DOCUMENTATION:

#TASK SCHEDULER APPLICATION#

This application simulates a simple task manager using a heap-based priority queue, a data structure that retrieves elements based on priority rather than insertion order. Heaps are efficient for this purpose. The program offers a menu-driven interface: users can add tasks with descriptions and priority levels (lower is higher), view the highest-priority task without removing it, remove and display the highest-priority task, and exit. This application serves as an educational tool to illustrate the PriorityQueue class and the underlying heap data structure in Java. It's a practical demonstration of priority queue functionality in scenarios like task scheduling or event handling, making it easier to understand these concepts. The clear structure and comments make the code accessible for learning and adaptation, contributing to the programming community by providing a well-documented example. The inclusion of input validation enhances the program's robustness.