Currying

In this lesson, we'll learn what currying is.

WE'LL COVER THE FOLLOWING

The Definition

Currying is the process of dividing a function with multiple parameters into separate functions for each parameter.

A function can be curried when we provide it with fewer arguments than it originally needs and assign this incomplete call to a new `let` binding.

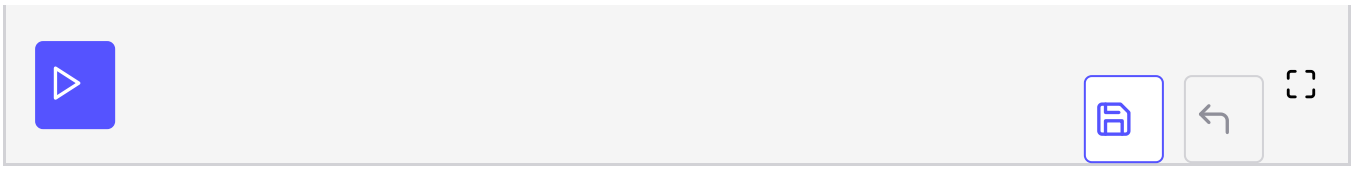
Now, we only need to pass the remaining arguments to the new function.

> **Note**: Passing more arguments than the function actually has, will produce a compile-time error. Currying only works when we provide an incomplete number of arguments.

Example

Let's make things clearer with the help of an example.

```
let sum = (f, s, t) => {
  f + s + t;
};

/* Provide the first 2 arguments to sum() */
let curriedSum = sum(2, 5);
Js.log(curriedSum); /* Prints the curried function's name */

/* Now we only need to specify the 3rd value */
Js.log(curriedSum(10));
```



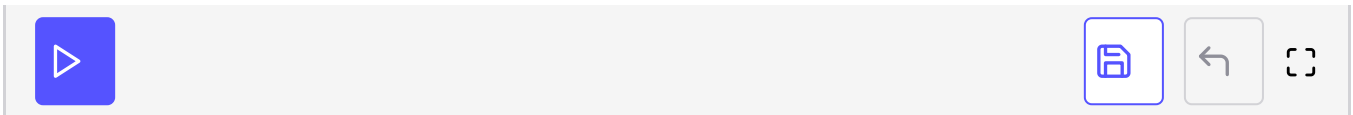
In this example, we've curried the first two values of the `sum()` function. Now, `curriedSum()` will always the values `x = 2` and `y = 5`. All we have to do is specify the third argument **only**. We can only pass the remaining arguments to a curried function. Passing extra arguments would produce an error.

If we try to print `curriedSum`, the compiler simply prints the function name.

Currying can make code cleaner in case of multiple arguments.

We could refactor the example above to make curried functions for each argument:

```
let sum = (f, s, t) => {
  f + s + t;
};

let sumF = sum(2);

let sumS = sumF(5);

Js.log(sum(2, 5, 10));

Js.log(sumF(5, 10));

Js.log(sumS(10));
```



Until now, we have seen how functions work with data structures such as tuples and arrays. In the next lesson, we'll observe their interactions with records.