DWA_02.8 Knowledge Check_DWA2

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1. What do ES5, ES6 and ES2015 mean - and what are the differences between them - and what are the differences between them?

ES5: Think of it as the “old school” JavaScript. It’s like the basic building blocks that browsers understand. It’s been around since 2009 and is supported by most browsers.
ES6 (or ES2015): This is like a big upgrade for JavaScript. It introduced cool features like classes, arrow functions, and template strings. It’s like getting a shiny new toolbox for writing better code.

Differences:

- Syntax Enhancements: ES6 introduced new syntax features such as arrow functions, template literals, and the spread operator, which make writing JavaScript code more concise and expressive compared to ES5.
- New Data Structures: ES6 added new data structures like `Set` and `Map`, which provide more efficient ways to work with collections of data compared to the arrays and objects used in ES5.
- Classes and Modules: ES6 introduced class syntax, making it easier to create and work with object-oriented code. It also introduced native support for modules, allowing developers to organize their code into reusable components more effectively.
- Promises: ES6 introduced the `Promise` object, which provides a cleaner way to handle asynchronous operations compared to the callback-based approach commonly used in ES5.
- Let and Const Declarations: ES6 introduced block-scoped variables using the `let` and `const` keywords, offering more control over variable scope compared to the function-scoped variables used in ES5 with `var`.

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2. What are JScript, ActionScript and ECMAScript - and how do they relate to JavaScript?

- JavaScript: This is the most common one. It's a programming language used for creating interactive effects on websites. Think of it as the language that powers much of the internet's interactivity.
- JScript: JScript is very similar to JavaScript. It's Microsoft's version of JavaScript, used mainly for scripting in web pages viewed in Internet Explorer. So, if JavaScript is like the universal language of the web, JScript is a specific dialect used in older versions of Internet Explorer.
- ActionScript: This one's used mainly for creating animations and interactivity in Adobe Flash. It's similar to JavaScript, but it's tailored specifically for Flash applications. Flash used to be really popular for web animation and games, but it's been largely replaced by newer web technologies like HTML5 and JavaScript.
- ECMAScript: This is the official name for the JavaScript language specification. So, when people talk about different versions of JavaScript like ES5, ES6, or ES2015, they're actually referring to different versions of ECMAScript. It's like a rulebook that defines how JavaScript should work, and different versions introduce new features and improvements to the language.

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3. What is an example of a JavaScript specification - and where can you find it?

ECMAScript Specification:

Definition: The **ECMA-262 specification** contains the most in-depth, detailed, and formalized information about JavaScript. It defines the rules of the JavaScript language—like a user manual for JavaScript. You can explore the latest version of the specification at ECMA-262**.** However, be warned—it's quite formal and not the easiest read..

MDN JavaScript Reference:

Definition: The **MDN (Mozilla Developer Network) JavaScript Reference** is like a practical manual with examples and other useful information. It dives into individual language functions, methods, and features. You can explore it at MDN JavaScript Reference.

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4. What are v8, SpiderMonkey, Chakra and Tamarin? Do they run JavaScript differently?

V8, SpiderMonkey, Chakra, and Tamarin are like the engines in cars, but for web browsers. They're the "brains" that understand and make sense of JavaScript code when you're on a website. Each one is made by different companies, and they may have

their own special tricks to make JavaScript run faster. But at the end of the day, they all work together to make sure the JavaScript on websites runs smoothly

- V8: This is Google's JavaScript engine, used in the Chrome web browser and Node.js runtime environment. It's known for its speed and efficiency and is one of the most widely used JavaScript engines.
- SpiderMonkey: This is the JavaScript engine developed by Mozilla, used in the Firefox web browser. It's been around for a long time and has undergone many improvements to enhance performance and compatibility with web standards.
- Chakra: This is Microsoft's JavaScript engine, used in the Edge web browser and previously in Internet Explorer. It's designed to optimize JavaScript performance, especially on Windows platforms.
- Tamarin: Tamarin was developed by Adobe and the Mozilla Foundation. It was used in Adobe Flash Player for executing ActionScript, which is a language similar to JavaScript. However, Adobe Flash Player and Tamarin are largely deprecated now due to the decline of Flash content on the web.

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5. Show a practical example using **caniuse.com** and the MDN compatibility table.

Let's say you're a web developer and you want to use a fancy new CSS feature called "grid layout" to arrange elements on your website in a grid-like fashion. However, you're not sure if it's supported in all browsers.

First, you check the compatibility on MDN's website. You find a table that shows "grid layout" is supported in modern browsers like Chrome, Firefox, Safari, and Edge, but not in older versions of Internet Explorer.

Then, you visit Can I Use. It presents a visual representation, and you see a lot of green, indicating good support for "grid layout" in modern browsers. However, there's a bit of red for Internet Explorer, suggesting limited or no support.

Now, knowing this, you can confidently use "grid layout" in your website's design, knowing that it will work well in most modern browsers. But if you need to support

Internet Explorer users, you might need to consider using a fallback layout method or providing alternative styling.
