DWA_02.8 Knowledge Check_DWA2

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

ECMAScript or ES is a trademarked ECMA International scripting language standard. ES5 stands for ECMAScript 5 it is also called ECMAScript 2009 whereas ES6 stands for ECMAScript 6 it is also called ECMAScript 2015.

ES5:
- New Array methods (isArray, indexOf, every, some, map, filter, reduce, etc.)
- String.prototype.trim and property access
- Immutable global objects (undefined, NaN, Infinity)
- Strict mode
- Other minor changes (parseInt ignores leading zeros, thrown functions have proper values, etc.)

ES6:
- Generators, iterables, iterators and for..of
- Default arguments for functions and the rest operator
- Spread syntax
- Destructuring
- Let (lexical) and const (unbindable) bindings

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

The ECMAScript specification is a blueprint for creating a scripting language, its' a standard for all the scripting languages like ActionScript, JScript, JavaScript etc.

ActionScript is primarily used for developing interactive multimedia and desktop applications, it has some similarities with javaScript in terms of syntax and concepts, but their use cases and libraries are quite different.

JavaScript is a general-purpose scripting language that conforms to the ECMAScript specification. A JavaScript engine is a program or interpreter that executes JavaScript code in a browser. Different browsers use different JavaScript engines. Last up, ECMA-262 is the name of the standard that represents the scripting language specification ECMAScript.

With JavaScript we don't need to compile the codes our browsers run them. Then codes written in JScript support conditional compilation. With this we can place codes in block comments and execute them selectively. Starting from Microsoft Internet Explorer 11, conditional compilation is no longer supported.

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

Language specification that have become common among browser implementations and added support for new features that had emerged since the publication of the third edition. Such features include accessor properties, reflective creation and inspection of objects, program control of property attributes, additional array manipulation functions, support for the

JSON object encoding format, and a strict mode that provides enhanced error checking and program security.

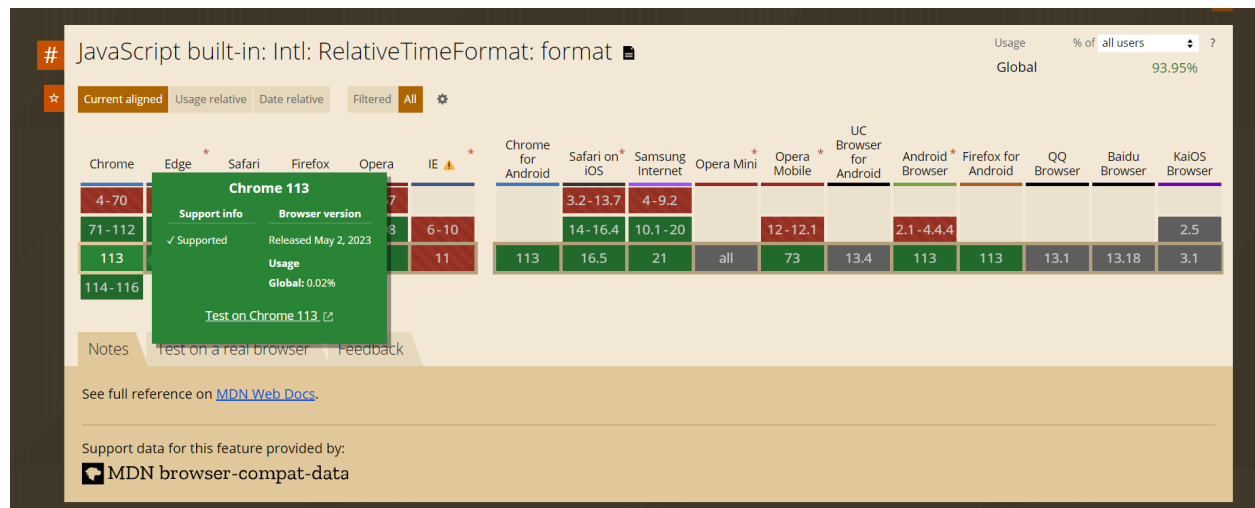Example: Can be found at: ECMAScript Language Specification(https://tc39.es/ecma262/#sec-conformance) ECMAScript 2019 introduced **Object.fromEntries** for directly turning the return value of **Object.entries** into a new Object, and **trimStart** and **trimEnd** on **String.prototype** as better-named alternatives to the widely implemented but non-standard **String.prototype.trimLeft** and **trimRight** built-ins. In addition, it included a few minor updates to syntax and semantics.

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

- V8: Provides the runtime environment in which JavaScript executes. A JavaScript engine used in Google Chrome and other Chromium-based browsers, Node.js, Deno, and V8.NET.

- SpiderMonkey: A JavaScript engine in Mozilla Gecko applications, including Firefox. The engine currently includes the IonMonkey compiler and OdinMonkey optimization module, and has previously included the TraceMonkey compiler (first JavaScript JIT) and JägerMonkey.
- Chakra: A JavaScript engine previously used in older versions of Microsoft Edge, before being replaced by V8.[6]
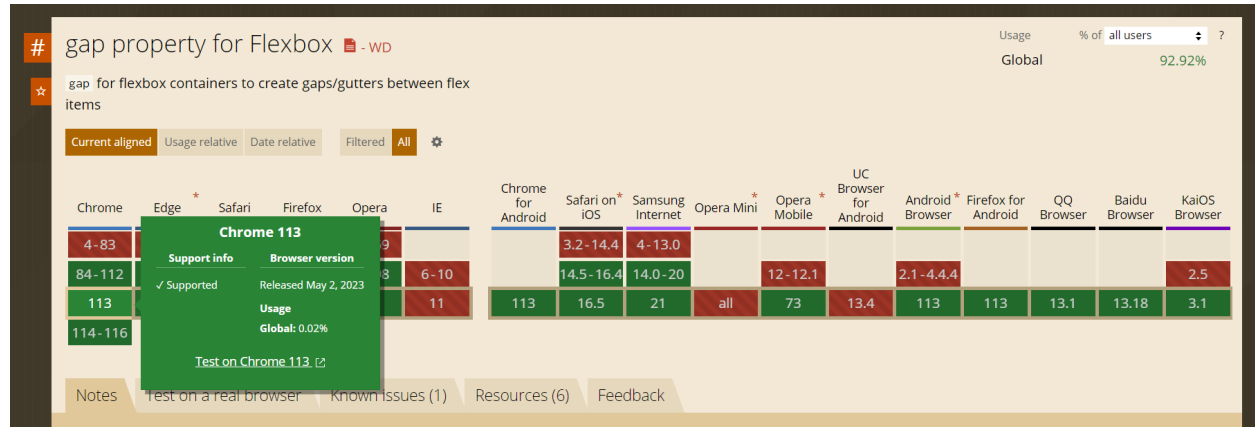- Tamarin: An ActionScript and ECMAScript engine used in Adobe Flash.

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5. Show a practical example using **<u>caniuse.com</u>** and the MDN compatibility table.

JavaScript built-in: Intl: RelativeTime format: Enables language-sensitive relative time formatting.

It's compatible with Chrome version 71-112, 113 and also 114-116.
It's not supported with Chrome version 4-70

Gap property for Flexbox(CSS):

It's supported by Chrome versions: 84 - 112, 113 and 114 - 116
It's not supported by Chrome 4 - 83.
Known issues are on Safari browser before version 15.4 does not apply gap when flex-direction is column reverse