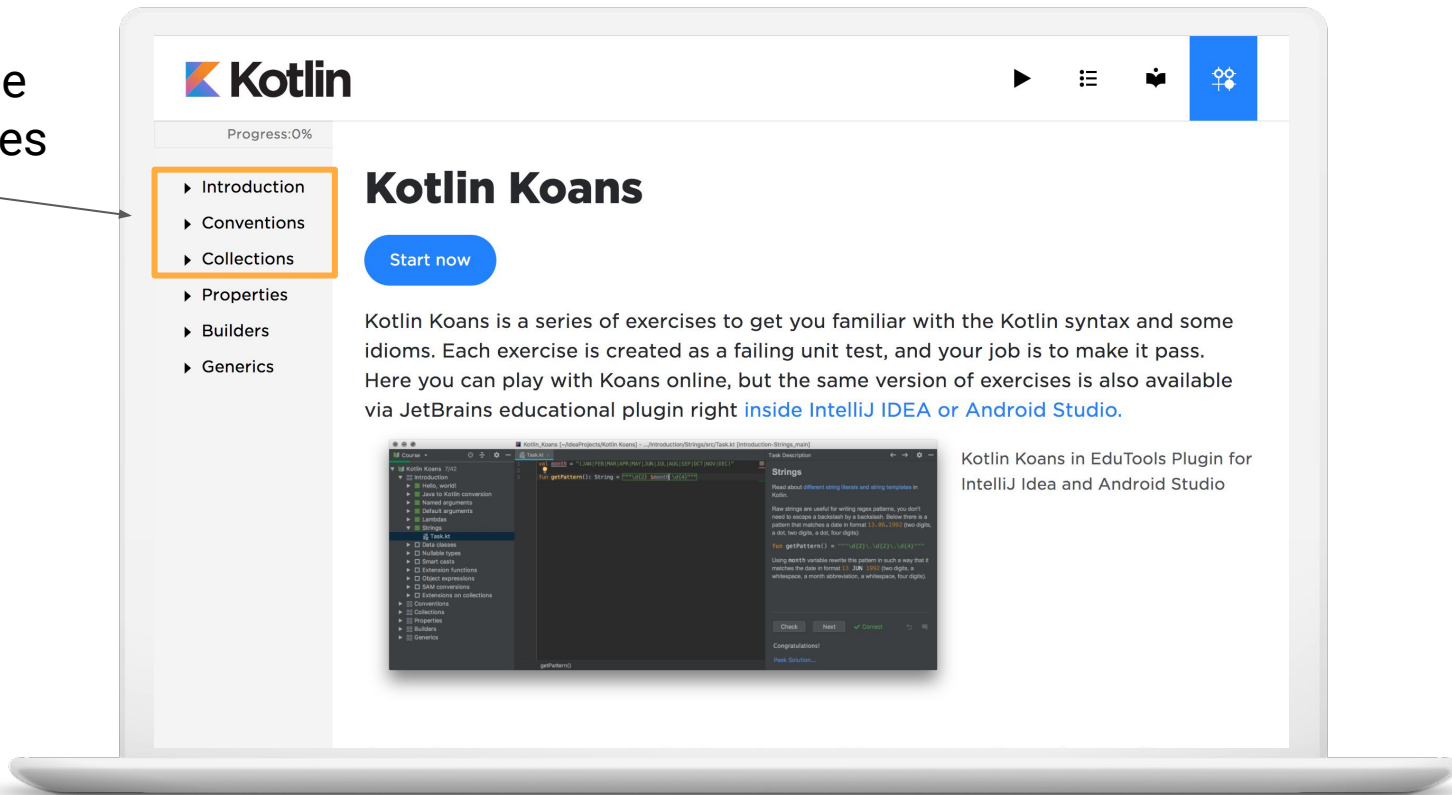
Let's Kotlin!

