Midterm Topics

All topics we have covered in this course might appear on the exam. Below you will find all the key points summarized.

Lecture 1:

- What is Kotlin?
- Advantages of Kotlin over Java
- Basic syntax: variables, data types, functions
- Primitive data types
- Any
- Type Inference
- val, var, const
- Null safety
- Strings
- Multiline and string templates
- String comparison and referential equality
- String pool memory
- Control flow: if/when statements and expressions

Lecture 2:

- Converting data types
- Arrays
- Lists
- for
  - step
  - downTo
- while
- foreach
- break, continue
- Ranges
- ++/--
- Input
- Elvis operator

Lecture 3:

- Unit
- Function scope
- Named and default arguments
- Return
- Single expressions
- Pairs and Triples
- Deconstructing multiple data types
- Maps and Sets
- First class functions
  - Assigning to variables
    - Anonymous and lambda functions
  - Higher order
    - Functions as parameters
      - Trailing lambda syntax
    - Functions as return types
- Function references
  - Double colon operator

Lecture 4:

- Classes and objects basics
- Properties and Methods
- Constructors
  - init
  - Parameters
- Encapsulation
  - getters, setters
- Visibility modifiers
  - private
  - public
  - protected
- Inheritance
- Abstraction
  - Interfaces
  - Abstract classes
- Anonymous classes

Lecture 5

- Interface delegation
    - Delegation vs Inheritance
- Standard delegates
    - Lazy, Observable, Vetoable
- Generics basics
- Extension Functions
- Extension Properties
- Lambda with Receiver
- References vs values
- Pass by value
- Data class
- Scope functions
    - let, run, with, apply, also

Lecture 6

- Activities
- Activity Lifecycle
- onSaveInstanceState
- Logging tags and priority levels
- Bundles vs Maps
- What is Jetpack Compose?
- Composable functions
    - Parameters, modifiers
- Box, Row, Column
    - BoxScope, RowScope, ColumnScope
- Alignment vs Arrangement
- fillMaxSize, fillMaxWidth, fillMaxHeight