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?

- ES5 was the fifth edition, released in December 2009. It brought important improvements to JavaScript, introducing features like strict mode for better error handling, support for working with JSON data, and new methods for arrays and objects manipulation.
- ES6 is the sixth edition, released in June 2015. It made significant changes to JavaScript, adding new syntax and features that made the language more expressive and powerful. Some of the key additions included the introduction of let and const for variable declarations, arrow functions for concise function syntax, classes for object-oriented programming, and template literals for enhanced string formatting.
- ES2015 is simply another name for ES6, used to avoid confusion in naming conventions as ECMAScript versions continued to be released annually after ES6.
- The primary difference between ES5 and ES6 (ES2015) lies in the number of features and the level of modernization they bring to JavaScript. ES6 introduced a plethora of new features and syntax improvements that made writing JavaScript code more concise, readable, and maintainable. It addressed common programming challenges and brought JavaScript closer to the capabilities of other modern programming languages.

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

- JScript: JScript is a scripting language developed by Microsoft, closely resembling JavaScript and designed to be compatible with ECMAScript. It was mainly used in Microsoft's Internet Explorer browser and Windows Script Host for scripting tasks in Windows environments. While JScript shares many similarities with JavaScript and is based on the ECMAScript standard, there might be some differences in implementation and additional features specific to JScript.
- ActionScript: ActionScript is a scripting language created by Macromedia (later acquired by Adobe) primarily for producing interactive content and animations in Adobe Flash. It has its roots in ECMAScript and is heavily influenced by JavaScript. ActionScript shares many similarities with ECMAScript, and early versions were based on ECMAScript 3. This resemblance allowed developers familiar with JavaScript to easily transition to ActionScript for building Flash-based applications and games.
- ECMAScript: ECMAScript is the standardized scripting language specification defining the syntax and behavior of JavaScript (as well as related languages like JScript and

ActionScript). It is not a standalone language but rather a blueprint for implementing scripting languages. JavaScript is the most prominent and widely used implementation of ECMAScript. When people refer to JavaScript, they are usually referring to the ECMAScript implementation used in web browsers and other environments.
- JScript, ActionScript and ECMAScript are all scripting languages. JScript was mainly utilized in older versions of Internet Explorer and Windows Script Host, while ActionScript was employed for creating interactive content in Adobe Flash.
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3. What is an example of a JavaScript specification - and where can you find it?

ECMAScript Language Specification is an example of a JavaScript specification. You can find the ECMAScript Language Specification on the official website of Ecma International, the organization responsible for managing the ECMAScript standard.

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

- V8, SpiderMonkey, Chakra and Tamarin are compilers. They are designed and developed by different organizations to execute JavaScript correctly.

- V8 is an open-source JavaScript engine by Google, used in Chrome and Node.js. It compiles JavaScript to native machine code through JIT compilation, resulting in exceptional performance, making it one of the fastest engines available.
- SpiderMonkey, the earliest JavaScript engine created by Brendan Eich for Netscape Navigator in 1995, is now used in Mozilla Firefox and other Mozilla projects. It has seen substantial enhancements over time, incorporating features like JIT compilation to optimize the execution of JavaScript code.
- Chakra was a JavaScript engine developed by Microsoft, initially used in Internet Explorer 9 and later in Microsoft Edge. However, when Microsoft Edge transitioned to the Chromium engine (which utilizes V8), Chakra became obsolete and is no longer actively maintained or utilized in modern web browsers.
- Tamarin was a JavaScript engine and virtual machine created by Adobe Systems. It powered Adobe Flash Player to execute ActionScript (similar to JavaScript) and could also run standard JavaScript. However, with the phasing out of Flash technology, Tamarin has been deprecated and is no longer in use.

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