**Swift**

* Need XCode – free, need mac
* Variables store only the type of whatever you initially stored in them, cant change an int to a string
* Constants are declared using “let firstName = “Gemma””
* Error msgs are pretty concise
* <https://codewithchris.com/swift-tutorial-complete/?utm_source=youtube&utm_medium=desc&utm_campaign=swifttut#xcode-setup> CodeWithChris has good tutorials
* <https://www.youtube.com/watch?v=vKCdVAg5h40>
  + Example of someone creating a notes app – use this as perhaps a starting point and the go from there
  + Involves setting up a db in a server on mongoDB (uses NodeJS, Express.js, Mongoose)
  + Uses AlmoFire to get the app to communicate with the server
    - Allows user to add, delete and update entries
* To set up <https://www.youtube.com/watch?v=ySa58y1SRy0>
* <https://docs.swift.org/swift-book/GuidedTour/GuidedTour.html>
* <https://developer.apple.com/library/archive/referencelibrary/GettingStarted/DevelopiOSAppsSwift/index.html#//apple_ref/doc/uid/TP40015214-CH2-SW1>

**Kotlin**

* <https://kotlinlang.org/docs/tutorials/jvm-get-started.html>
* <https://play.kotlinlang.org/byExample/01_introduction/01_Hello%20world>
  + Gives examples and lets you play with the code
* Function return type on Unit means no return value
* Kotlin classes are final if you want to allow inheritance use the ‘open’ modifier
* <https://codelabs.developers.google.com/codelabs/build-your-first-android-app-kotlin/#0>
  + Tutorial on setting up first mobile app

**Dart/Flutter**

* Flutter: <https://codelabs.developers.google.com/codelabs/first-flutter-app-pt1/#0>
* Dart: <https://codelabs.developers.google.com/codelabs/from-java-to-dart/#0>
* Looks okay, not as nice as the other two but still learnable