KOTLIN BASICS

Variables

Definition: Containers for storing data values.

Syntax:

Mutable:
var variableName: DataType = value

Immutable:
val constantName: DataType = value

Examples:

var age: Int = 30
val pi: Double = 3.14
var name = "John Doe"
val isAdult = true

val vs. var:

val : Immutable, cannot be reassigned.

var : Mutable, can be reassigned.

Type Conversion

Examples:

Numbers to Double:
val double: Double = integer.toDouble()

Numbers to String:
val stringNumber: String = number.toString()

Strings to Int:
val intNumber: Int = stringNumber.toInt()

User Input

Syntax:

Display message:
println("What is your name?")

Read input:
val userName = readLine()

Output:
println("Hello, $userName!")

Datatypes

Integers:
val age: Int = 25
val largeNumber: Long = 10000000000L

Floats and Doubles:
val pi: Double = 3.14
val floatNumber: Float = 2.73F

Booleans:
val isTrue = true
val isFalse = false

Logical Operators: || (OR), && (AND), ! (NOT)

Char:
val letter: Char = 'A'
Unicode: val heart: Char = '\\u2764'
Special Characters: \n (New line), \t (Tab)

Strings:
val simpleString: String = "Hello, World!"

Concatenation:
val fullName = firstName + " " + lastName

Control Flow: if and else if Statements

Syntax:

if (condition) { // code }
else if (condition) { // code }
else { // code }

Examples:

if (age >= 18) { println("You are eligible to vote.") } else { println("You are not eligible to vote.") }

Control Flow: when Statements

Syntax:

when (value) { 1 -> println("It is one.") 2 -> println("It is two.") else -> println("It is not one or two.") }

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Operators

Arithmetic:
+ , / , %

Comparison:
== , != , > , < , >= , <=

Assignment:
= , += , = , = , /=

Logical:
&& , || , !

Loops: while Loops

Syntax:

while (condition) { // code }

Countdown:

kotlinCopy codevar countdown = 5
while (countdown > 0) { println("Countdown: $countdown") countdown--
}
println("Blast off!")

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var number = 1
while (number <= 10) {
println("Number: $number")
number++
}
```