IE 375 Comments on Mini-Homework #1

General Comments

To receive full points, I strongly recommend that you write the formulae before making the calculations since it is very likely that you make errors while dealing with the numbers. Unless you write the formulae at the beginning, incorrect numbers will indicate that you use an incorrect formula, thereby reducing your points from the homework.

Homework 2 (out of 2) – Statistics: Average**:** 1.39 and Standard Deviation: 0.51

Grade (G)	**1.9<=G<2**	**1.5<=G<1.9**	**1<=G<1.5**	**G<1**	**Not Submitted**
# of students	11	16	15	6	3

Question 1

Comments regarding your performance:

1. In *part a*, most you did a great job in this part, thanks!
2. In *part a(i)*, some rounded the optimal order quantity whereas some did not round it. Both approaches are accepted as long as you justify your decision.
3. In *part b*, few added the fixed ordering cost twice while finding $K_1 + K_2$, 12000 for single core and 12000 for dual core.
4. In *part b*, few decided to divide setup cost (12000) and then used EOQ model for two items separately (while assuming that setup costssss is 6000). Please note that the cycle time will be different for two items in this case. Therefore, this approach is not valid.
5. In *part b*, few tried to aggregate the two items by adding the yearly demand rate of the items. Please note that although the items are ordered at the same time, the demand for individual items cannot be combined. Since the rotation cycle policy is clearly more superior in this problem's environment, the approach of aggregating the items is considered false. However, those could receive partial grades depending on the analyses.
6. In *part b*, few stated that fractional values are not allowed in general, so they have to round the cycle time *T*. Please note that this is not true.
7. In *part b*, many found number of orders given in a year (*n*) and then rounded *n*. Please note that this is not true since those changed the timing of orders throughout the year, leading to a sub-optimal solution. To understand this concept, you may think that orders are given after *T* time units (cycle time), and that firm operates more than one year although the costs are annualized (or averaged). Consequently, *n* does not need to be integer.

Question 2

Comments regarding your performance:

1. Many of you either did not attempt this question, or wrote your ideas very shortly.
2. In *part a*, many used similarities of triangles while deriving the objective function and finding the time length t_1 and t_2 when inventory is positive and negative, respectively. This approach is

accepted. Also please note that $Q-b=\lambda*t_1$ and $b=\lambda*t_2$ must hold since λ denotes the slope of the graph belonging to inventory position (see figure 4-4 on page 211 of our textbook, 7th edition). This information could save your time.

3. In *part b*, many derived the expression for Q* and b* from scratch; however, they did not compare the objective function values. Please read the question carefully, since deriving Q* and b* was not asked. Still, it may be a good exercise to prepare for upcoming topics.
4. In *part b*, some compared the order quantities instead of objective function.
5. In *part b*, some tried to compare the objective function values but could not complete the analyses. Those could receive partial grades depending on the analyses.