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 in 2009.
- Introduced significant enhancements to JavaScript.
- Added features such as strict mode, new array methods (e.g., forEach, map, reduce), object property getters and setters, and JSON support.
- Widely supported by modern browsers.

ES6 or ES2015 (ECMAScript 2015):

- Released in 2015.
- Major update to the JavaScript language.
- Introduced numerous new features and syntax improvements.
- Included features like arrow functions, classes, modules, template literals, destructuring assignments, enhanced object literals, promises, and more.
- Some ES6 features were not immediately supported by all browsers, necessitating the use of transpilers like Babel to convert ES6 code into ES5-compatible code.

ES5 brought significant enhancements to JavaScript, while ES6/ES2015 introduced a major update with numerous new features and syntax improvements.

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

- JScript - is Microsoft legacy dialect of the EMCAScript standard that is used in microsoft internet explorer 11 and older.
- ActionScript - is an object oriented programming language developed by Macromedia inc and it is now an implementation of EMCAScript.
- ECMAScript - Is a JavaScript standard intended to ensure the interoperability of web pages across different web browsers , it is standardized by ECMA international in the document EMCA-262.

How do they relate to JavaScript?

JavaScript is an implementation and usage of the ECMAScript language specification, which defines the core features and behavior of JavaScript. JScript is a Microsoft-specific implementation of ECMAScript, while ActionScript is a scripting language based on ECMAScript with specific features for Adobe Flash. They all share a common foundation in ECMAScript but have their own unique characteristics and intended usage contexts.

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

ECMAScript specification - ECMAScript defines the syntax, semantics, and behavior of the JavaScript programming language. It is maintained by ECMA International, a standards organization, and serves as the standard for JavaScript.

ECMAScript specification can be found on the ECMA International website. Here's the link to the official ECMAScript specification page: https://www.ecma-international.org/publications-and-standards/standards/ecma-262/

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

- V8 is a free open source JavaScript and webAssembly engine developed by the Chromium Project and google web browsers.
- SpiderMonkey is an open source JavaScript and webAssembly engine by the Mozilla foundation.
- Chakra is a proprietary JScript engine developed by microsoft, It is used in the internet explorer web browser.
- Tamarin - is a discontinued free software virtual machine with just-in-time compilation (JIT) support intended to implement the 4th edition of EMCAScript (ES4) language standard.

Yes they run JavaScript differently - V8, SpiderMonkey, Chakra, and Tamarin are separate JavaScript engines with different execution techniques, optimization strategies, and memory management approaches.

- V8 uses just-in-time (JIT) compilation, aggressive optimization techniques, and a combination of an interpreter and compilers to convert JavaScript code into efficient machine code. It focuses on optimizing hot code.

- SpiderMonkey traditionally relies on an interpreter but also includes the IonMonkey JIT compiler. It emphasizes JIT compilation, type inference, and inline caching.
- Chakra combines an interpreter and JIT compiler, employing profiling and speculative optimizations for performance improvements.
- Tamarin utilizes a JIT compiler to enhance the execution speed of JavaScript and ActionScript code

