Outline

Checkpoint 8

Object shorthand and spread

As you know, keeping your code clean and concise is paramount. In this checkpoint, you will learn two more tools that will help you write clear, modern JavaScript: object shorthand and the spread operator. These will help you further improve and tighten up your code.

By the end of this checkpoint, you will be able to do the following:

- Use object shorthand to write objects concisely
- Use the spread operator to create shallow copies of objects and arrays

Overview

Start by watching the video below, which provides a brief introduction to this topic. Then, read through the rest of the checkpoint and complete the practice work required. This will give you a full understanding of these concepts.

Outline

Object shorthand

Newer versions of JavaScript have made it even easier for you to streamline your code by allowing you to create *object shorthands*. This means that you can create objects using values you've stored in variables.

Take a look:

```
const title = "Infernal Devices";
const author = "K.W. Jeter";
const book = { title, author };
```

Notice that in the above code, there is no colon `:` symbol to distinguish a key from a value. So, what are the keys and values of this object?

```
console.log(book); //> { title: "Infernal Devices", a
```

Here, JavaScript takes the name of the variable and sets that to be the key. It then sets the value to be whatever is stored in that variable. This works with more complicated data types, as well.

```
const product = { book, priceInCents: 1950 };
```

Outline

With this shorthand tool, you can write cleaner code. The above code would result in the following:

```
{
  book: {
    title: "Infernal Devices",
    author: "K.W. Jeter",
  },
  priceInCents: 1950,
};
```

The spread operator

The *spread operator* allows you to easily combine arrays and objects without a lot of complicated code. For example, with what you now, how would you go about combining the following two arrays?

```
const ownedBooks = ["Infernal Devices", "Foundation"]
const wishlist = ["Good Omens", "Guards! Guards!"];
```

At first glance, you'd probably see that you could loop through one array and push each item into the other, or you could use the `concat()` method, which you can learn more about here. And yet, it can be even easier than that.

Review the code below. What do you notice?

```
const allBooks = [...ownedBooks, ...wishlist];
//> [ "Infernal Devices", "Foundation", "Good Omens",
```

Do you see the three periods `...`? When `...` is used with an existing array on the right-hand side of the `=` sign, it will *expand* the entries inside of that array. In the above case, both arrays are expanded into a new array, so that all of the array elements appear next to one another.

This can also be accomplished with objects.

```
const salesTax = { state: "Washington", tax: 0.065 };
const sale = { ...product, ...salesTax };
/*
  {
    book: {
      title: "Infernal Devi
      author: "K.W. Jeter",
    },
    priceInCents: 1950,
    state: "Washington",
    tax: 0.065
  };
*/
```

In the example above, the `product` object contains the `book` key and the `priceInCents` key. The `salesTax` object contains the `state` and `tax` keys. Those keys are all placed into a new object in the variable `sale`. Note how the `book` object was *not expanded*. The spread operator only expands one level deep.

You also can overwrite keys in an object where you're using shorthand. You can do this by simply using the key once again. Take a look:

Outline

```
const sale = {
  ...product,
  ...salesTax,
  priceInCents: product.priceInCents * (1 + salesTax.
};
/*
  {
    book: {
      title: "Infernal Devices",
      author: "K.W. Jeter",
    },
    priceInCents: 2076.75,
    state: "Washington",
    tax: 0.065
  };
*/
```

In the above example, the `product` expanded with the spread operator, ju `priceInCents` key is added to overwrite the `priceInCent` y that was stored in the `product` variable.

Checkpoint

This checkpoint will be autograded. Please click the link below to open your assignment in a new tab. Once you complete the assignment, you will see a button allowing you to submit your answers and move on to the next checkpoint.

Your work

03.25.21 **Approved**

Outline

✓ Completed **Next checkpoint**

How would you rate this content?

Report a typo or other issue

Go to Ove

Feeling stuck?
Chat live with an expert now. Beta

Outline

Feeling stuck?

Chat live with an expert now. Beta