**Demographics:**

1. **Patient Distribution**:

**Que - What is the distribution of patients by gender, age group, or blood type?**

SELECT Count(Name), Gender FROM cleaned\_healthcare

GROUP BY gender

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SELECT CASE

WHEN Age < 10 THEN '<10'

WHEN Age BETWEEN 10 AND 19 THEN '10-19'

WHEN Age BETWEEN 20 AND 39 THEN '20-39'

WHEN Age BETWEEN 40 AND 59 THEN '40-59'

WHEN Age > 60 THEN '60+' END AS Age\_Group,

Count(\*) AS Total FROM Cleaned\_healthcare

GROUP BY Age\_Group

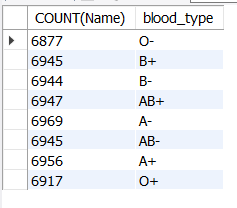
ORDER BY Age\_Group;

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SELECT COUNT(Name), blood\_type FROM cleaned\_healthcare

GROUP BY blood\_type;



**Que - How many patients belong to each medical condition?**

SELECT COUNT(Name) AS Patient\_Name, medical\_condition

FROM cleaned\_healthcare

GROUP BY medical\_condition

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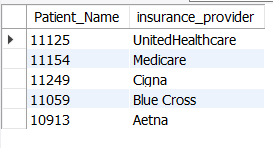
1. **Insurance Insights**:

**Que - Which insurance providers cover the most patients?**

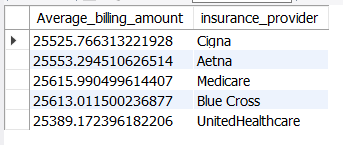
SELECT COUNT(Name) AS Patient\_Name, insurance\_provider FROM cleaned\_healthcare

GROUP BY insurance\_provider

ORDER BY insurance\_provider DESC



* + **Que - What is the average billing amount per insurance provider?**



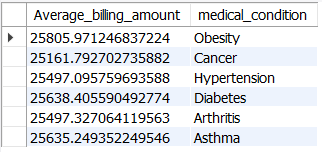
**Financial Analysis:**

1. **Billing Insights**:
   * **Que - What is the average billing amount by medical condition?**

SELECT Avg(billing\_amount) AS Average\_billing\_amount,

medical\_condition FROM cleaned\_healthcare

GROUP BY medical\_condition

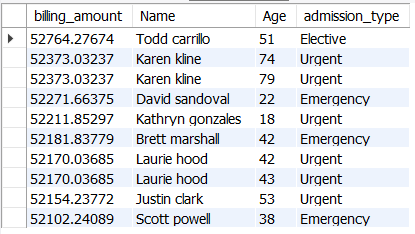


* + **Que - Identify the top 10 highest billing cases and their details.**

SELECT billing\_amount,

Name, Age, admission\_type FROM cleaned\_healthcare

ORDER BY billing\_amount DESC LIMIT 10



1. **Treatment Costs**:
   * **Que - Is there a correlation between admission type (emergency vs. elective) and billing amounts?**

SELECT admission\_type,

COUNT(\*) AS Total\_Admissions,

ROUND(AVG(billing\_amount), 2) AS Avg\_billing\_amount,

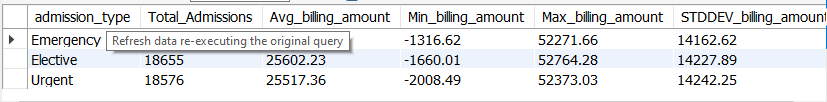
ROUND(Min(billing\_amount), 2) AS Min\_billing\_amount,

ROUND(Max(billing\_amount), 2) AS Max\_billing\_amount,

ROUND(STDDEV(billing\_amount), 2) AS STDDEV\_billing\_amount

FROM cleaned\_healthcare

GROUP BY admission\_type;



**Medical Insights:**

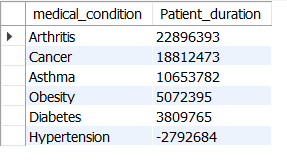
1. **Condition and Treatment Analysis**:
   * **Que - Which medical conditions have the longest average stay duration?**

SELECT medical\_condition, SUM((discharge\_date)-(date\_of\_admission))

AS Patient\_duration FROM cleaned\_healthcare

GROUP BY medical\_condition

ORDER BY Patient\_duration DESC



* + **Que - Are there trends in test results (normal vs. abnormal) for specific conditions?**

