

# Removing Those Weird Commas

ES6 template strings join arrays with commas using the `toString()` method. We can fix that and improve our UI. (5 min. read)

If you stayed sharp last lesson, you noticed something off about our fresh UI.

## Wikipedia API Search

### Searching for "JavaScript"

#### JavaScript

JavaScript (), often abbreviated as JS, is a high-level, interpreted programming language. It is a language which is also characterized as dynamic, weakly typed, prototype-based and multi-paradigm.

← Extra comma

#### JavaScript syntax

The syntax of JavaScript is the set of rules that define a correctly structured JavaScript program.

← Extra comma

#### JavaScript engine

A JavaScript engine is a program or interpreter which executes JavaScript code. A JavaScript engine may be a traditional interpreter, or it may utilize just-in-time compilation to bytecode in some manner.

It has extra commas! Why??

## Template Literals

It's all about how template literals join things. If you stick in an array, it'll join it using the `toString()` method.

See how this becomes joined?

```
const joined = [1, 2, 3].toString();

console.log(joined);
// 1,2,3

console.log(typeof joined);
// string
```



Template literals do that if you put arrays inside of them.

```
const nums = [1, 2, 3];
const msg = `My favorite nums are ${nums}`;

console.log(msg);
// My favorite nums are 1,2,3
```



So by mapping our Wikipedia results inside of a template literal, we accidentally had commas inserted in between them!

```
export default ([query, names, summaries, links]) => `
  <h2>Searching for "${query}"</h2>
  <ul class="list-group">
    ${names.map(
      (name, index) => `
        <li class="list-group-item">
          <a href=${links[index]} target="_blank">
            <h4>${name}</h4>
          </a>
          <p>${summaries[index]}</p>
        </li>
      `
    )}
  </ul>
`;
```

You can fix that by joining the array without commas. Just use an empty string!

Here's with our `[1, 2, 3]` example

```
const nums = [1, 2, 3];
const msg = `My favorite nums are ${nums.join('')} `;

console.log(msg);
// My favorite nums are 123
```



No more commas! Let's try that with our results `map`.

```
export default ([query, names, summaries, links]) => `
  <h2>Searching for "${query}"</h2>
```

```
<ul class="list-group">
  ${names
    .map(
      (name, index) => `
        <li class="list-group-item">
          <a href=${links[index]} target="_blank">
            <h4>${name}</h4>
          </a>
          <p>${summaries[index]}</p>
        </li>
      `
    )
  }.join('')}
</ul>
`;
```

Check out your UI. Looks much nicer right?

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#### JavaScript library