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: ECMAScript 5, released year 2009, is meant to improve ES3 functionality, and includes some new features like strict mode, JSON support, function.bind(), and more.
ES6: ECMAScript 6 / **ES2015**, released 2015, sixth Edition of ECMA Scripts specifications. Introduced new features to the language that include arrow functions, block-scoped variables, and more.ES6 improved JavaScript to be powerful and expressive.And the other name for ES6 is ES2015.

The main difference between them is the set of features and improvements introduced.

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

JScript: is a scripting language developed by Microsoft, and it is the company implementation of ECMA Script specifications. Initially, it was developed for Microsoft's Internet Explorer web browser
Action Script: is a scripting language that was primarily used for developing interactive and multimedia-rich web applications and games in Adobe Flash. It is based on ECMA Script but with its own syntax and features specific to Flash.
ECMA Script: This is a Standardized scripting Language Specification that serves as the foundation of JavaScript, JScript and ActionScript. It defines the syntax semantics, and behaviour of the Language, It specifies the core features and functionality of the Language.

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

Example: **ECMA-262** Which is the official standard for ECMAScript, the core language of JavaScript.

OTHER Specifications can be found at
ECMA International Specifications

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

1. V8: V8 is an open-source JavaScript engine developed by the Chromium project, which powers the Google Chrome web browser and other applications like Node.js. V8 is known for its high-performance and efficient execution of JavaScript code. It uses just-in-time (JIT) compilation techniques, including a technique called "hidden class transitions" for optimizing object property accesses. V8 compiles JavaScript code into machine code and employs various optimization strategies to improve performance.

2. SpiderMonkey: SpiderMonkey is the JavaScript engine used in Mozilla Firefox. It was the first-ever JavaScript engine and has been continuously developed and improved over the years. SpiderMonkey uses a combination of interpreter and

just-in-time (JIT) compilation techniques. It employs various optimization techniques, such as inline caching and type inference, to improve JavaScript execution speed.

3. Chakra: Chakra, also known as ChakraCore, is a JavaScript engine developed by Microsoft. It was originally used in Internet Explorer and later became the foundation for the JavaScript engine in Microsoft Edge. Chakra is designed to provide fast and efficient JavaScript execution. It utilizes both interpreter and just-in-time (JIT) compilation techniques and includes optimizations like inline caching and dynamic profile-based optimizations.

4. Tamarin: Tamarin is a JavaScript engine specifically designed for the Adobe Flash runtime. It is no longer actively developed or maintained. Tamarin employed a technique called "trace-based JIT compilation" that focused on optimizing frequently executed portions of the code known as traces. This approach aimed to improve the performance of JavaScript code running within the Flash runtime.

