Introduction To Algorithms
CS430

Fall 2015
HomeWork 7
Due 10th November

1. For the problem of scheduling jobs with start and finish time on a single processor, show that the following strategies do not work:

   (a) Schedule the job that has minimum duration. Remove and Repeat with the remaining set of non-conflicting jobs.

   (b) Schedule the job that overlaps with the least number of other jobs. Remove and Repeat with remaining set of non-conflicting jobs.

   (20)

2. Suppose we have a set of jobs with start and finish times. Show how to determine the minimum number of processors such that all the job can be scheduled. (Hint: You may use the start times to schedule the job) (25)

3. Suppose we have a set of houses on one side of a long street to be served by electric distribution boxes that can connect houses up to distance d. The location of the houses is measured from the start of the street which may be considered as the origin. Then the houses are at location $l_1 < l_2 < \ldots l_n$ where each l_i is an integer. We need to use the minimum number of boxes. Show how to position the electric distribution boxes. (15)

4. Problem: 16.3-8 from CLRS. (pg 436) (20)