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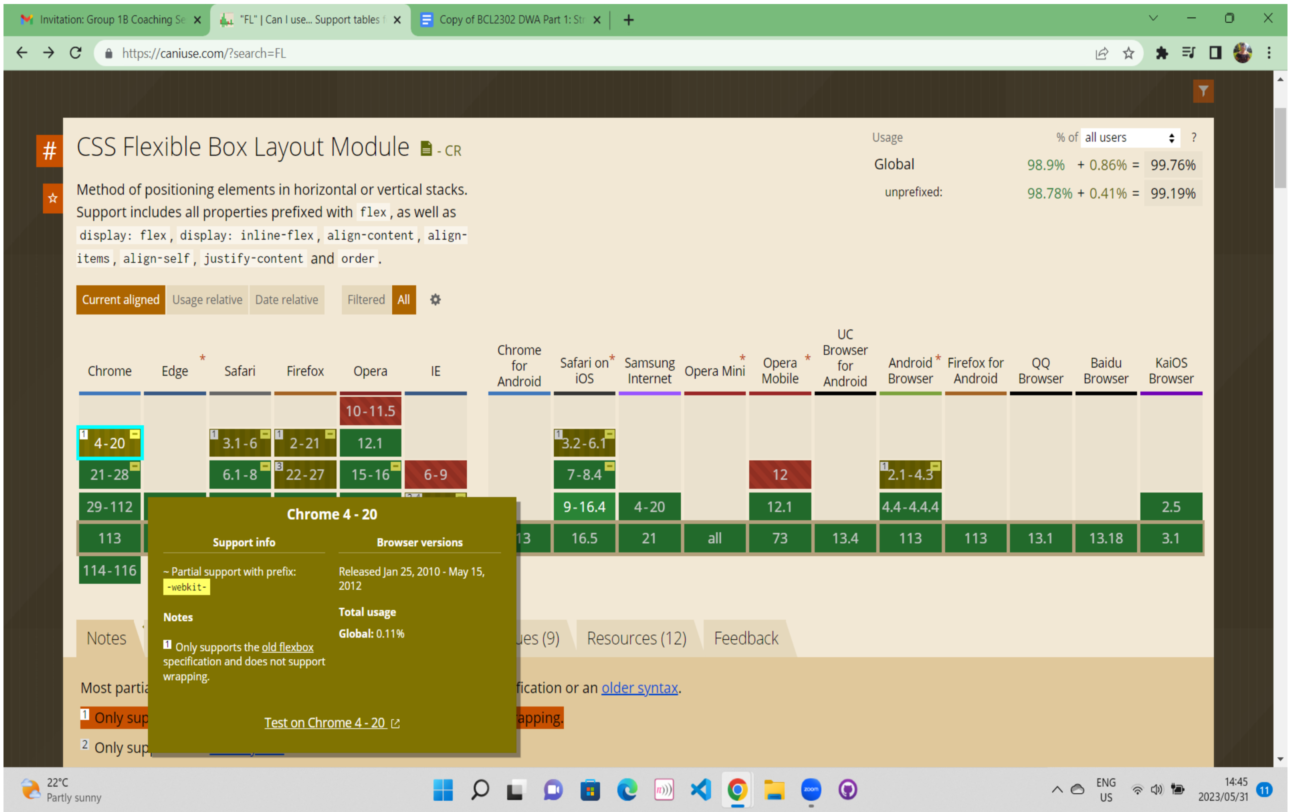
5. Show a practical example using caniuse.com and the MDN compatibility table.

CSS Flexible Box Layout Module

The CSS Flexible Box Layout Module, commonly referred to as Flexbox, is a CSS layout module that provides a flexible way to arrange and align elements within a container. It allows you to create dynamic and responsive layouts with ease.
The is a set of a set of properties and values that control the behavior of flexible boxes and their children such as

1. Flex Container
2. Flex Items
3. Flex Direction
4. Flex Wrap
5. Flexbox Alignment
6. Flex Sizing

- On chrome 4- 20- the flexbox is partially supported with prefix (webkit) because it only supports the old flexbox specification and does not support wrapping.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CSS Flexible Box Layout Module - CR

Method of positioning elements in horizontal or vertical stacks. Support includes all properties prefixed with `flex`, as well as `display: flex`, `display: inline-flex`, `align-content`, `align-items`, `align-self`, `justify-content` and `order`.

Usage — % of all users ?

Global 98.9% + 0.86% = 99.76%

unprefixed: 98.78% + 0.41% = 99.19%

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
				10-11.5												
[1] 4-20		[1] 3.1-6	[1] 2-21	12.1			[1] 3.2-6.1									
21-28		6.1-8	[3] 22-27	15-16	6-9		7-8.4			12		[1] 2.1-4.3				
29-112							9-16.4	4-20		12.1		4.4-4.4.4				2.5
113						13	16.5	21	all	73	13.4	113	113	13.1	13.18	3.1
114-116																

Chrome 4 - 20

Support info	Browser versions
~ Partial support with prefix: `-webkit-`	Released Jan 25, 2010 - May 15, 2012

Notes

[1] Only supports the old flexbox specification and does not support wrapping.

