Suppose, you have been assigned to do retail agent analysis of a Mobile Financial Service (MFS) company. Upon taking over the project, you are provided with access to three data sources –

1. Retailer agents location at different times (tbl_dt_agent)
2. List of product with their prices over time (tbl_dt_product)
3. Transaction history between retail agent and customers (tbl_dt_transaction)

A management update session is upcoming and management team is looking for the following -

1. Where are the retail points in Bangladesh as per latest valid data with a geographic visualization of the retail distribution network? Your Data wrangling and Data visualization skills will be assessed
2. How many retail points have no other retail point nearby within 500 meter? What should be your recommendation for these retail points? Show examples of such retail on map to explain your recommendation.
3. How many geo-blocks (geohash of approx 1.2km x 0.6km) are there with retail?
4. For next 10 retailer deployments, which geo-blocks should be targeted? What other info will complement this decision? Add relevant external data to support your recommendation and use visuals.
5. What is peak hour in terms of sales? Also find the same for number of transactions?
6. What is the peak hour in summer and winter? Explain impact of seasonality. Use external data to support your explanation
7. Create a sales forecast model for forecasting-
   a. Next week's daily total sales
   b. Next day's sales of each retail

   Justify, Explain and Interpret your model. Take into consideration of external factors and events during the timeframe of given dataset.

8. From the data, can you find which areas are-
   a. Residential
   b. Tourist spots
   c. Transit hubs
   d. Corporate area
      Explain your logics for this categorization. Use visuals to support your logic.
9. Find out the customers who are travelling most? Only list Top 20.
10. Find out retails serving highest number of travelers? What other business ideas can be implemented to maximize sales from these points?
11. For your next big billboard placement, which location will be best and which one product will feature in that billboard?

In your notebook, use separate markdown segments to answer this questions. Additionally, you can utilize presentation slides (PowerPoint etc.) to make your point. You are free to use/import external publicly available data to support your explanation. Do include links or import codes for reproducibility. Your scripts will be thoroughly checked to assess authenticity and robustness.

USE RELEVANT VISUALS AS MUCH AS POSSIBLE TO EXPLAIN AND JUSTIFY YOUR STATEMENTS

Dynamic, Programmed/re-producible, Interactive visuals will increase your chances of winning competition.