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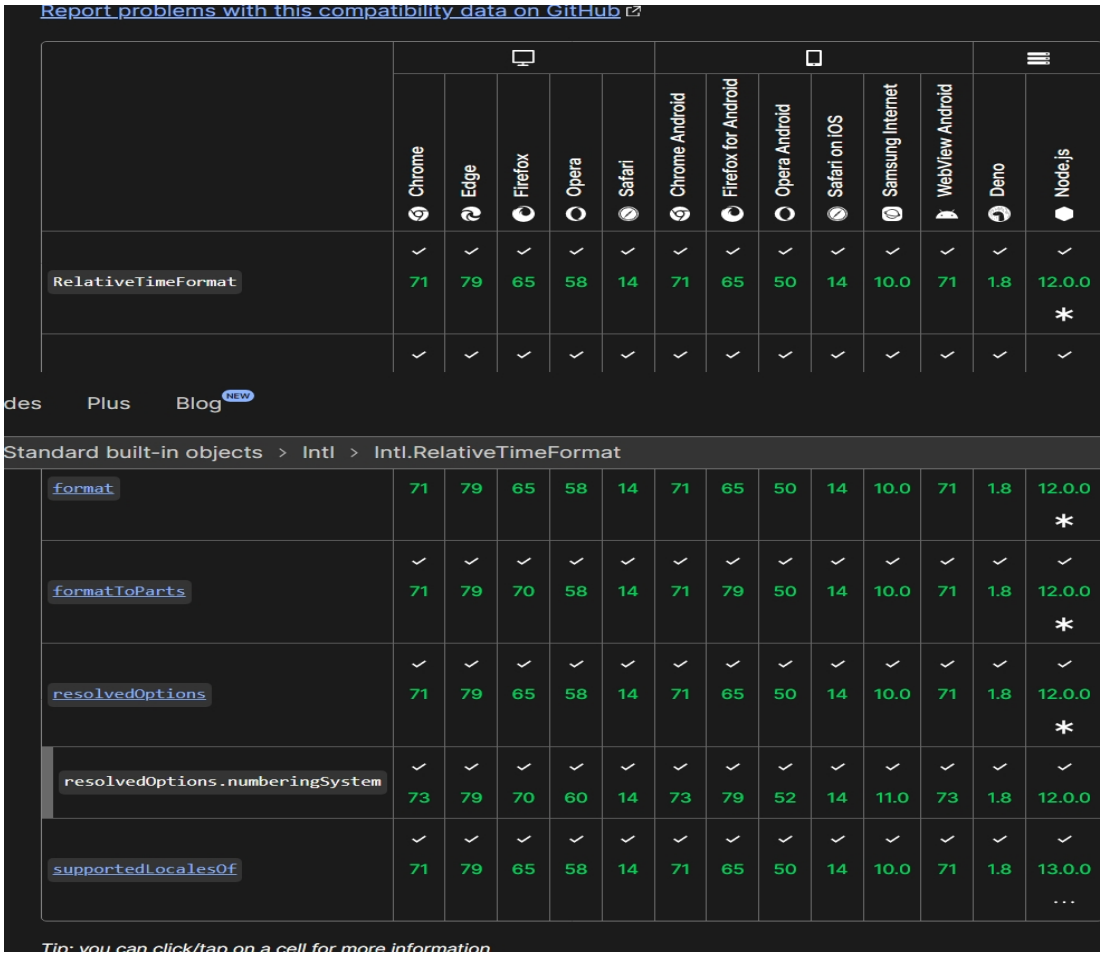
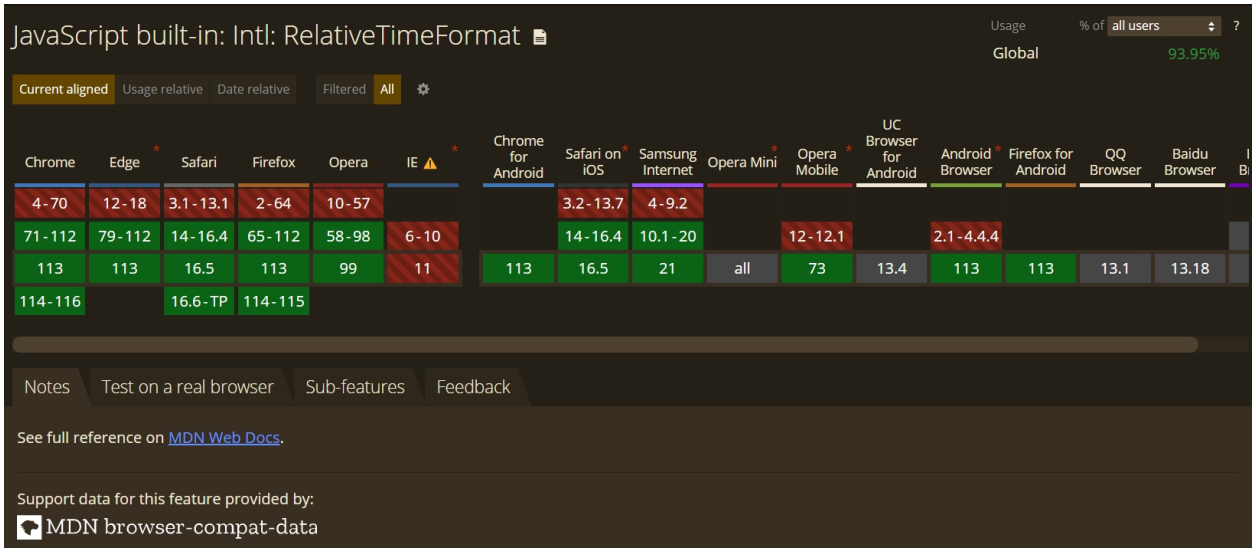
5. Show a practical example using **caniuse.com** and the MDN compatibility table.





Canluse get their information from the internet and MDN get their information from their own developers.
