

Kotlin, a Descendant of Java and Other Java Alternatives

One Page Summary

Historical Development

- Created by JetBrains and released early July 2011
- Needed something to work with existing Java code
- Google supports it as its first-class language for Android
- 80% of Android apps are already using Kotlin

Language Overview

- Kotlin is an open source, statically typed, object-oriented and functional language
- Easy to learn due to its lightweight syntax
- 20% less code needs to be written compared to Java

Language Features

General Syntax

- Code blocks are surrounded by curly braces
- *fun* keyword for functions, and *class* keyword for classes
- *val* keyword for constant variables and *var* for non-constant variables

Data Types

- 24 total default data types
- All standard data types, but also has typed arrays
- Keywords *is* and *as* for type checking and type casting

Primitive Operations

- 33 primary operators and even more “other” operators
- All standard operators, but also special operators for dealing with null based variables or instructions

Sequence Control

- Standard *if* statement, which can also be used as an expression
- *when* statement, equivalent to C’s switch statement
- *for*, *while* and *do-while* loops, *break* and *continue* statements as well with labeled loops

Programming Environment

- IntelliJ & Android Studio

Evaluation

- Less code to read and write than other languages for improved readability
- Its simple syntax and small number of keywords make it easy to write programs in Kotlin
- Kotlin’s type checking and null safety features make it very reliable