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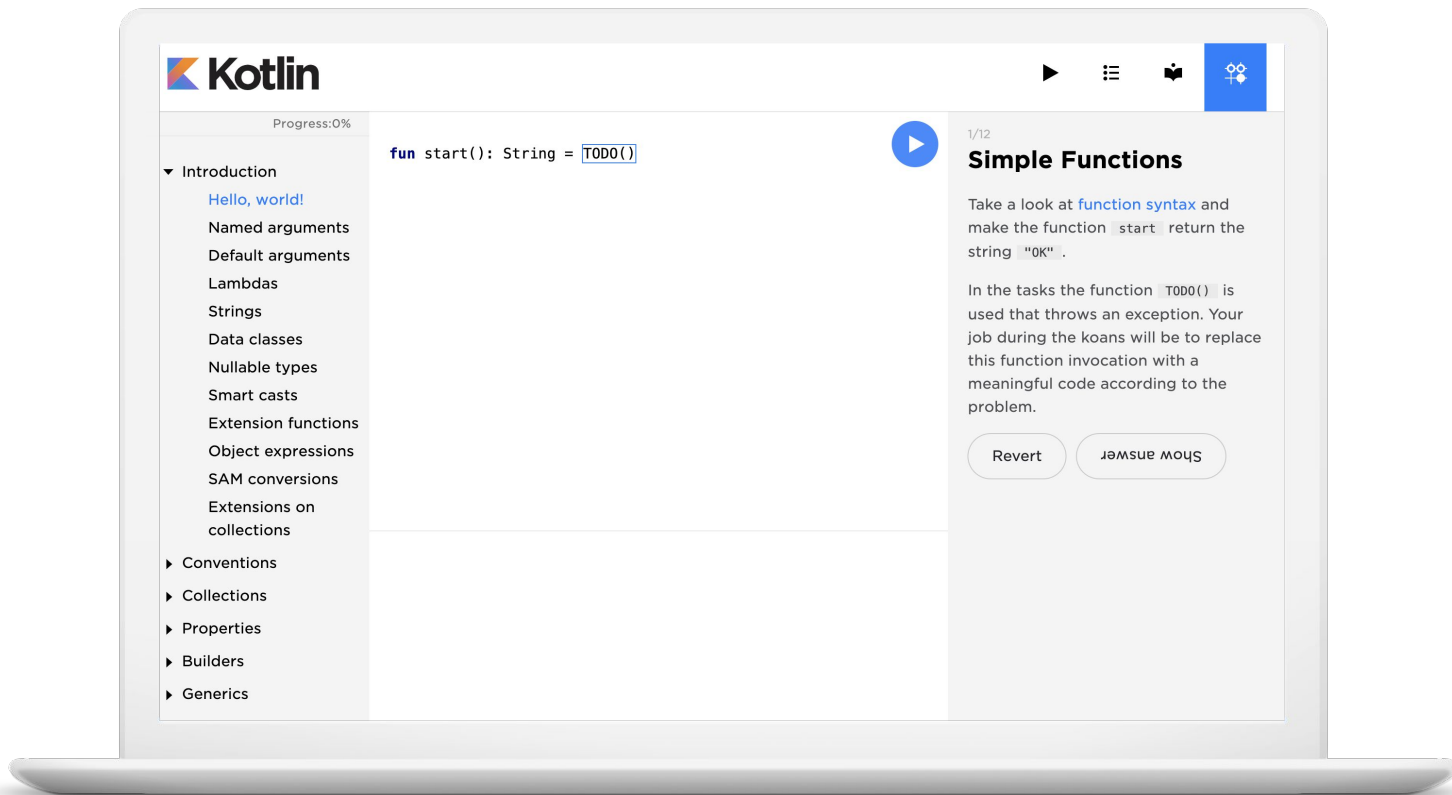
Kotlin Koans

