# DWA\_01.3 Knowledge Check\_DWA1

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1. Why is it important to manage complexity in Software?

Managing software complexity is essential because as software systems expand, they become harder to understand, maintain, and modify. This complexity can lead to longer development times, increased costs, and reduced quality. By controlling complexity, developers can ensure the software remains comprehensible, maintainable, and modifiable, ultimately leading to faster development, cost savings, and better quality.

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

* **Size:** Larger software systems have more components and interactions, making them more challenging to manage.
* **Interdependence:** When components are tightly coupled, changes in one part can affect the entire system, increasing complexity.
* **Diversity:** Software that supports diverse functionalities or user bases must accommodate various requirements, adding to its complexity.
* **Technology:** The use of new or rapidly evolving technologies requires developers to continually learn and adapt, which can increase complexity.

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

Complexity in JavaScript can be managed by:

* Dividing code into smaller, more manageable modules.
* Writing concise and readable code to make it easier to understand and maintain.

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

Failure to manage complexity can lead to longer development times, increased costs, and lower quality. As software grows, it becomes harder to understand and maintain, resulting in code that is difficult to work with and more expensive to develop and modify.

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

**Consistent terminology:** Use the same terms throughout documents to avoid confusion and enhance clarity. For example, if the term "clients" is used for customers, consistently use "clients" instead of alternating with "customers" or "users."

**Formatting:** Consistent formatting, such as using headings and subheadings, bullet points or numbered lists, and uniform font sizes and styles, makes documents easier to read and understand.

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

The longest bug I encountered was while creating an online store in JavaScript. The complexity of writing the correct code so that everything functioned perfectly made the debugging process lengthy and challenging.

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