

DWA_01.3 Knowledge Check_DWA1

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

- a. To make the code more readable for your future self and other developers.
 - b. To minimize the chance of making type errors.
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2. What are the factors that create complexity in Software?

- a. Bad code style, e.g if the variable names are not clear enough and if statements are not structured in a way that is easier to read depending on the contents of the if statement.
 - b. If the code is not modular, e.g. if functions are not reusable.
 - c. No comments, e.g. if variables and functions are not described.
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3. What are ways in which complexity can be managed in JavaScript?

- a. Variable names should be specific and easy to understand.
 - b. Variables should have comments describing what they contain.
 - c. Using JSDoc to describe a function and its param values which would act as a guide as to how the function should be written to avoid type errors.
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4. Are there implications of not managing complexity on a small scale?

- a. No, if there are many lines of code and the issue is small then it would be harder to solve or take up a lot of time which could have been prevented.
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5. List a couple of codified style guide rules, and explain them in detail.

- a. Variable names should be specific.
E.g. `const submitButton = document.querySelector('[data-button]');`

In the example above, the form submit button is being retrieved from the DOM and stored in the variable `submitButton` which clearly states what the variable is.

- b. Use const for all references, avoid using var.

E.g. `const a = 1;`
`const b = a;`

In the example above the variables a and b are declared using const, this ensures that you can't reassign your references, which can lead to bugs and difficult to comprehend code.

- c. If statements should be easy to read.

E.g. `if (10 === 10){`
`console.log(true)`
`}`

In the example above the if statement is clear and easy to understand.

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

For my book connect app code I used variables that had similar names (e.g book and books), and without noticing it I used the one in place of the other which caused scope bugs, it took long to figure out because the names were too similar and I kept overlooking it when looking for the cause of the error .
