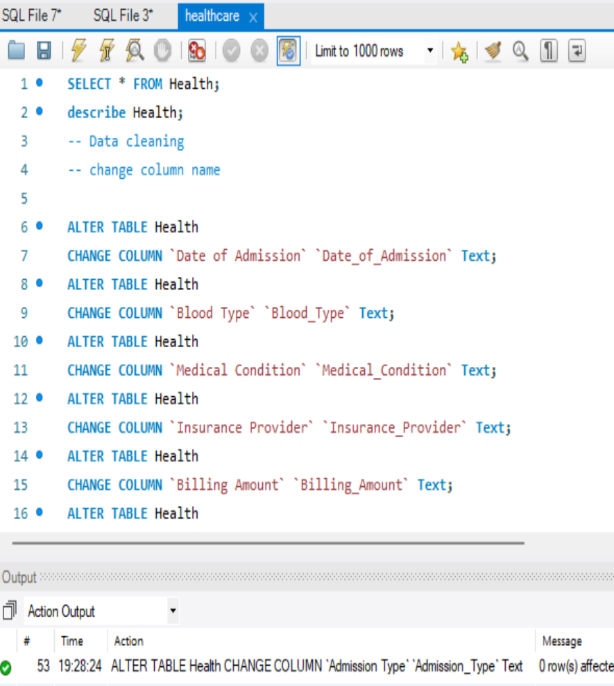
**MY SQL QUERIES**

**Data cleaning**

**Change Column Name:**

* ALTER TABLE Health

CHANGE COLUMN `Date of Admission` `Date\_of\_Admission` Text;

* ALTER TABLE Health

CHANGE COLUMN `Blood Type` `Blood\_Type` Text;

* ALTER TABLE Health

CHANGE COLUMN `Medical Condition` `Medical\_Condition` Text;

* ALTER TABLE Health

CHANGE COLUMN `Insurance Provider` `Insurance\_Provider` Text;

* ALTER TABLE Health

CHANGE COLUMN `Billing Amount` `Billing\_Amount` Text;

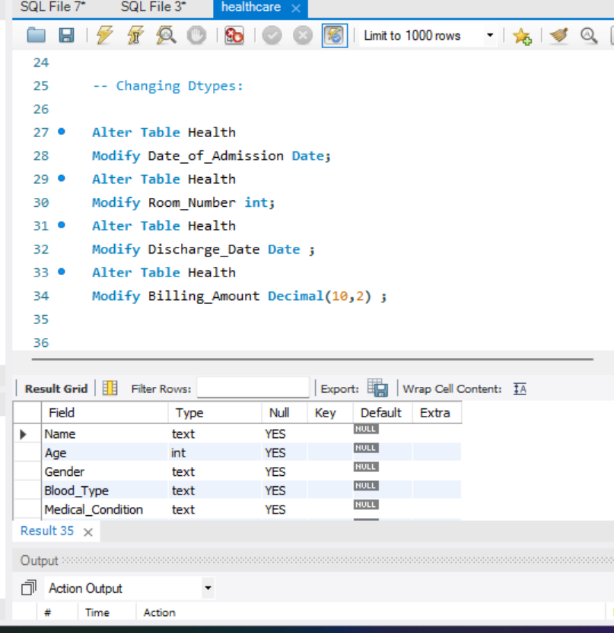
* ALTER TABLE Health

CHANGE COLUMN `Room Number` `Room\_Number` Text;

* ALTER TABLE Health

CHANGE COLUMN `Admission Type` `Admission\_Type` Text;

* ALTER TABLE Health

****CHNGE COLUMN `Discharge Date` `Discharge\_Date` Text;

* ALTER TABLE Health

CHANGE COLUMN `Test Results` `Test\_Results` Text;

**Changing Data Types:**

* Alter Table Health

Modify Date\_of\_Admission Date;

* Alter Table Health

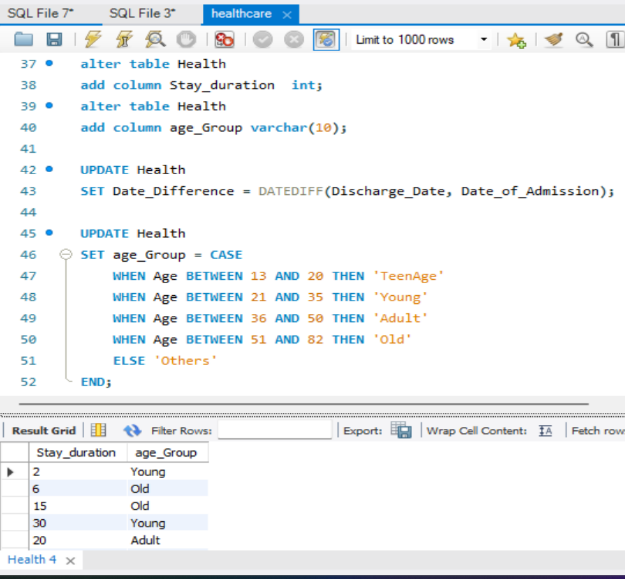
Modify Room\_Number int;