Total usage

Global: 0.11%

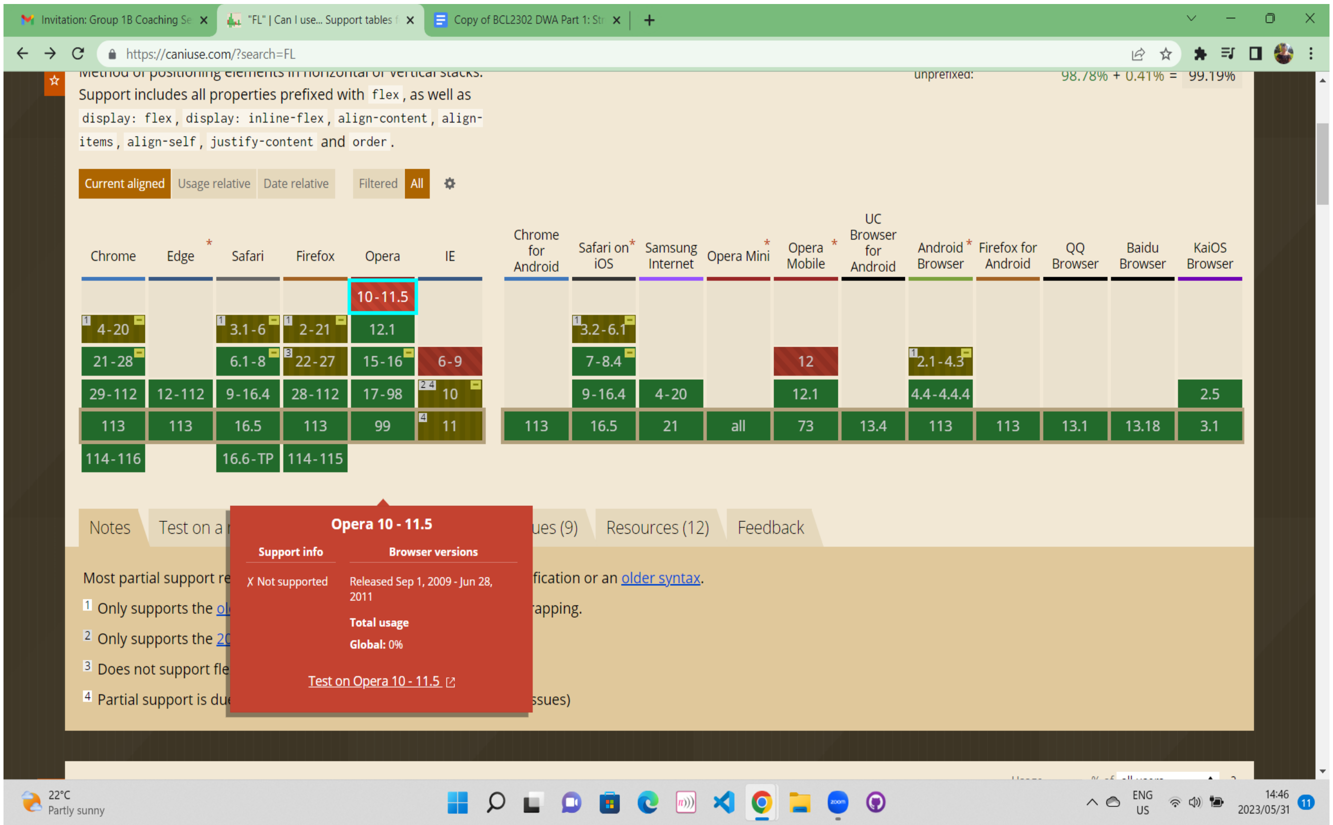
Test on Chrome 4 - 20

Most partia fication or an older syntax.

[1] Only sup rapping.

[2] Only sup

- On Opera 10 - 11,5 - the flexbox is not supported because the browser is outdated and can result in compatibility issues with modern web standards and technologies, such as a Flexbox.



