

Department of Mathematical Sciences
CARNEGIE MELLON UNIVERSITY

OPERATIONS RESEARCH II 21-393

Homework 4: Due Monday October 28.

1. Give an algorithm to solve the scheduling problem $1|\cdot|\sum_j f(C_j)$ where f is a monotone increasing function.
2. Give an algorithm to solve the scheduling problem $1|\cdot|\max_j f_j(C_j)$ where f_j is a monotone increasing function for all j .
3. Find the optimal ordering strategy for the following inventory system. If you order an amount Q , it costs AQ^α for some $0 < \alpha < 1$ and the inventory cost is I per unit per period. The demand is λ units per period and stock-outs are allowed. The penalty cost for stock-outs are π per unit per period.