* Alter Table Health

Modify Discharge\_Date Date;

* Alter Table Health

Modify Billing\_Amount Decimal(10,2);

****

**Add Extra Columns (Feature Engineering)**

* alter table Health

add column Stay\_duration int;

* alter table Health

add column age\_Group varchar (10);

* UPDATE Health

SET Date\_Difference = DATEDIFF (Discharge\_Date, Date\_of\_Admission);

UPDATE Health

SET age\_Group = CASE

WHEN Age BETWEEN 13 AND 20 THEN 'TeenAge'

WHEN Age BETWEEN 21 AND 35 THEN 'Young'

WHEN Age BETWEEN 36 AND 50 THEN 'Adult'

WHEN Age BETWEEN 51 AND 82 THEN 'Old'

ELSE 'Others'

END;

**Data Analysis:**

* **What are the total number of patients admitted to the hospital?**

SELECT count (Name) as Total\_No\_of\_Patient

FROM Health;

* **Find the most common medical condition in?**

SELECT Medical\_Condition, COUNT (\*) AS Most\_common

FROM Health

GROUP BY Medical\_Condition

ORDER BY Most\_common DESC

LIMIT 1;

* **List all hospitals and the number of patients admitted to each?**

SELECT Hospital, count(Name) as total\_Patient

From Health

Group by Hospital

ORDER by total\_patient Desc;

* **What is the total Billing Amount?**

SELECT

CASE

WHEN SUM(Billing\_Amount) >= 1000000000 THEN

CONCAT(ROUND(SUM(Billing\_Amount) / 1000000000, 2), " B")

WHEN SUM(Billing\_Amount) >= 1000000 THEN

CONCAT(ROUND(SUM(Billing\_Amount) / 1000000, 2), " M")

ELSE

CONCAT(ROUND(SUM(Billing\_Amount), 2), " ")

END AS Total\_Billing\_Amount

FROM Health;

* **List of doctors and the total number of patients they have treated?**

SELECT Doctor, count(Name) as total\_Patient

From Health

Group by Doctor

ORDER by total\_patient Desc;

* **Calculate the average Patient Admitted per day?**

SELECT ROUND(COUNT(Name) \* 1.0 / COUNT(DISTINCT Date\_of\_Admission), 2) AS Avg\_Patients\_Addmited\_Per\_Day

FROM Health;

* **Find the total number of patients admitted by gender and medical condition?**

SELECT Gender,Medical\_Condition,Count(Name) As Count\_Of\_Patient

FROM Health

Group By Gender,Medical\_Condition;

* **Find the average recovery Day for each Medical Condition?**

SELECT Medical\_Condition,

ROUND(AVG(Stay\_Duration), 2) AS Avg\_Recovery\_Days

FROM Health

WHERE Stay\_Duration IS NOT NULL

GROUP BY Medical\_Condition

ORDER BY Avg\_Recovery\_Days DESC;

* **Calculate the total billing amount for each insurance provider and the number of patients covered?**

SELECT Insurance\_Provider,

SUM(Billing\_Amount) AS Total\_Billing\_Amount,

COUNT(DISTINCT Name) AS Number\_of\_Patients\_Covered

FROM Health

WHERE Insurance\_Provider IS NOT NULL

GROUP BY Insurance\_Provider

ORDER BY Total\_Billing\_Amount DESC;

* **Find the doctors with the highest and lowest average patient loads per month?**

SELECT Doctor,

ROUND(AVG(Monthly\_Patient\_Load), 2) AS Avg\_Patient\_Load\_Per\_Month

FROM (

SELECT Doctor,

YEAR(Date\_of\_Admission) AS Admission\_Year,

MONTH(Date\_of\_Admission) AS Admission\_Month,

COUNT(Name) AS Monthly\_Patient\_Load

FROM Health

WHERE Date\_of\_Admission IS NOT NULL

GROUP BY Doctor, YEAR(Date\_of\_Admission), MONTH(Date\_of\_Admission)

