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?

- ES is an abbreviation of ECMAScript , where ECMAScript is a specification that defines the syntax, semantics, and behavior of the language. It specifies features like variables, data types, control structures, functions and objects. Each version of ECMAScript introduces new features and improvements to the language.

- ES5 is an abbreviation of ECMAScript 5 (ECMAScript 2009). ES6 is an abbreviation of ECMAScript 6 (ECMAScript 2015). ES6 is a major enhancement in the JavaScript language that allows us to write programs for complex applications.

Difference between ES5 and ES6

ES5(ECMAScript 5)	**ES6(ECMAScript 2015)**
ES5 supports primitive data types that are string, number, boolean, null, and undefined.	There are some additions to JavaScript data types, including the new primitive data type 'symbol' for supporting unique values.
The var keyword in JavaScript is used for defining variables.	The var, let, and const keywords are used for defining variables in JavaScript.
ES5, both function and return keywords are used to define a function.	An arrow function is a new feature introduced in ES6 in which we don't require the function keyword to define the function.
The manipulation of objects in ES5 or ECMAScript 2009 is more time-consuming.	Due to destructuring and speed operators, object manipulation can be processed more smoothly in ES6.
In ES5, there is a use of for loop to iterate over elements	ES6 introduced the concept of for...of loop to perform an iteration over the values of the iterable objects

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

ECMAScript - is a specification that defines the syntax, semantics, and behavior of the language. It specifies features like variables, data types, control structures, functions and objects

JScript - is Microsoft's legacy dialect of the ECMAScript standard that is used in Microsoft's Internet Explorer 11 and older.

ActionScript - is an object-oriented programming language originally developed by Macromedia and was original deriveid from ECMAScripts

JavaScript - is the most popular implementation of the ECMAScript Standard. ActionScript and JScript are other languages that implement the ECMAScript . The core features of Javascript are based on the ECMAScript standard

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

JavaScript specification is the ECMAScript 2021 (ES2021) specification. It defines the language features, syntax, semantics, and behavior for JavaScript in its latest version

You can find the ECMAScript specifications on the Ecma International website, the organization responsible for standardizing ECMAScript. Here is the URL to access the ECMAScript specifications:

https://www.ecma-international.org/publications/standards/Ecma-262.htm

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

V8, SpiderMonkey, Chakra, and Tamarin are all JavaScript engines, which are responsible for executing JavaScript code

V8: has strong adherence to the ECMAScript standard and has often been at the forefront of implementing new JavaScript features. V8 typically offers extensive support for the latest ECMAScript features and strives to provide excellent compatibility.

SpiderMonkey: SpiderMonkey also emphasizes ECMAScript compliance. As the first JavaScript engine, SpiderMonkey has a long history and has evolved to support various ECMAScript standards. It actively contributes to the ECMAScript specification and has been instrumental in the development of new language features.

Chakra: supports the ECMAScript specification but has a focus on specific optimizations and enhancements. It provided additional features beyond the ECMAScript standard, such as the Chakra JavaScript Runtime and the Chakra JavaScript Background Compiler, to improve performance and enable innovative capabilities.

Tamarin: has a primary focus on ActionScript and ECMAScript execution within that specific environment. While it adheres to ECMAScript standards, its implementation may have included additional features and optimizations tailored for Flash and AIR applications.

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