

You are the Data Analyst for a Chain of Departmental stores. The CEO has asked you to make a weekly sales dashboard/report. There is no data pipeline/warehouse available as such. Weekly data is extracted using a data tool connected to the POS at every store. The senior assistant (Suleman) has extracted a number of files for you to add to your report/dashboard. Every week Suleman will send you this data and you will be expected to update this dashboard and then send it to the CEO via a link or otherwise.

1. You have been asked to decide the tool to do this task, what are the pros and cons of pbi vs streamlit. What would you recommend to your CEO and why. Understand the scale of the business and the sales before answering this question.
2. The CEO (Sumera) has told you that it is common practice to compare weekly data to the year before. For e.g Sumera wants to see how well Store 3, Dept 1 did in Week 20 this year as compared to Week 20 last year. She also wants to see bigger picture by store and department.
  - a. Hint: A common way to do such comparison is via Indices, usually calculated as  $\text{Current Sales} / \text{Previous sales} * 100$ . If index is  $> 100$  it shows growth, maybe the dashboard could show this as green
  - b. YTD or Year To Date values also provide a good comparison to last year. It is simply the running total of Sales till the current week. It is worthwhile to compare this number by last year and take out an index
3. Folder named All data contains all data till the current week
4. Sumera wants to see big picture summary, for eg top 10 stores in the current week, top 10 depts in the current week. Assume our current week is 19<sup>th</sup> to 25<sup>th</sup> Oct 2012
  - a. Try defining what top 10 stores should be based on, also think about the worst performing stores/departments
  - b. Every week the manager of the 5 best performing stores in terms of Sales gets a commission, the CEO would like to see who these people are. Commission is 0.5% of Sales. The CEO would also like to see Year to Date Values for these commissions for the top 10.
5. The CEO likes simple design and big numbers, layout availability on mobile will impress her. She absolutely dislikes clutter and dark themes
6. Assume you are now in week of 26<sup>th</sup> Oct 2012, try refreshing the numbers on the dashboard with this new data and see how long it takes. Think about how long it would take you to refresh and recommend the CEO what to do about the org data. Make a case to convince Sumera about your recommendations. This data is in the folder called New week.

Hints:

1. It would help to **create a date dimension by naming weeks**: Week 1, Week 2 and so on for each year for easy comparison within the years
2. Use the store details to create a store dimension, esp helpful for manager names
3. Dept details can be the dept dimension
4. Try creating a star schema with all this data
5. A thorough EDA is always a good idea
6. Go through the brief as many times as possible
7. Try drafting the report/dashboard on paper/whiteboard or explore tools like Figma