Work on
first three
categories

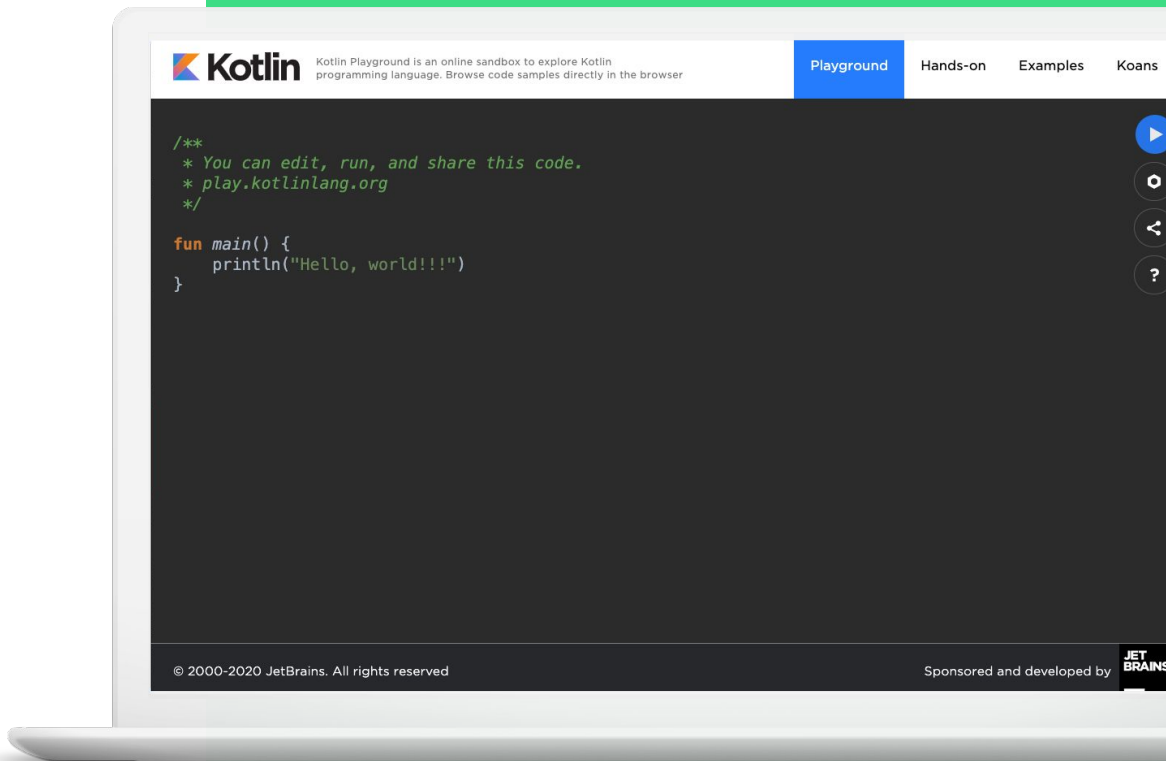


Kotlin Koans in EduTools Plugin for
IntelliJ Idea and Android Studio

Kotlin Koans



Kotlin Playground



