Add Additional Logic

WE'LL COVER THE FOLLOWING

- “And” operator
- “Or” operator
- “Not” operator

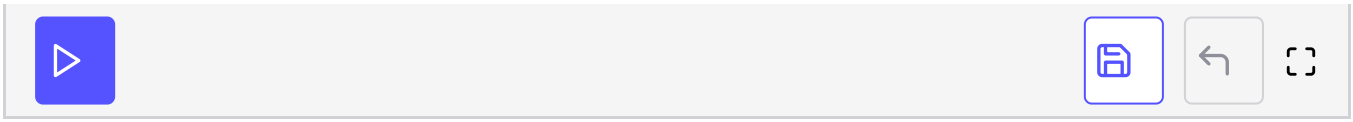
“And” operator

Suppose you want to check if a number is between 0 and 100. You’re essentially checking if it’s “greater than or equal to 0” and “less than or equal to 100”. Both sub-conditions must be satisfied at the same time.

> The expression `0 <= number <= 100` is correct from a mathematical point of view but cannot be written in JavaScript (neither in most other programming languages).

Here’s how you’d translate that same check into JS.

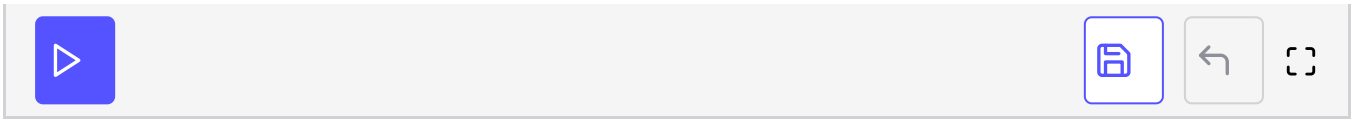
```
let number = 4;

if ((number >= 0) && (number <= 100)) {
  console.log(`${number} is between 0 and 100, both included`);
}
```



> Parentheses between sub-conditions are not mandatory but I advise you to add them anyway, to avoid nasty bugs in some special cases.

The `&&` operator (“logical and”) can apply to both types of boolean values. `true` will only be the result of the statement if both conditions are true.

```
console.log(true && true);   // true
console.log(true && false);  // false
console.log(false && true);  // false
console.log(false && false); // false
```



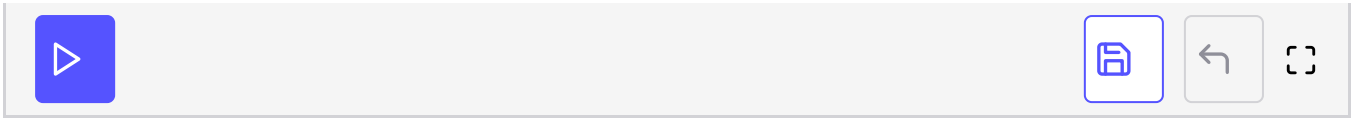
The previous result is the **truth table** of the `&&` operator.

“Or” operator

Now imagine you want to check that a number is outside the range of 0 and 100. To meet this requirement, the number should be less than 0 or greater than 100.

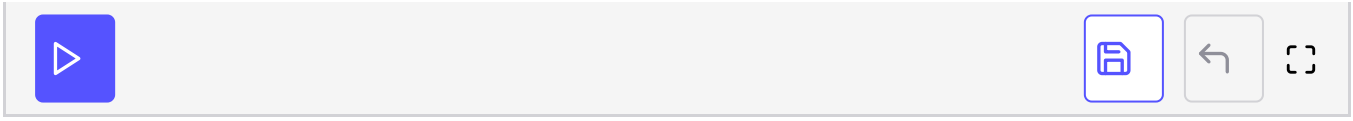
Here it is, translated into JavaScript:

```
const number = -1;

if ((number < 0) || (number > 100)) {
  console.log(`${number} is not in between 0 and 100`);
}
```



The `||` operator (“logical or”) makes statements `true` if at least one of the statements is true. Here’s its truth table:

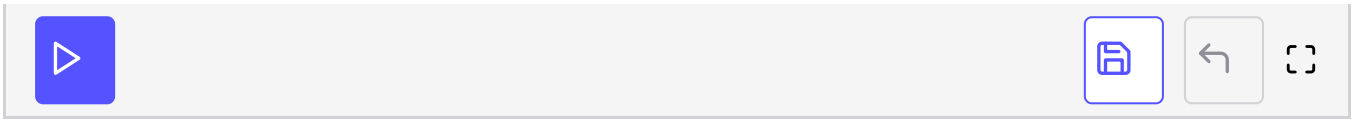
```
console.log(true || true);   // true
console.log(true || false);  // true
console.log(false || true);  // true
console.log(false || false); // false
```



“Not” operator

There’s another operator for when you know what you don’t want: the not operator! You’ll use a `!` for this.

```
const number = 60;


if (!(number > 100)) {
  console.log(`${number} is less than or equal to 100`);
}
```



Here's the truth table of the `!` operator.

```
console.log(!true);  // false
console.log(!false); // true
```