) AS Monthly\_Patient\_Data

GROUP BY Doctor

ORDER BY Avg\_Patient\_Load\_Per\_Month DESC;

* **What are the trends in admissions over time?**

SELECT DATE\_FORMAT(Date\_of\_Admission, '%Y-%m') AS Month, COUNT(\*) AS Admission\_Count

FROM Health

GROUP BY DATE\_FORMAT(Date\_of\_Admission, '%Y-%m')

ORDER BY Month;

* **calculate the 3-month moving average of the billing amount for each doctor?**

SELECT

Doctor,

YEAR(Date\_of\_Admission) AS Year,

MONTH(Date\_of\_Admission) AS Month,

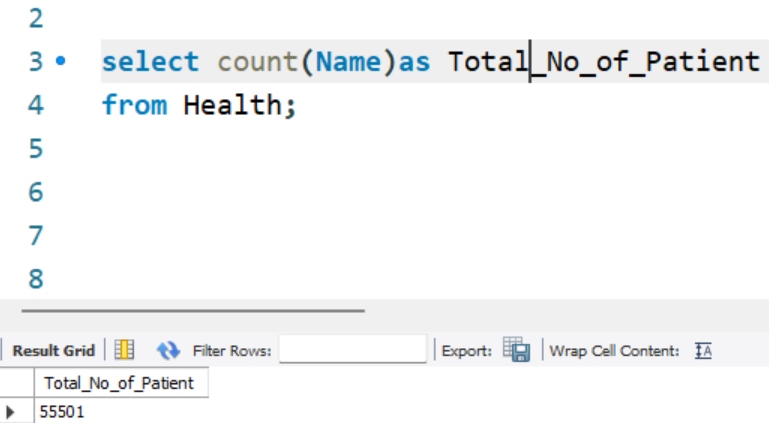
SUM(Billing\_Amount) AS Total\_Billing,

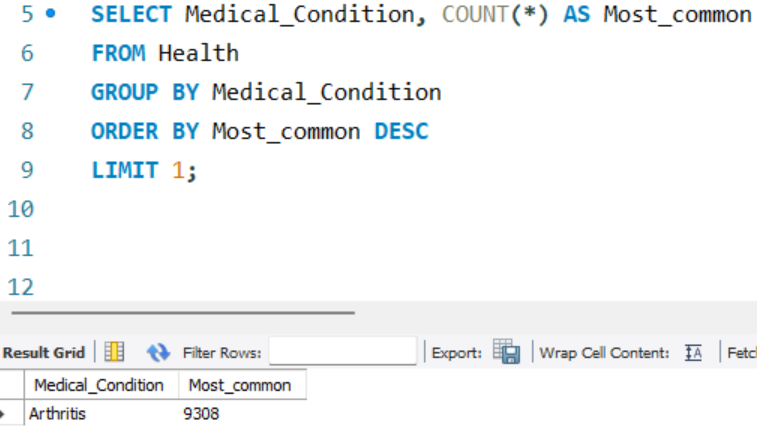
AVG(SUM(Billing\_Amount)) OVER (PARTITION BY Doctor ORDER BY YEAR(Date\_of\_Admission), MONTH(Date\_of\_Admission) ROWS BETWEEN 2 PRECEDING AND CURRENT ROW) AS Moving\_Avg\_Billing

