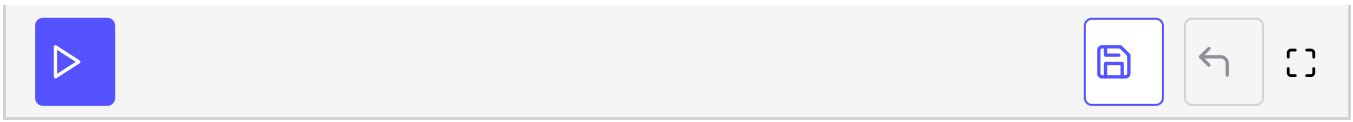
Anonymous Functions

This lesson briefly explains what are Anonymous functions and why are they used.

Declaration is not the only way to create functions in JavaScript. Check out this example.

```
const hello = function(name) {
  const message = `Hello, ${name}!`;
  return message;
};

console.log(hello("Richard")); // "Hello, Richard!"
```



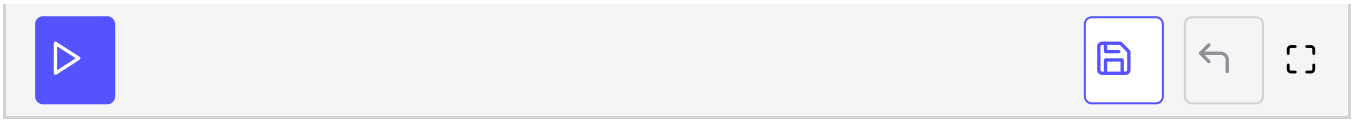
In this example, the function is assigned to the `hello` variable. The value of this variable is a function. We call the function using that variable. This is an example of a *function expression*. A function expression defines a function as part of a larger expression, typically a variable assignment.

The function created in this example has no name: it is *anonymous*. As you'll soon discover, anonymous functions are heavily used in JavaScript. Here's how to create an anonymous function and assign it to a variable.

```
// Assignment of an anonymous function to the myFunc variable
const myFunc = function(param1, param2, ...) {
  // Statements using param1, param2, ...
};

// Anonymous function call
// param1 value is set to arg1, param2 to arg2, ...
myFunc(arg1, arg2, ...);
```

Recent language evolutions have introduced a more concise way to create anonymous functions:

```
const hello = (name) => {
  const message = `Hello, ${name}!`;
  return message;

};

console.log(hello("William")); // "Hello, William!"
```



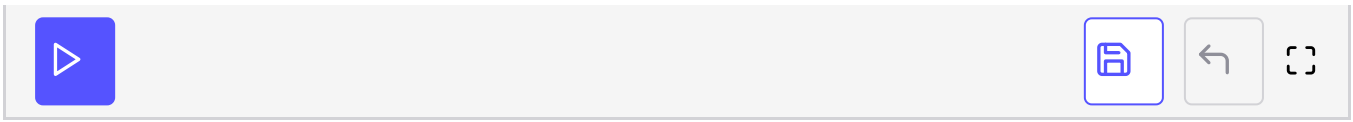
Functions created this way are called *fat arrow functions*.

```
// Assignment of an anonymous function to the myFunc variable
const myFunc = (param1, param2, ...) => {
  // Statements using param1, param2, ...
};

// Anonymous function call
// param1 value is set to arg1, param2 to arg2, ...
myFunc(arg1, arg2, ...);
```

Fat arrow function syntax can be further simplified in some particular cases:

- When there's only one statement in the function body, everything can be written on the same line without curly braces. The `return` statement is omitted and implicit.
- When the function accepts only one parameter, parentheses around it can be omitted.

```
// Minimalist to the max
const hello = name => `Hello, ${name}!`;

console.log(hello("Kate")); // "Hello, Kate!"
```



Functions are a core part of the JavaScript toolset. You'll use them constantly in your programs.