Theory: Arrow functions

8 minutes 0 / 5 problems solved

§1. Arrow functions

Imagine: you're writing a calculator program on JavaScript. To develop its functionality, you need to write functions. We can write functions using the syntax we already know. For example, here is a function for adding two numbers:

```
function append(a, b) {
  result = a + b;
  return result;
}
```

JavaScript actually has a shorter and more convenient way to write functions, and it's called **Arrow functions**. Here is the same example as above written with the Arrow functions syntax:

```
let append = (a, b) => a + b;
```

Here, we are not just declaring a function, but we are also storing it in a variable. The Arrow function can be used as an ordinary function:

```
let result = append(30, 5)
console.log(result) // 35
```

§2. Setting arrow functions

You can use two methods to assign arrow functions:

```
let append = (a, b) => a + b; // short syntax
```

and

```
let append = (a, b) => { return a + b; }; // block syntax
```

The main difference is that curly brackets, unlike round ones, allow us to write multiline instructions inside a function. However, remember that when using this method, you must specify a `return` directive to return the value.

If there is one parameter in your function, you do not need to frame it with parentheses. For example:

```
let sum = a => a + 2;
sum(1);  // 3
```

At the same time, parentheses are needed in functions without parameters.

§3. Comparison

Let's create some functions using traditional syntax, block arrow function syntax and short arrow function syntax, and compare them:

```
function mult1(a, b) {
  return a * b;
}
let mult2 = (a, b) => { return a * b; };
let mult3 = (a, b) => a * b;

console.log(mult1(3, 2)) // 6
console.log(mult2(3, 2)) // 6
console.log(mult3(3, 2)) // 6
```

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Arrow functions

Topic depends on:

× Functions

Topic is required for:

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Async/await

Anonymous function

Table of contents:

As you can see, the results of all these functions are identical, but the shorter syntax of the arrow function makes it more convenient to write.

It's important to use a tool appropriate for the particular problem. If you have code where all functions are written in a traditional way, don't use Arrow functions. Always think in terms of the existing code structure.

§4. Conclusion

In the topic, we considered Arrow functions and two ways of setting them. We checked that different methods yield the same results, but some are more convenient than others. Be smart about this new knowledge, and good luck with the practice tasks!

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