Task Manager AI Prompt Exercise Summary

Name: Senamile Rethabile Aphane

Course: Diploma in ICT (Applications Development)

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Language: Java Implementation

# 1. Initial vs Final Understanding

Initially, I assumed the Java Task Manager project used a basic structure with models and controllers, but I wasn't sure how persistence and business logic were handled. After exploring the codebase, I confirmed it uses Spring Boot with a typical layered architecture: Controller, Service, Repository, and Entity classes. The entry point is `TaskManagerApplication.java`, and the dependencies are managed using Maven via `pom.xml`.

# 2. Most Valuable Insights from Each Prompt

- Project Structure Prompt: Confirmed that the project uses Spring Boot with REST architecture and helped identify the responsibilities of controllers, services, and repositories.  
- Feature Location Prompt: Helped me determine that the CSV export feature belongs in `TaskService.java`, with a new endpoint in `TaskController.java`, and to reuse task fetching logic.  
- Domain Model Prompt: Clarified the relationships between `Task`, `TaskStatus`, and `TaskPriority`, and helped me revise my understanding of how business rules are handled.

# 3. Approach to Implementing the New Business Rule

To implement the rule 'Tasks that are overdue for more than 7 days should be marked as abandoned unless marked as high priority', I would:  
- Add a method in `TaskService.java` called `checkAndMarkOverdueTasks()`.  
- Use `@Scheduled` annotation to run the check periodically.  
- Compare current date with `dueDate + 7` and check if priority is not HIGH.  
- Update the task status to ABANDONED using the repository.  
- Optionally log or notify users of the change.

# 4. Strategies for Approaching Unfamiliar Code in the Future

- Start by scanning the directory structure and configuration files.  
- Identify common patterns (e.g., MVC, REST, services).  
- Use AI prompts to validate assumptions and fill knowledge gaps.  
- Document domain models early to guide understanding.  
- Search the codebase using keywords like 'export', 'status', 'dueDate' to find relevant logic.