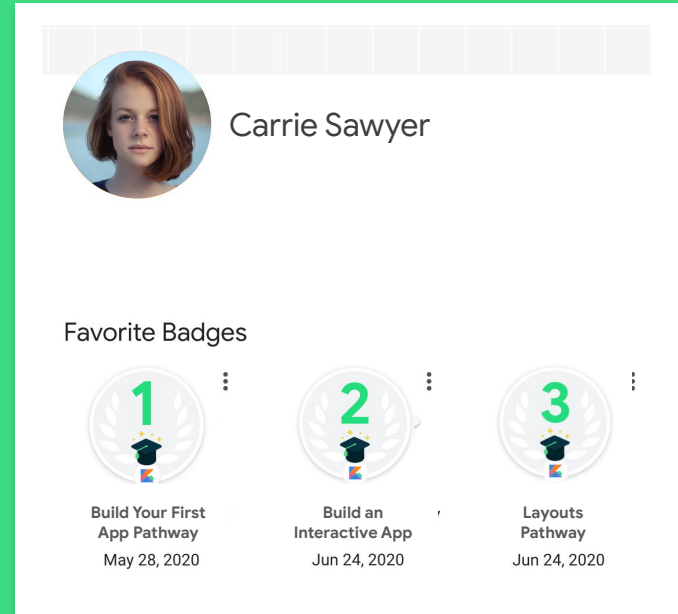
Let's get started

Start here:
g.co/android/studyjams

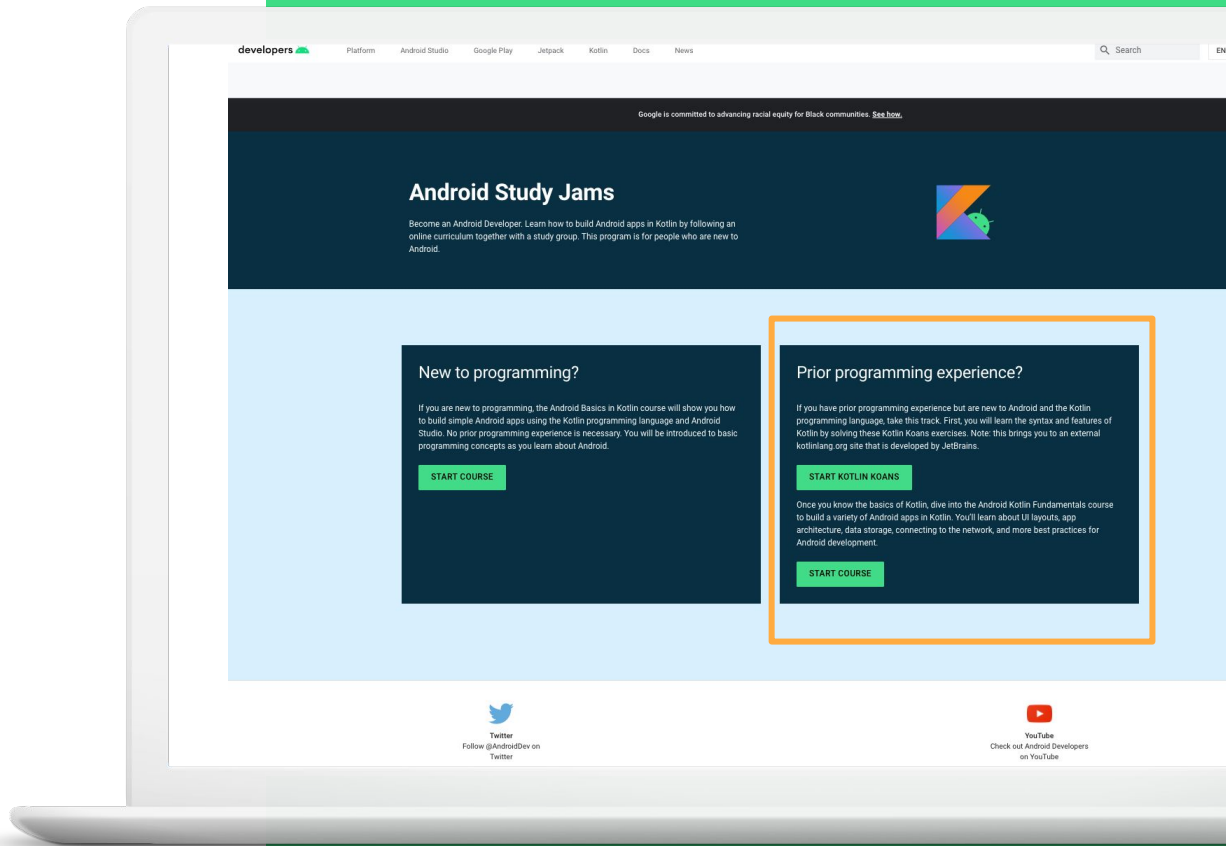
Collect your first badge!



