DWA_01.3 Knowledge Check_DWA1

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1. Why is it important to manage complexity in Software?
Managing complexity in software is crucial for several reasons such as maintainability, debugging and testing, scalability, user experience and faster development.

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2. What are the factors that create complexity in Software?

Requirements volatility : when project requirements frequently change or are poorly defined, can lead to complex code as developers try to accommodate these changes.

Lack of testing : inadequate testing strategies or skipping unit testing can make it hard to catch and fix bugs early in the development process, resulting in more complex debugging and troubleshooting later.

Heterogeneous environment : developing software that needs to run on multiple platforms,browsers,or operating systems can increase complexity due to the need for platform-specific code and compatibility issues.

Large codebase : as a codebase grows, it can become increasingly complex, especially if there isn’t a clear organization and modular structure in place.

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3. What are ways in which complexity can be managed in JavaScript?

Complexity in javascript can be managed by :
modularization : use ES6 modules or common Js modules to break your code into smaller, manageable pieces.

– encapsulation : use closures to encapsulate variables and functions with a scope, reducing the risk of polluting the global namespace

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4. Are there implications of not managing complexity on a small scale?

yes , even on a small scale, not managing complexity in software development can have several negative implications.

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5. List a couple of codified style guide rules, and explain them in detail.

Consistent indentation: refers to the practise of using the same amount of whitespace to align code blocks,statements, and elements within the same scope.

In many coding style guides, a common choice is to use either spaces or tabs for indentation, but not both. Consistency is important,as mixing spaces and tabs can lead to formatting issues.

Naming conventions: defines how variables,functions,classes, and other program entities should be named. These conventions help maintain consistency and improve code readability.

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6. To date, what bug has taken you the longest to fix - why did it take so long?

Mismatched brackets, as a program becomes more complicated, and especially when working with javascript objects, the brackets start to pile up. This caused me to take time to fix the bug as there are many brackets to look at.
