Due in class: Oct 20.

(1) Problem 9 (pg 110; Chapter 3)
(2) Problem 10 (pg 110; Chapter 3)
(3) Problem 7 (pg 108; Chapter 3)
(4) Problem 3 (pg 189; Chapter 4)
(5) Modify the Bellman Ford shortest path algorithm to detect the existence of a negative cycle in the graph.

(6) (Extra Credit) We have $n$ jobs to execute, each of which takes unit time. At any instant $t = 1, 2, ...$ we can execute exactly one job. Job $i$, $1 \leq i \leq n$, earns us a profit $g_i$ if and only if it is executed no later than time $d_i$. Design a fast (as fast as you can) algorithm that will figure out the sequence of jobs to be executed, to maximize the earned profit. Write out the algorithm in detail.