

DWA_07.4 Knowledge Check_DWA7

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

BEST ABSTRACTION

`create Book Preview Function:`

- Reason: This function abstracts the creation of a book preview element, encapsulating the logic for generating the HTML structure of a book preview.
- SOLID Application: It mostly adheres to the Single Responsibility Principle (SRP) by handling only the creation of the preview element.

`Populate Select Options Function:`

- Reason: This function handles the creation of select options for genres and authors, encapsulating the logic for populating select elements.
- SOLID Application: It adheres to SRP by dealing solely with populating select options, maintaining a clear responsibility.

`Initialize Theme Function:`

- Reason: This function determines and sets the initial theme based on the system preference, encapsulating the logic for theme initialization.
- SOLID Application: It mostly follows SRP by dealing specifically with setting the initial theme based on a condition.

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

Worst Abstractions:

The Large Event Listener Setup:

- Reason: There are multiple event listeners attached directly to DOM elements, which makes the code hard to maintain and understand.
- SOLID Improvements: To improve this, a better approach would be to break down the event handling logic into smaller, more focused classes or

functions. This way, each listener can have a single responsibility, adhering more to the Single Responsibility Principle.

Handle Search Function:

- Reason: This function handles the search logic and directly interacts with the DOM.
- SOLID Improvements: To improve, separate the concerns by creating a separate class or function responsible for handling the search logic (Single Responsibility Principle) and decouple DOM manipulation from the search logic (Separation of Concerns).
- Render Book Previews Function:
 - Reason: This function renders book previews and also manipulates the DOM directly.
 - SOLID Improvements: To enhance this, split the rendering logic from the DOM manipulation logic. The rendering logic could be a separate function or class (SRP), leaving DOM manipulation to another (Open/Closed Principle) to allow extension without modification.
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3. How can The three worst abstractions be improved via SOLID principles.

The worst abstractions and how they can be improved using SOLID principles - by splitting responsibilities, decoupling logic from DOM, and making the code more maintainable and extensible.
