Review Lecture.

A jobs scheduling Problem

We want to schedule jobs on a single machine in an order that keeps customers as happy as possible.

Customer i's job takes time t_i to complete.

Given a schedule, let C_i denote the finishing time of job i

Ex. First job takes $C_i = t_i$ to finish
and $C_j = C_i + t_j$ if job j is next after job i

Each customer i has a given weight w_i representing importance of his/her business. Happiness of customer i depends on finishing time of i's job.

So, we want to schedule the jobs to minimize the weighted sum of completion time $\sum_{i=1}^{n} w_i C_i$

- Design an efficient greedy algorithm to solve this problem.
- Show that the algorithm solves the problem optimally.