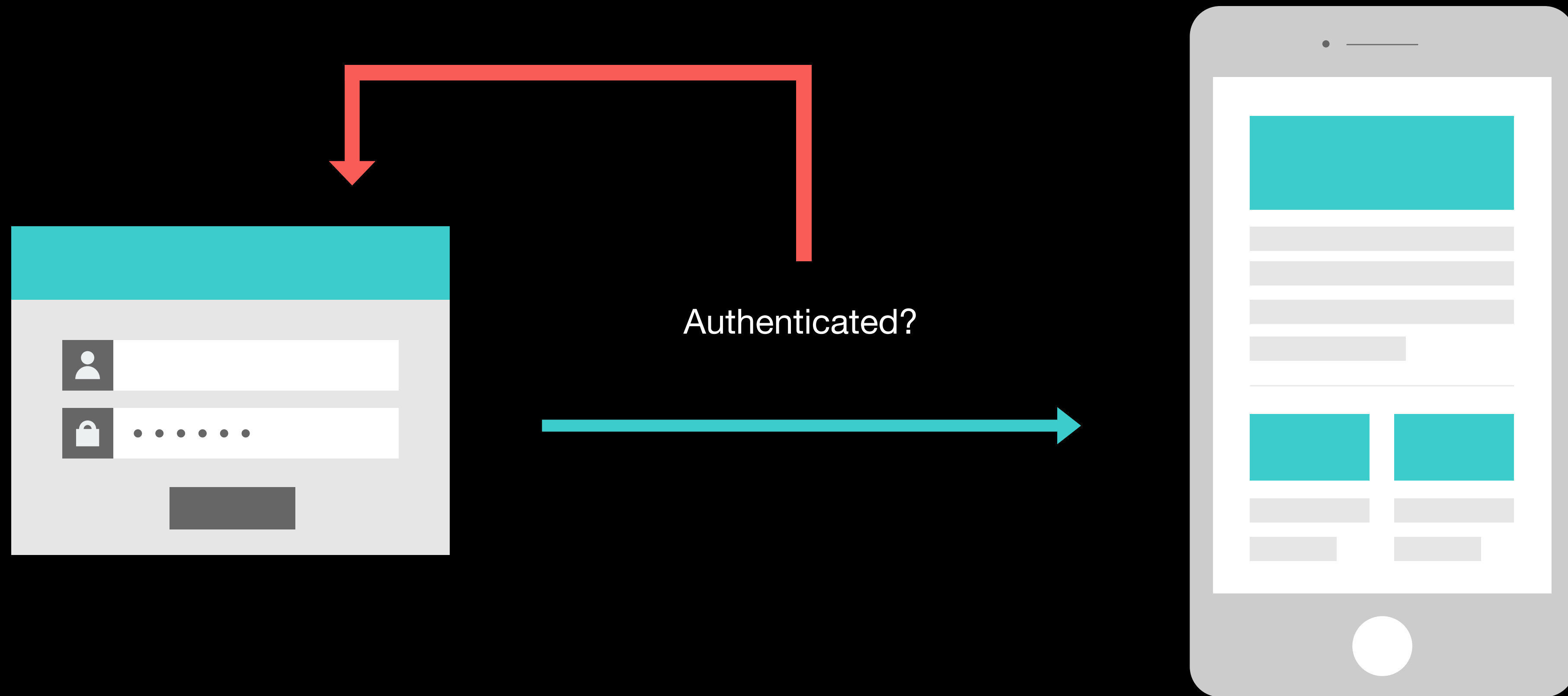


# **Unit 1 — Lesson 4:**

## **Control Flow**

# Conditional flow



# Logical operators

Operator	Description
==	Two items must be equal
!=	The values must not be equal to each other
>	Value on the left must be greater than the value on the right
>=	Value on the left must be greater than or equal to the value on the right
<	Value on the left must be less than the value on the right
<=	Value on the left must be less than or equal to the value on the right
&&	AND—The conditional statement on the left and right must be true
	OR—The conditional statement on the left or right must be true
!	Returns the opposite of the conditional statement immediately following the operator

# if statements

```
if condition {  
    code  
}
```

```
let temperature = 100  
if temperature >= 100 {  
    print("The water is boiling.")  
}
```

The water is boiling

# if-else statements

```
if condition {  
    code  
} else {  
    code  
}
```

```
let temperature = 100  
if temperature >= 100 {  
    print("The water is boiling.")  
} else {  
    print("The water is not boiling.")  
}
```

# Boolean values

```
let number = 1000  
let isSmallNumber = number < 10
```

```
let speedLimit = 65  
let currentSpeed = 72  
let isSpeeding = currentSpeed > speedLimit
```

# Boolean values

## NOT

```
var isSnowing = false
if !isSnowing {
    print("It is not snowing.")
}
```

It is not snowing.

# Boolean values

## AND

```
let temperature = 70
if temperature >= 65 && temperature <= 75 {
  print("The temperature is just right.")
} else if temperature < 65 {
  print("It's too cold.")
} else {
  print("It's too hot.")
}
```

The temperature is just right.



# Boolean values

## OR

```
var isPluggedIn = false
var hasBatteryPower = true
if isPluggedIn || hasBatteryPower {
    print("You can use your laptop.")
} else {
    print("😱")
}
```

# switch statement

```
switch value {  
  case n:  
    code  
  case n:  
    code  
  case n:  
    code  
  default:  
    code  
}
```

```
let numberOfWheels = 2
switch numberOfWheels {
case 1:
    print("Unicycle")
case 2:
    print("Bicycle")
case 3:
    print("Tricycle")
case 4:
    print("Quadcycle")
default:
    print("That's a lot of wheels!")
}
```

# switch statement

## Multiple conditions

```
let character = "z"

switch character {
case "a", "e", "i", "o", "u" :
    print("This character is a vowel.")
default:
    print("This character is not a vowel.")
}
```

# switch statement

## Ranges

```
switch distance {  
case 0...9:  
    print("Your destination is close.")  
case 10...99:  
    print("Your destination is a medium distance from here.")  
case 100...999:  
    print("Your destination is far from here.")  
default:  
    print("Are you sure you want to travel this far?")  
}
```

# switch challenge



Rewrite the following using a switch statement:

```
let temperature = 70
if temperature >= 65 && temperature <= 75 {
    print("The temperature is just right.")
} else if temperature < 65 {
    print("It's too cold.")
} else {
    print("It's too hot.")
}
```

Hint: The smallest possible value for an integer is `Int.min`

# switch challenge

## Solution



```
let temperature = 76
switch temperature {
case Int.min...64:
    print("It's too cold.")
case 65...75:
    print("The temperature is just right.")
default:
    print("It's too hot.")
}
```

# Ternary operator

```
var largest: Int
let a = 15
let b = 4

if a > b {
    largest = a
} else {
    largest = b
}
```



# Ternary operator

?:

```
variable = condition ? true_value : false_value
```

# Ternary operator

?:

```
variable = condition ? true_value : false_value
```

# Ternary operator

?:

```
variable = condition ? true_value : false_value
```

# Ternary operator

?:

```
variable = condition ? true_value : false_value
```

# Ternary operator

?:

```
variable = condition ? true_value : false_value
```

```
var largest: Int
```

```
let a = 15
```

```
let b = 4
```

```
largest = a > b ? a : b
```

# Unit 1—Lesson 4

## Lab: Control Flow



Open and complete the exercises in Lab – Control Flow.playground

