Learners have to develop a Report to support the answers to the following questions and suggestions.

Objective Questions:

1. In analyzing the hospital dataset with Power BI, ensure data cleaning to address inconsistencies and missing values before further analysis.

2. **Assess the Average Waiting Time:** Analyse the patient wait times to identify the average duration a patient spends before receiving care.

3. **Visits by Department Referral:** Calculate the total number of visits to each department based on referrals to understand which departments are most frequently visited.

4. **Patient Visits by Age Group:** Segregate patient visits according to different age groups to see which demographics utilize healthcare services the most.

5. Were there any Null values in the data? What would be the best way to handle these Null values and which approach have you opted for?

6. Is there any relation between the number of visits and the Gender of the patients?

7. Average Satisfaction by Demographics: Determine the relationship between patient satisfaction scores, their age groups, and racial backgrounds to pinpoint areas for improvement in patient experience.

8. The hospital's managing director seeks to evaluate the revenue of each department to understand how much revenue is generated by each.

9. Which department is charging the highest appointment fees in general? Use an aggregation DAX function to solve this question.

10. Create a tabular visualization in the Report view which consists of Month-wise total visits in the hospital. Add a third column in the table that consists of the previous month's total visits for each month's row. Also, include a column that states whether the visits in a month are greater than that of the previous month's visits.

11. Using 'Calculate' and a row iteration DAX function calculate the total number of patients who have visited Dr. Smith.

12. Calculate the average age of the patients who visit the Orthopedics department. Will the approach used to calculate this metric be different if the requirement had been all departments' average age?

13. Were there any data format issues in the data, and if there were/are how you handle them?

14. When we add a column in Power Query what's the code that comes in M language in the formula bar? What do you know about M-query?

Subjective Questions

1. What is the relation between patient wait time and satisfaction scores?

2. How do patient demographics affect the frequency of visits to different departments?

3. Is there a noticeable trend in the volume of patient visits throughout the year?

4. Which age groups report the highest and lowest satisfaction scores?

5. Say someone outside of the hospital claims that there is racial or gender-based discrimination in the hospital, how will you identify whether the claim was right or not?

6. The hospital management intends to offer discounts to patients. How should these offers/discounts be assigned to patients, on what basis, and why?

7. The hospital has a budget to hire 2-3 new doctors. They have asked for your suggestions on which departments they should hire.

8. Is the hospital profitable? How will you determine the profitability?

9. Any Department for which the waiting time is oddly large?

10. Come up with strategies to provide discounts to the patients.

11. Say you need to align the doctors of the "General Practice" department to work in one of the two shifts, how will you identify what will these two shifts' timings be, and how will you divide the doctors in these two shifts? And also will this 2 shift policy be helpful for the hospital?

12. What do you understand by PowerBI gateway? What are its use cases?

13. How would you approach this problem, if the objective and subjective questions weren't given?

14. Can you analyze and write the type of relationship between the doctor id and department, is it one-to-one?

Report

The hospital has asked for a report with three tabs:

- Main Tab
- Doctors' Tab
- Patients' Tab

❖ **Using the Main tab in the report,** the hospital should be able to look at the overall metrics like the number of daily visits, revenue produced on that day, customer satisfaction, how busy are different departments on that day, and general waiting time on that day. This tab should have a slicer of date.

❖ **Using the Doctors' Tab,** the Chief Of Staff at the hospital should be able to look at the individual doctor's performance metrics like customer satisfaction, the number of patients he was visited by, the revenue he has generated, and his appointment fees. This tab should have a slicer of the Doctor's Name or ID.

❖ **Using the Patients' Tab,** the Patient's Care Chief at the hospital wants to look at a customer's profile which would involve metrics like the most frequently visited department, their age, their race, their waiting time, number of visits, the total amount that they have paid to the hospital, etc. All the metrics using which they can address the patient very carefully in their visits. This tab should have a slicer of the Patient's Name or ID.

Make sure that all the visualizations look decent and are placed in a proper order. Each tab has different POCs (Point Of Contact), so make sure you involve all the metrics that POC may look at in that tab along with those mentioned in the tab description.

After making the report on the Desktop ensure that it is hosted on PowerBI service and use the hosted link for submission of the dashboard and mentioning on the resume.