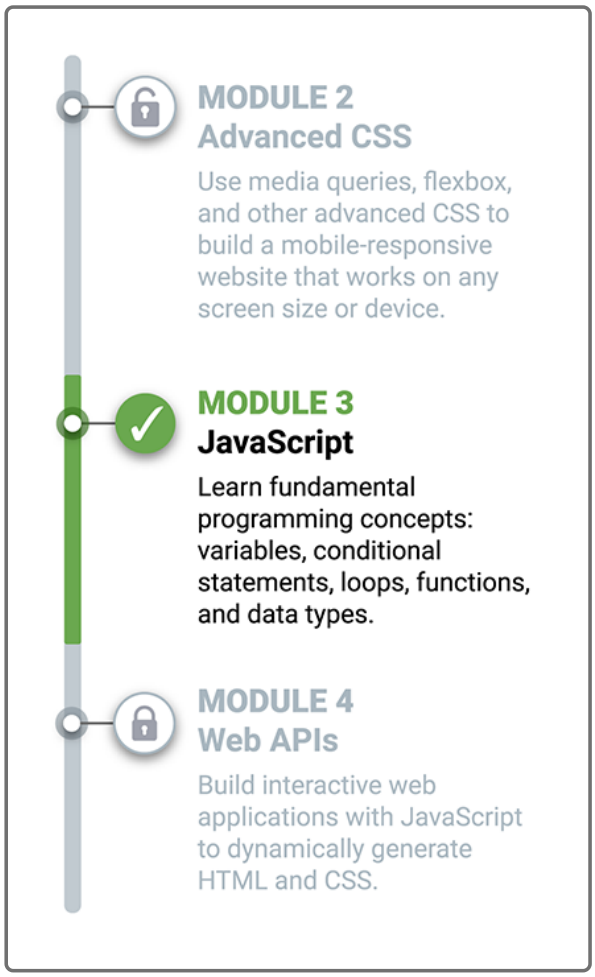
3 Roadmap

Looking Ahead: This Week's Challenge

By the end of this week, you'll complete your weekly Challenge assignment by creating an application an employee can use to generate a random password based on criteria they've selected.



In order to succeed in this Challenge, you'll apply the following skills:

- Create variables containing different data types used to create a password
- Write conditional statements to add in password criteria that the user has selected
- Write `for` loops to create a password from the variables you created

- Use functions to display the password to the user
- Use GitHub Pages to publish the page to the web

The online lessons in this week's module will teach you the skills you need to be successful in the Challenge by asking you to create a Robot Gladiator game for a hackathon, which uses core JavaScript concepts like functions, loops, and conditional statements. You'll learn all the JavaScript necessary to make the game functional and worthy of winning the hackathon you've entered.

What You Will Learn

By completing this module, you'll learn how to:

- Identify and declare variables containing primitive and object data types in JavaScript
- Write `for` loops to iterate over strings and arrays
- Write conditional statements using if/else and switch
- Explain the importance of objects in JavaScript and create objects that contain both properties and methods
- Explain and implement the difference between function declarations and expressions
- Explain and implement comparison and logical operators

Weekly Tip: Build Your Memory with Retrieval Practice

As a web developer, you'll likely reuse some syntax time and time again. Your coding will be more efficient if you can memorize that syntax and

bring it to mind as you work rather than having to look it up every time.

No need to worry if you have the memory of a goldfish—you can strengthen your recall abilities through a process called **retrieval practice**, which involves bringing ideas forward from the back of your mind.

To demonstrate, try retrieving some information now: can you recall what the term `href` refers to?

You might remember that `href` is the HTML code that indicates a hyperlink. But if you didn't come up with that explanation right away, that's okay! Simply attempting to retrieve information and then receiving the answer can strengthen your memory.

This approach works better than just reading a sentence that tells you what `href` means, without asking you to recall it yourself first. In fact, it's been proven that retrieval practice works better than other traditional studying techniques like rereading and highlighting.

The following tips can help you incorporate retrieval practice in your learning routine as you work through the boot camp:

Stop and Retrieve

After each lesson, turn away from the computer and try to retrieve what you just learned. Very little might have stuck the first time! Then turn back to the computer and review what you've missed. Repeat until you can retrieve most of the information from the page.

Create Flashcards

Flashcards are a time-honored (and effective) technique for retrieval practice. The front of the flashcard prompts you to retrieve a piece of information, and you can check your answer on the back of the card.

Test Yourself

Use online tests (like those at **W3schools (https://www.w3schools.com/html/html_quiz.asp)**) to solidify your knowledge. You can even create quizzes for yourself about the topics you most want to remember. Asking and answering your own questions will strengthen your memory.

Explain Concepts to Others

Explaining a web development concept to someone who doesn't code forces you to bring information to mind in your own simple, clear words.

By exercising your mind in this way, you'll not only improve your memory skills but also memorize key coding syntax and concepts along the way!

Planning Your Schedule

This module consists of five lessons. Here's an estimate of where you should be as you work through this module:

- By the time you reach your Virtual Class (Recommended), you should have completed at least Lessons 1 and 2 of this module.
- By the time you reach your Virtual Class (Required), you should have completed at least Lesson 3, but reach for having finished Lesson 4.
- Start looking at the Challenge assignment early in the week. You can begin working on the challenge at any point.
- This module is a bit shorter in length than previous modules, but it is a challenging one, so chart out how you will find time this week to progress through lessons.