## General feedback on Assignment 2

Dear students,

As the results for Assignment 2 have now been published, I thought it worthwhile to give some general feedback on your answers. At the end you'll also find a rough framework I used in evaluation. This turned out to be a bit long, so to sum things up:
- Coding went generally well
- Focus on reporting
- Provide more than just the obvious commentary
- Know your model

In more detail:

Most of you were able to get the code right and were able to answer the questions -> good points in general. Good job! However, some constructive criticism is also in place. The following points don't apply to all of you but were common enough that I thought them worth sharing. Those of you not 'guilty' of the following probably know it. And in any case the point is to help you in the future, not create more stress or anxiety! So, to the points:

Most (like >95%) point reductions were due to lack of, or superficial discussion. Discussion of values was explicitly asked for. If the results are presented in a graph, a proper discussion would provide insights beyond what the figure already directly provides. I.e. it could contain analysis of questions like "why did the growth stop at production = 1600" or "What root causes could have led to loss". Just using words to describe the graph is not yet very enlightening. One of the main things missing in discussion was the impact of new information from observed demands. What effect does it have?

The rest of the point reductions were due to missing answers, some clearly wrong claims e.g. about causes and effects and faulty code. But as said, these were a clear minority and poor discussion was the main problem leading to reductions.

Reporting was generally speaking quite unclear, often to the point that some of your answers were difficult to find among everything else. If I were a paying client, many of you would have had quite a lot of rewriting to do! However, I understand that the Jupyter Notebook format, which practically all of you used, is a new format for you and that fine-tuning it might not have felt like time well spent. But still! A few pointers for future reporting:
- It is counterproductive to include all the code, especially multiple times for running scenarios with different values.
- In an optimization problem like this, with over a thousand decision variables, printing them all on individual lines into the report is a 'courageous' move. I would advise against that. *Strongly*.
- If comparison of values is asked for, it would be **much** clearer to collect the values from different scenarios to e.g. one table (instead of the values being tens of lines apart in script printouts without clear markers).
- If you're visualizing  points, please make sure that the points are visible in the graphs. A (linear) line with no points makes it impossible to see how you ended up with the line.

- **Please think of the person reading the report** – is it easy for him/her to understand what you have done? Is it easy for him/her to identify answers to questions from the report? Are you using a lot of lines for something that was not asked for? This kind of thinking will save you a lot of time in your careers.

My sincere thanks to those who took the time to clean up their reports! The reporting imperfections didn't lead to (intentional) point reductions here but will cost you significant points if the quality is not higher in the project reports.

One extra tip. I know the code was clumsy to run (this is something for us to improve). Some of you had been smart and turned the provided code into a function and used a few extra lines of code to automate the scenario running. If you didn't do it this time, might be worth considering if you're faced with a similar situation later on. But as said, it would be fair to ask us why it wasn't so already in the template…

As potential decision makers, please make sure you know the logic in prescriptive decision making and the models – the user of the model is responsible for the impacts it generates! I felt that many of you got the minimum basics right but lack of discussion would imply room for even more thinking / understanding. And as potential report drafters, focus on clarity! This being said, many of you scored high points for this assignment and can feel good about yourselves. And anyway, learning is the point here. Good luck with project work!

-Lauri

## Assessment criteria

Below is a rough framework I used in evaluation. The list contains discussion topics that earned points if they were included in the report and lost points if too many were missing. However, I did not expect to see absolutely everything on the list.

a) None required
b) Just that campaign 2 is recommended
c) Explanations for the increase:
    a. Increases because constraints are relaxed (optimization point of view)
    b. Allows us to produce more and we're assuming everything can be sold (problem point of view)
d) What, why, so what, role of new information? Discussion points awarded for e.g. following:
    a. (1 point for having done this and giving out the results.)
    b. Comparison of results from different sequences
    c. Explanations for differences
    d. Any indication of considering the role of new information
    e. Commenting on the implications of the results for the decision maker
    f. More detailed observations about e.g. probabilities etc.
e) What, why, so what?
    a. Comparing the results for the two sequences

b. Identifying the plateau in first sequence
c. Why does the first sequence plateau? Why doesn't the second? E.g.:
    i. "Constraint becomes / does not become non-binding"
    ii. "Demand restrictions limit / do not limit growth"
d. Reasoning for no difference between the profits in second sequence: Observed demand is higher than demand estimates (updated based on observations) and same for the difference in the first.
e. How could this affect the decision maker?
f. More detailed observations about the behavior of profits


In general any comments regarding the model and its function were also rewarded.