DWA_02.8 Knowledge Check_DWA2

- 1. What do ES5, ES6 and ES2015 mean and what are the differences between them?
 - ES5 It is the fifth edition of the European Computer Manufacturing
 - Association
 - Released in 2009. And has features and changes.
 - Strict mode a stricter variant of JS.
 - Help catch common mistakes and prevents the use of
 - Certain problematic language features
 - JSON Support JSON.parse and JSON.stringify. Converts a string to an object and other converts an object to a string respectively
 - ES6 / ES2015 It is the sixth edition of the ECMA Script
 - Block scoped variables
 - Arrow Functions
 - Template Literals
 - Destructuring alignment
 - Classes
- 2. What are JScript, ActionScript and ECMAScript and how do they relate to JavaScript?
 - JScript
 - A scripting language that was developed by MS
 - Initially created for use in MS's internet explorer web browser
 - JScript and JS both follow the ECMA standard. They have similar syntax, core features and support for manipulating the DOM.
 - They are associated with legacy web applications
 - ActionScript
 - An OOP language that was initially developed by Macromedia
 - It is used for developing rich interactive applications and multimedia content for the Adobe Flash platform

- Action Script and JS have similar syntax for variables, control flow statements, functions, and object-oriented programming principles
- ECMAScript
- ECMAScript is a standardized scripting language specification that defines the syntax, semantics, and behavior of scripting languages
- JavaScript is an implementation of the ECMAScript standard and is the most widely used and popular programming language for web development.

- 3. What is an example of a JavaScript specification and where can you find it?
 - ECMAScript 5 (ES5): Released in 2009, ES5 introduced significant improvements and features to JavaScript. Some key features include strict mode, JSON methods (stringify() and parse()), bind() method, array methods (forEach(), map(), etc.), and more.

Can be found at:

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

- 4. What are v8, SpiderMonkey, Chakra and Tamarin? Do they run JavaScript differently?
 - V8: V8 is an open-source JavaScript engine developed by Google. It is primarily
 used in the Google Chrome browser and the Node.js runtime environment. V8 is
 known for its high performance and efficient Just-In-Time (JIT) compilation
 techniques. It compiles JavaScript code into machine code on the fly, enabling
 faster execution speeds.
 - SpiderMonkey: SpiderMonkey is the original JavaScript engine developed by Brendan Eich for Netscape Navigator, the browser that first introduced JavaScript. SpiderMonkey is now maintained by Mozilla and is used in the Mozilla Firefox browser. It has undergone significant performance improvements over the years and includes features like JIT compilation, garbage collection, and support for modern JavaScript language features.

- Chakra: Chakra was a JavaScript engine developed by Microsoft for their Internet Explorer and Microsoft Edge web browsers. However, Microsoft Edge has transitioned to using the Chromium project, which includes V8 as the underlying JavaScript engine. As a result, Chakra is no longer actively developed and has been replaced by V8 in the modern versions of Microsoft Edge.
- Tamarin: Tamarin was a JavaScript engine developed by Adobe Systems for the Adobe Flash Player. It was specifically designed to execute ActionScript and ECMAScript (JavaScript) bytecode. However, Adobe has discontinued development of the Flash Player and, consequently, the Tamarin engine is no longer actively maintained.

Differences arise in performance optimizations, memory management, and specific implementation details, but the overall goal is to execute JavaScript code effectively and efficiently in their respective environments.

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