Create a Developer Profile



Prior Programming Experience track: Start Kotlin Koans



Concept Overview

What is Kotlin?

Kotlin is a modern programming language that helps developers be more productive.

Benefits of Kotlin

- Expressive & Concise
- Safer Code
- Interoperable with Java
- Structured Concurrency



Android Development is Kotlin-First



What does this code do?

```
fun main() {  
    println("Hello world!")  
}
```

What does this code do?

```
fun main() {  
    println("Hello world!")  
}
```

```
>>> Hello world!
```

What do you notice about Kotlin?

```
fun main() {  
    println("Hello world!")  
}
```

Parameters and Return Type

```
fun add(a: Int, b: Int): Int {  
    return a + b  
}
```

```
fun display(): Unit {  
    println("Welcome")  
}
```

mutable variable

```
var counter: Int = 5
```

immutable variable

```
val name: String = "Rebecca"
```

What's interesting about these variable declarations?

```
var length = 5
```

```
val message = "Welcome"
```



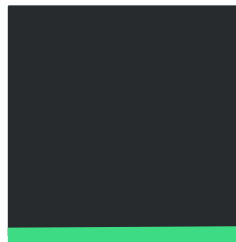
```
if (score < 20) {  
    println("Low")  
} else if (score < 70) {  
    println("Medium")  
} else {  
    println("High")  
}
```

```
when (x) {  
    0 -> endGame()  
    1 -> moveNext()  
    2 -> skipTurn()  
}
```

Classes

```
// This is the Square class
// definition
class Square(val side: Int)

// This is a Square instance
val s = Square(10)
println(s.side)
```



side

Collections

```
val numList = listOf(1, 2, 3)
```

```
val numSet = setOf(4, 5, 6)
```

```
val numMap = mapOf("a" to 10, "b" to 20, "b" to 30)
```

Stuck? Ask for help

Go to g.co/android/studyjams and start Kotlin Koans
Introduction, Conventions, Collections

