Conditions with `if`

Learn how to use Kotlin's `if` conditions as well as comparison and logical operators.

WE'LL COVER THE FOLLOWING

For conditional control flow, Kotlin uses the `if` and `when` keywords. The syntax of `if`-blocks is the same as in C and Java. Similarly, the `when` keyword is similar to `switch` in these languages but more powerful, as you will learn.

Conditions using `if`

Conditions with `if` can be written as follows:

```
if (planet == "Jupiter") {
  println("Radius of Jupiter is 69,911km")
} else if (planet == "Saturn") {
  println("Radius of Saturn is 58,232km")
} else {
  println("No data for planet $planet")
}
```

Each condition is followed by a block of code in curly braces. There can be any number of else-if blocks (including zero) and up to one else-block.

> **Note:** In the else-block, the planet variable is included in the output string using *string interpolation*. To do so, you just prepend the variable with a `$`. More complex expressions must be wrapped with curly braces: `"${user.name} logged in"`.

Equality and Comparison Operators

Kotlin's operators to formulate conditions are the following:

Operator	*Meaning*
`==`	`Structural equality ("equals")`
`!=`	`Structural inequality ("!equals")`
`===`	`Referential equality (same memory address)`
`!==`	`Referential inequality`
`>`	`Greater than`
`<`	`Less than`
`>=`	`Greater or equal than`
`<=`	`Less than or equal`

Note that the comparison operators work on any `Comparable` by using its `compareTo` method.

> **Note for Java developers:** In Kotlin, you use `==` where you would use `equals` in Java and `===` where you would use Java's `==`.

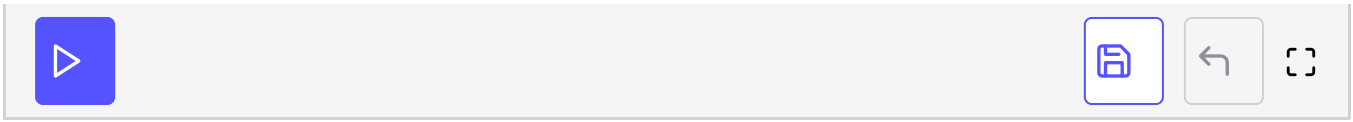
Logical Operators

To build up more complex conditions from primitive conditions (using the operators above), Kotlin provides the standard logical operators:

Operator	*Meaning*
`&&`	Logical “and”
`||`	Logical “or”
`!`	Logical “not”

Using these, you can combine multiple primitive conditions:

```
if (planet == "Jupiter" || planet == "Saturn" || planet == "Uranus" || planet == "Neptune") {
  println("Your chosen planet has rings, typically made of rocks and ice boulders")
}
```



Quiz

Conditional control flow using `if`

Q

How would you express the condition “the text is empty or at least 3 characters long”?

COMPLETED 0%

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Exercise

Complete the following code snippet to check whether...

1. the `age` variable is between 18 and 21 (both inclusive).
2. the `username` variable equals `"admin"` or `"system"`
3. the `number` variable is equal to neither `17` nor `42`.

Problem | Solution

```
// Note: In this code widget, you have access to the predefined variables age, username, and

// Check age

// Check username

// Check number
```

Summary

- Kotlin's `if` conditions work the exact same way as in other languages like Java or C.
- The logical and comparison operators are also known from some other languages.
    - But in contrast to Java, Kotlin offers `==` for structural equality and `===` for referential equality checks.

In the next lesson, you will use the `when` statement for conditional control

flow and learn when to prefer it over `if`.