

JavaScript Quiz Topics: CSCI 344, Spring 2023

While JavaScript has many different language features and topics, I will only be quizzing you on the ones covered in the slides and during class (Topics 5-7). Make sure that you review the slides, lecture files, and tutorials to study for the quiz. The quiz questions will be very similar to the exercises we did during class and to the tutorial exercises. Topics listed below:

Basic Language Features

1. Know the difference between var, let, and const.
2. Know the syntax for “while,” “for,” and “for..of” loops, and how to use each loop to iterate through an array of data.
3. Know the syntax for conditional statements, and the logical operators (&&, ||, !).
4. Know some basic string methods (e.g., includes(), toUpperCase(), toLowerCase())
5. Know the two syntaxes we covered for defining functions:
 - a. function declarations
 - b. arrow functions
6. Know the *shorthand* syntax(es) for arrow functions.
7. Know the difference between equality (==) and strict equality (===)
8. Know how to use a template literal (backticks) and how to invoke expressions from within a template literal.

DOM Manipulation

1. Know what an event handler and an event listener are.
2. Know how to create an event handler to respond to a click event.
3. Know the two approaches for attaching event handlers:
 - a. By embedded the event handler within the HTML element (e.g.):

```
<button id="btn" onclick="sayHi(event);">Hello!</button>
```

- b. Targeting a DOM element from JavaScript and attaching the event handler dynamically:

```
document.querySelector('#btn').addEventListener('click', sayHi);
```

4. Know how to target DOM elements using the selector methods..
5. Know the syntax for specifying the various selectors (class, id, tag, etc.).
6. Know how to change style properties, HTML attributes, and inner HTML programmatically.

Higher Order Functions

1. Know how to use the higher order methods we talked about in class (map, reduce, filter, and forEach).
 - a. Here are some review questions:
<https://www.crocoder.dev/blog/map-filter-reduce-exercises>
2. Know how to implement the higher order methods we talked about in class from scratch. For instance, under the hood...
 - a. How does the filter method work?
 - b. The map method?
 - c. The reduce method?

Fetch & AJAX

1. Know the two syntaxes for handling promises: await / async and fetch.
2. Know how to use the fetch API to retrieve resources.
3. Know how to use the fetch API to create, update, and delete resources.

Promises

1. Know what a promise is and be able to explain it.
2. Be able to explain why if you issue several fetch requests at once, they may resolve out of order. Why is that?

Applications

- Know how to (a) query data from a server using fetch, (b) do a transformation on the data in order to convert it to a HTML representation of the data, and (c) insert the resulting HTML into the DOM.
- Know how to build a HTTP query string based on information that a user has typed into a form.
- Be able to implement a non-trivial template that may require a conditional statement of a helper function.
- Be able to explain, clearly, what different code snippets are doing (you may be given a free-response question).