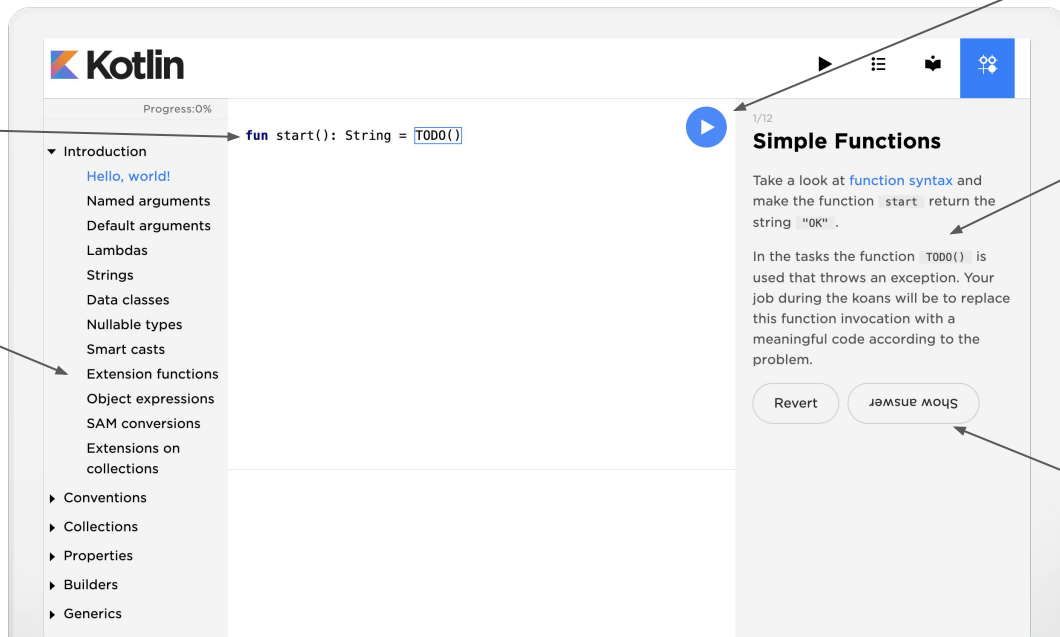
Check Error
Messages

Exercises

Run Code &
Check Output

Re-read
Instructions

Show
Answers



Break

Stuck? Ask for help

Introductions, Conventions, Collections

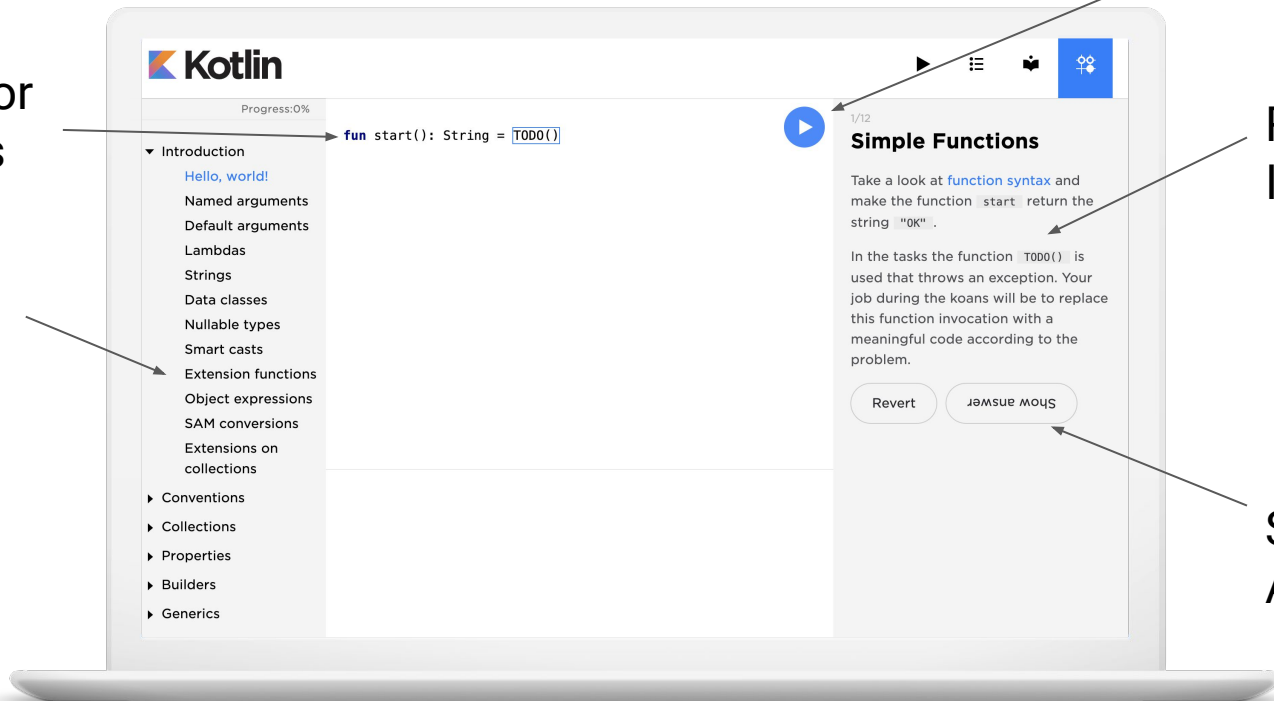
Run Code &
Check Output

Check Error
Messages

Exercises

Re-read
Instructions

Show
Answers



Welcome back

And congrats!

What did you notice about Kotlin?



**Share what you've
learned with
[#AndroidStudyJams](#)**

Stay tuned for Session 2

