

Advanced Operations Management

Fall 2006, Professor Eckstein

Homework 7

Due Thursday, November 16

For problems 1-3, you may solve each problem by hand *or* by spreadsheet *or* via a computer program in any language. For these problems.

- If doing the problem by hand, show your work.
- If using a spreadsheet, hand in both a values and a formulas version of your spreadsheet. Make sure both printouts have their gridlines and row/column headings (A,B,C,... and 1,2,3,...) showing.
- If using a program, hand in printouts of both the source code and the output.

Problem 4 is conceptual and does not need a numeric solution.

1. You currently have 3 units of a product in inventory. For the next six months, you are certain that the following will apply:

Month	Setup Cost to Produce	Unit Cost to Produce	Holding Cost	Demand
1	\$120.00	\$8.00	\$0.50	3
2	\$125.00	\$10.00	\$0.60	4
3	\$130.00	\$9.50	\$0.60	5
4	\$125.00	\$9.50	\$0.70	9
5	\$120.00	\$10.00	\$0.75	11
6	\$110.00	\$10.00	\$0.70	7

You are committed to meet all the demands in this table. The holding costs are assessed per unit held in inventory at the end of the respective month. Your monthly production capacity and holding capacity are both 15 units. Find the least expensive production schedule and its cost. For this problem, it is strongly recommended that you use a computer program, since hand or spreadsheet solution will be very tedious.

2. Problem 4, page 242 of the text.
3. Problem 3, pages 245-246 of the text.
4. Problem 7, page 257 of the text. For this problem, do not try to solve anything; just write down the algebraic recursion you would use.