Name: _____   Date: _____

Full-Stack Flash: 11th Grade Web Dev Duel

Synthesize DOM manipulation and asynchronous logic across 10 challenges to optimize high-performance web applications.

---

1. Which of the following describes the 'Event Loop' in JavaScript, and why is it critical for handling asynchronous requests like fetching data from a REST API?

    A. It is a multi-threaded process that executes HTML parsing and JS logic in parallel.

    B. It manages a callback queue, moving tasks to the call stack only when it is empty to prevent blocking.

    C. It is a CSS layout engine that recalculates styles every time a JS variable changes.

    D. It is a security protocol that prevents cross-site scripting (XSS) during data retrieval.

2. In the CSS Box Model, setting 'box-sizing: border-box;' ensures that padding and border widths are included within the specified element width and height.

    A. True

    B. False

3. When building a semantic HTML5 page, which tag is most appropriate for a standalone piece of content that could be distributed independently, such as a blog post or news story?

    A. <section>

    B. <article>

    C. <aside>

    D. <div>

4. Consider a scenario where you need to apply a grid system where columns adjust based on available space without using media queries. Which CSS function is best suited for this?

    A. clamp(10px, 5vw, 20px)

    B. calc(100% / 3)

    C. repeat(auto-fit, minmax(200px, 1fr))

    D. flex-direction: column-reverse

5. JavaScript 'closures' are created every time a function is created, allowing an inner function to access the scope of its outer function even after the outer function has closed.

    A. True

    B. False

6. Which of the following represents the most performant way to update the text content of a DOM element with the ID 'status' using modern JavaScript?

    A. document.getElementById('status').innerHTML = 'Loading...';

    B. document.querySelector('#status').textContent = 'Loading...';

C. $('#status').val('Loading...');

D. document.write('Loading...');

7. In the context of the Fetch API, which keyword is paired with 'async' to pause the execution of a function until a Promise is resolved?

A. then

B. wait

C. await

D. yield

8. A developer wants to ensure that a specific CSS rule always takes precedence over others, regardless of specificity or source order. Which suffix is used (though generally discouraged for clean code)?

A. !important

B. ::force

C. [priority]

D. -> override

9. Local Storage and Session Storage both persist data even after the browser tab or window is closed.

A. True

B. False

10. Which HTTP method is most appropriate when a web application needs to send sensitive user credentials to a server for authentication?

A. GET

B. PUT

C. POST

D. PATCH