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?

These are the names of editions of the ECMA-262 standard and feature changes and improvements to the ECMAScript specification. ES5 (shorthand for ECMAScript 5) is the fifth edition established in 2009. ES6 (shorthand for ECMAScript 6) and ES2015 are synonymous and are editions of ECMAScript established in 2015. ES6 introduced new elements such as new primitive data-types including 'symbol'; **let** and **const** – two new ways to define variables; and the arrow function.

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

To understand JScript, ActionScript and ECMAScript it is important to know the origin story of JavaScript, as it preceded and forms the basis of all of these languages. JavaScript was created by Brendon Eich, who was contracted by Netscape Communications in the 1990s to develop a programming language that was "Scheme for the browser" – something dynamic, powerful and functional in nature. As Netscape gained popularity as the preferred browser, Internet Explorer was being developed by Microsoft, and JavaScript was making such a massive difference to user experience that competitors had no option but to come up with something comparable. As a result Microsoft created JScript, their own version of JavaScript, which was however different enough to cause major disruptions on the web. At one point developers were specifying which browsers their website were best viewed on for users, signifying which browser was used for testing.

All of this led to the dire need for standardization and the birth of ECMAScript, established by Ecma International, a nonprofit association that is concerned solely with the standardization of information and communication systems. Ecma was approached by Netscape to establish a standardized specification and ultimately ECMAScript, based on JavaScript, was adopted by both Netscape and Microsoft in 1997. New editions of ECMAScript standard have been released by Ecma on a regular basis.

However, the tech community was not always on the same page, and many disagreements erupted in the finalization of changes within new editions. ActionScript was established within the context of a difficult period for JavaScript, when Microsoft was refusing to accept changes proposed for the ECMAScript 4 edition and trying to stop its advancement. ActionScript was a programming language based on an early draft for ECMAScript 4. It was developed by Macromedia Inc. (which was later acquired by Adobe) and was implemented as part of its Flash Suite of applications. It was the hope that innovations in ActionScript would drive in ECMAScript, but this never transpired. ECMAScript 4 in the meantime took almost 8 years to develop and was finally scrapped. ActionScript remains the language for Flash, which with the advent of HTML5 has slowly faded in popularity.

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

An example of JavaScript specification is:

19.1.2 Infinity

The value of Infinity is $+\infty_{\mathbb{F}}$. This property has the attributes { [[Writable]]: false, [[Enumerable]]: false, [[Configurable]]: false }.

https://262.ecma-international.org/

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

JavaScript engines are commonly found in web browsers, including V8 in Chrome, SpiderMonkey in Firefox, and Chakra in Edge. Each engine is like a language module for its application, allowing it to support a certain subset of the JavaScript language. Yes, they do run differently.

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

JavaScript built-in: Symbol 📄

Usage % of all users ?
Global 93.53%

Current aligned | Usage relative | Date relative   Filtered | All ⚙

Chrome	Edge *	Safari	Firefox	Opera	IE ⚠ *	Chrome for Android	Safari on iOS *	Samsung Internet	Opera Mini *	Opera Mobile *	UC Browser for Android	Android Browser *	Firefox for Android	QQ Browser	Baidu Browser	KaiOS Browser
4-37		3.1-8	2-35	10-24			3.2-8.4									
38-116	[1] 12-116	9-16.6	36-116	25-101	6-10		9-16.6	4-21		12-12.1		2.1-4.4.4				2.5
117	[1] 117	17.0	117	102	11	117	17.0	22	all	73	15.5	117	117	13.1	13.18	3.1
118-120		17.1-TP	118-120				17.1									

Notes | Test on a real browser | Sub-features | Feedback

See full reference on MDN Web Docs.

[1] Edge 12 included Symbol properties in `JSON.stringify()` output.

Support data for this feature provided by:

◆ MDN browser-compat-data