Question 7.1

Describe a situation or problem from your job, everyday life, current events, etc., for which exponential smoothing would be appropriate. What data would you need? Would you expect the value of α (the first smoothing parameter) to be closer to 0 or 1, and why?

If we have a bunch of data regarding the sales of a cinnamon flavored Haagen-Daz, we can apply exponential smoothing to reduce the randomness of this set of data, so that we can use the data to better predict the sales of next season or better pricing it.

The sales of this certain type of ice cream have such major random effect from its competitor. If its competitor has a new product launched, it may affect the sales of cinnamon flavored Haagen-Daz. Moreover, the sales of ice cream has cyclic patterns, as people are more likely to purchase ice cream during the summer. The sales of Haagne-Daz would have an obvious seasonality.

The sales data of this particular type of ice cream in recent years is required. We also need the observed sales data this year.

We expect the value of α to be closer to 1. Since ice cream is in a fast moving consumer goods (AKA FMCG) range, and its competitor will keep providing new products. So we are expecting large randomness.

According to the sales reports of former years, we can calculate the multiplicative seasonality factor that affect the sales of this year. We expect the length of cycle to be 1 year.