DWA_07.4 Knowledge Check_DWA7

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1. Which were the three best abstractions, and why?

- ❖ displayBookWithElements Function:
    - ➢ This function abstracts the creation of an HTML container for displaying a book, making the code more modular and readable.
    - ➢ It separates the HTML structure and book data, promoting the Single Responsibility Principle (SRP).

- ❖ showBookDetails Function:
    - ➢ This function abstracts the population of book details in the preview modal overlay.
    - ➢ It centralises the code for displaying book details, improving maintainability.

- ❖ filterBooks Function:

    - ➢ This function covers the logic for filtering and displaying books based on search criteria.
    - ➢ It follows SRP by separating the filtering logic from the user interface (UI) update.

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2. Which were the three worst abstractions, and why?

- ❖ htmlElements Object:

    - ➢ The htmlElements object is a large object that stores all the HTML elements used in the file. It violates the Single Responsibility Principle by taking on multiple responsibilities, such as storing elements and handling user interface interactions.

- ❖ changeTheme Function:

    - ➢ This function combines theme-related logic with detecting the user's preferred colour scheme.
    - ➢ It couples two responsibilities: theme management and user preference detection.

❖ displayAllBooks function:

➢ The displayAllBooks function is responsible for displaying books in the main container, calculating book counts, and updating button text.
➢ It has multiple responsibilities, including UI rendering and calculation.

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3. How can The three worst abstractions be improved via SOLID principles?

❖ htmlElements Object:

➢ To improve this, I could create separate classes for different responsibilities, such as one for handling UI elements and another for managing interactions.

❖ changeTheme Function:

➢ Create separate classes or functions for theme management and user preference detection to follow SRP.

❖ displayAllBooks Function:

➢ Separate these responsibilities into different classes or functions. For instance, create a BookRenderer for UI rendering and a BookCounter for book count calculations to adhere to SRP.

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