

Logical Operators

In this lesson, we will learn the basic logical operations in R and how to use them.

We'll cover the following



- What are Logical Operators?

What are Logical Operators?

Logical operators are used for carrying out Boolean operations like **AND**, **OR** etc. Such operators compile the results of multiple logical tests into a single **TRUE** or **FALSE**.

Following are the logical operators in R language:

Operator	Description
&	Element-wise logical AND
&&	Logical AND
	Element-wise logical OR
	Logical OR
!	NOT
xor	XOR

Let's dive right into the coding part:

```
number1 <- 10  
number2 <- 3
```



```
number1 & number2 # element wise logical AND between number1 and number2
```

```
number1 && number2 # logical AND between number1 and number2
```

```
number1 | number2 # element wise logical OR between number1 and number2
```

```
number1 || number2 # element wise logical OR between number1 and number2
```

```
!number1 # NOT of number1
```

```
xor(number1, number2) # XOR of number1 and number2
```



Usage of logical operators

All these statements either return **TRUE** or **FALSE** .

These may seem a little pointless right now. But as we move towards the next chapter, [Conditional Statements](#), things will start making much more sense.

For now, let's perform a small exercise on relational and logical operators.