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https://caniuse.com/?search=FL
22°C
Partly sunny
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2023/05/31

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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
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29-112	12-112	9-16.4	28-112	17-98	[2 4] 10		9-16.4	4-20		12.1		4.4-4.4.4				2.5
113	113	16.5	113	99	[4] 11	113	16.5	21	all	73	13.4	113	113	13.1	13.18	3.1
114-116		16.6-TP	114-115													

Opera 10 - 11.5

Support info	Browser versions
✗ Not supported	Released Sep 1, 2009 - Jun 28, 2011
	Total usage
	Global: 0%

Test on Opera 10 - 11.5

Most partial support re fication or an older syntax.

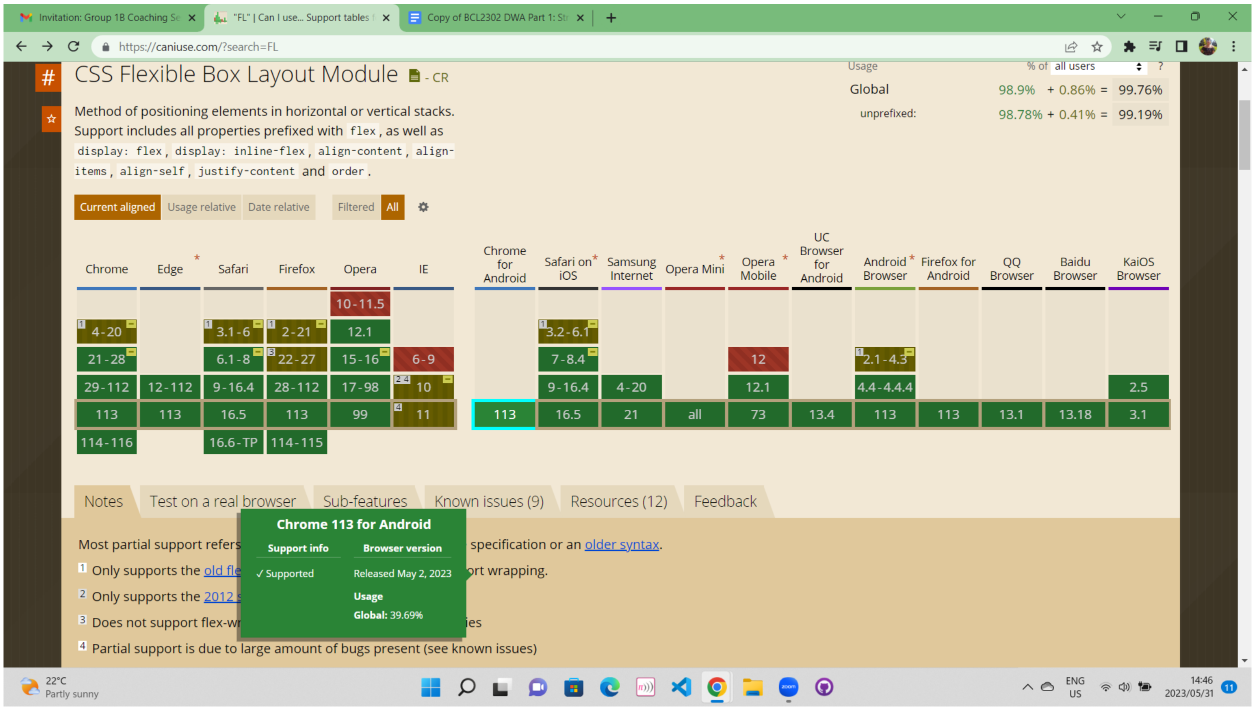
[1] Only supports the ol rapping.

[2] Only supports the 20

[3] Does not support fle

[4] Partial support is due ssues)

- On Chrome for android - the flexbox is supported because browser vendors like Google often release regular updates to their browsers, which may include bug fixes, performance improvements, and new feature implementations. Staying up to date with the latest version of Chrome for Android ensures the best support for Flexbox and other modern web technologies.



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114-116		16.6-TP	114-115													

Chrome 113 for Android

Support info	Browser version
✓ Supported	Released May 2, 2023
	Usage
	Global: 39.69%

Most partial support refers specification or an older syntax.

[1] Only supports the old fle ort wrapping.

[2] Only supports the 2012 s

[3] Does not support flex-wr ies

[4] Partial support is due to large amount of bugs present (see known issues)

Here is a link : https://caniuse.com/?search=CSS%20Flexible%20Box%20Layout%20Module