# DWA_07.4 Knowledge Check_DWA7

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

1. **1. createPreviewElement - This function abstracts the process of creating a book preview element, making the code for generating book previews clean and easy to read.**
2. **2. filterBooks - This function abstracts the process of filtering books based on search criteria. It helps maintain a clean separation of concerns, making the filtering logic clear and isolated.**
3. **3. setTheme - This function abstracts the theme-setting logic, making it easy to toggle between themes and manage theme-related CSS properties.**

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

1. **handlePreviewClick - This function is relatively complex and lengthy. It searches for the book corresponding to a clicked preview, and its purpose could be clarified with better abstraction or breaking down the logic into smaller functions.**
2. **createGenreOptions and createAuthorOptions - While these functions serve a purpose by abstracting the generation of genre and author options, they are somewhat similar. Combining them into a single function may be better and less redundant.**
3. **updateListButton - This function is responsible for updating the "Show more" button. It mixes concerns relating to button text and enabling/disabling. It could be refactored to separate these concerns more clearly.**

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3. How can The three worst abstractions be improved via SOLID principles.
1. **handlePreviewClick:**
   **SRP - Split the 'handlePreviewClick' function into smaller, more focused functions. One function can be responsible for locating the book and another responsible for displaying the book details.**
   **OCP - make the code open for extension but closed for modification by designing the book details display in an extensible way. You can have a separate module or class for displaying book details that be extended without modifying the 'handlePreviewClick' function.**
2. **createGenreOptions and createAuthorOptions:**
   **SRP - Create a single function, such as 'createSelectOptions(data, placeholderText)', which can be used for generating both genre and author options. This function should take the specific data and placeholder text as parameters**
   **ISP - Ensure that the new 'createSelectOptions' function is not bloated with unnecessary parameters but remains focused on its core responsibility.**
3. **updateListButton**
   **SRP - Split the 'updateListButton' function into two separate functions: one for updating the button text and another for enabling/disabling the button. Each function should have a clear and single responsibility,**
   **ISP - The split function should have minimal and specific interfaces, ensuring they don't incorporate unnecessary methods or attributes.**

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