

SMART TASK SCHEDULER WITH PRIORITY QUEUES

Introduction

The Smart Task Scheduler is a Java-based console application designed to help users manage their daily tasks by assigning priorities. The system allows users to focus on the most urgent tasks first and provides basic task operations like add, view, complete, and delete. This application is suitable for beginners to learn object-oriented programming (OOP) and Java Collections.

Abstract

This application enables users to:

- Add tasks with title and priority.
- View all tasks sorted by priority (lower number = higher priority).
- Mark tasks as completed.
- Delete tasks by selecting from the list.

The application is built using Java, leveraging ArrayList for task storage and Comparator for sorting. It provides an interactive menu-based interface using the Scanner class for user input.

Tools Used

- Java (JDK 17)
 - IntelliJ IDEA
 - Java Collections Framework
 - Scanner Class (for Console Input)
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Steps Involved in Building the Project

1. Created a Task.java class with attributes: title, priority, and completion status.
2. Developed a SmartTaskScheduler.java class that implements the interactive menu using Scanner.
3. Used ArrayList to store Task objects and Comparator to sort them by priority.

4. Implemented methods to add, view, mark complete, and delete tasks from the list.
 5. Displayed all task interactions in the console with formatted outputs.
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Conclusion

Through this project, I strengthened my understanding of:

- Object-Oriented Programming in Java
- Working with ArrayList and sorting custom objects
- User input handling using Scanner
- Building and managing Java projects in IntelliJ

This hands-on project boosted my confidence in using Java for real-world scenarios and prepared me for technical interviews.

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