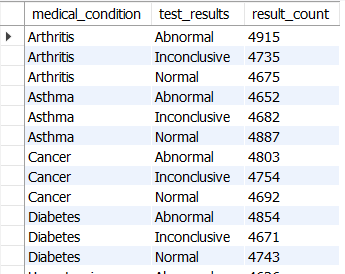
SELECT medical\_condition, test\_results,

COUNT(\*) AS result\_count

FROM cleaned\_healthcare

GROUP BY medical\_condition, test\_results

ORDER BY medical\_condition, test\_results;



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1. **Doctor Performance**:
   * **Que - Which doctors handle the most patients?**

SELECT Doctor, COUNT(Name) AS Patients

FROM cleaned\_healthcare

GROUP BY Doctor

ORDER BY Patients DESC;

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* + **Que - Are there significant differences in treatment outcomes among doctors?**

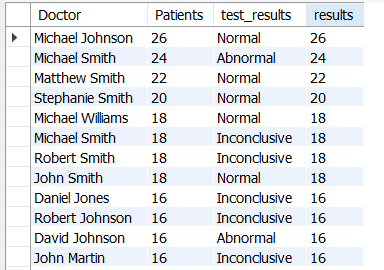
SELECT Doctor, COUNT(Name) AS Patients, test\_results,

COUNT(\*) AS results

FROM cleaned\_healthcare

GROUP BY Doctor, test\_results

ORDER BY Patients DESC;



**Temporal Trends:**

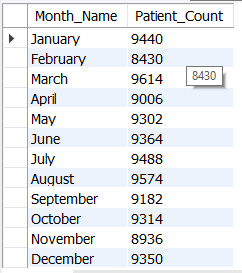
1. **Time-Based Trends**:
   * **Que - What are the admission trends over time (e.g., by month or year)?**

SELECT DATE\_FORMAT(date\_of\_admission, '%M') AS Month\_Name,

COUNT(Name) AS Patient\_Count FROM cleaned\_healthcare

GROUP BY MONTH(date\_of\_admission), Month\_Name

ORDER BY MONTH(date\_of\_admission) ASC;



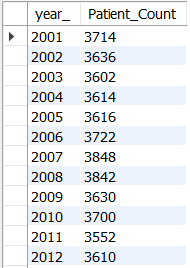
SELECT DATE\_FORMAT(date\_of\_admission, '%Y') AS year\_,

COUNT(Name) AS Patient\_Count FROM cleaned\_healthcare

GROUP BY YEAR(date\_of\_admission), year\_

ORDER BY YEAR(date\_of\_admission) ASC;

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* + **Que - Are there seasonal trends in medical conditions or treatments?**

Seasonal Trends of Medical Condition –

SELECT CASE

WHEN MONTH(date\_of\_admission) IN (12,1,2) THEN 'Winter'

WHEN MONTH(date\_of\_admission) IN (3,4,5) THEN 'Spring'

WHEN MONTH(date\_of\_admission) IN (6,7,8) THEN 'Summer'

WHEN MONTH(date\_of\_admission) IN (9,10,11) THEN 'Fall'

END AS Season,

medical\_condition,

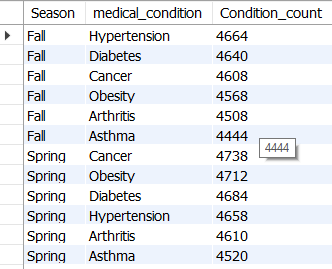
COUNT(\*) AS Condition\_count

FROM cleaned\_healthcare

GROUP BY season, medical\_condition

ORDER BY season, Condition\_count DESC;

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Seasonal Trend of medications -

SELECT CASE

WHEN MONTH(date\_of\_admission) IN (12,1,2) THEN 'Winter'

WHEN MONTH(date\_of\_admission) IN (3,4,5) THEN 'Spring'

WHEN MONTH(date\_of\_admission) IN (6,7,8) THEN 'Summer'

WHEN MONTH(date\_of\_admission) IN (9,10,11) THEN 'Fall'

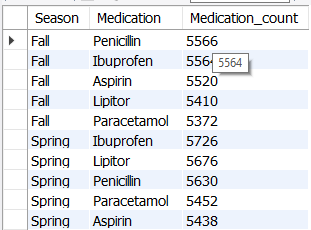
END AS Season,

Medication,

COUNT(\*) AS Medication\_count

FROM cleaned\_healthcare

GROUP BY season, Medication

ORDER BY season, Medication\_count DESC;

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