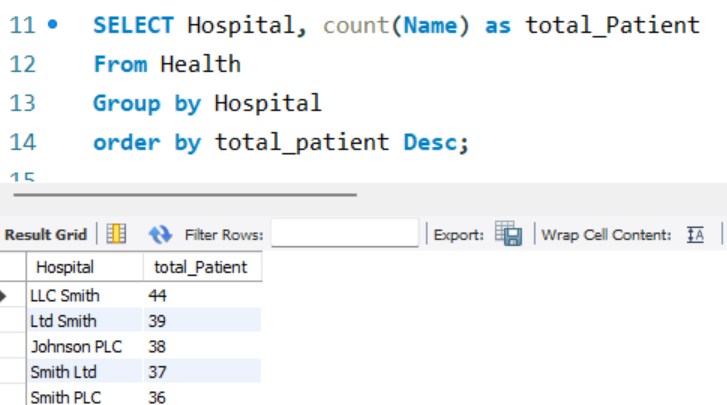
FROM Health

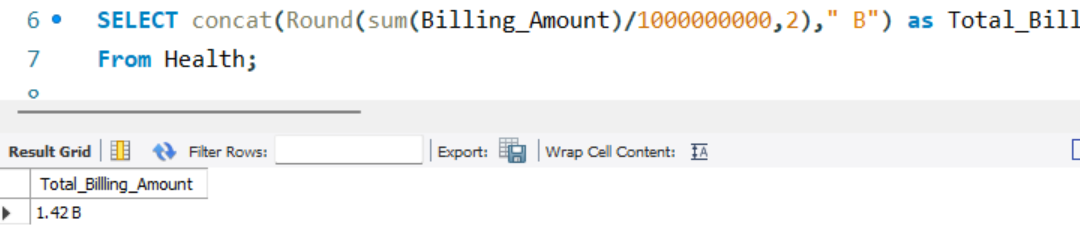
GROUP BY Doctor, YEAR(Date\_of\_Admission), MONTH(Date\_of\_Admission)

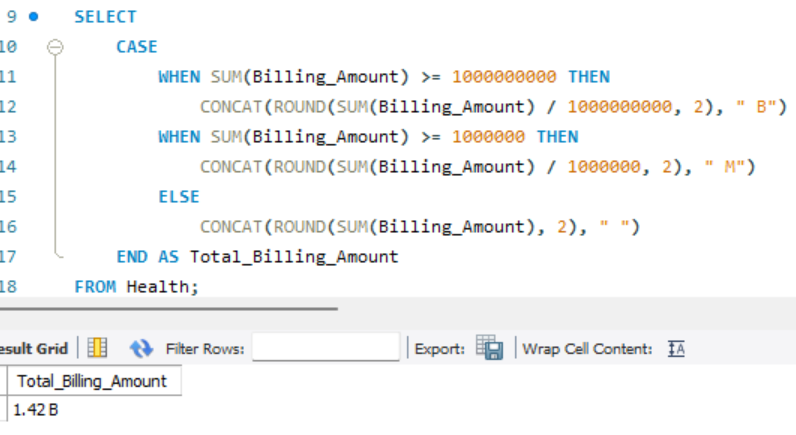
ORDER BY Doctor, Year, Month;

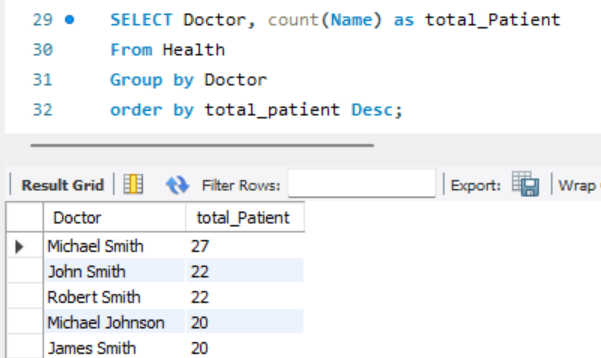
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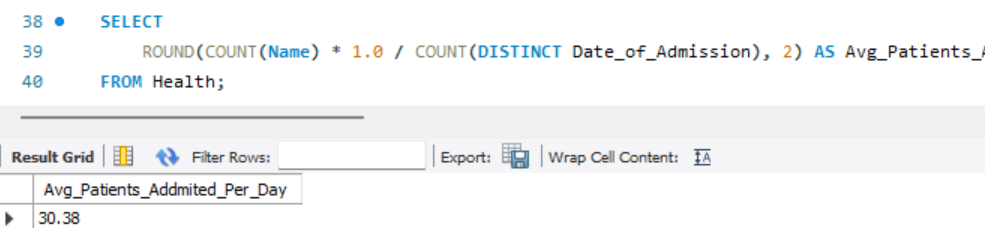
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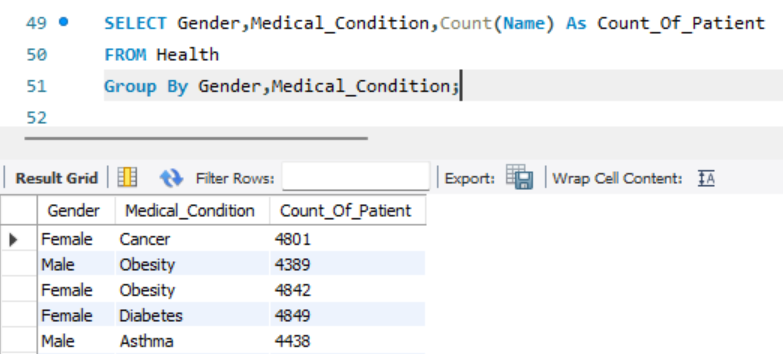
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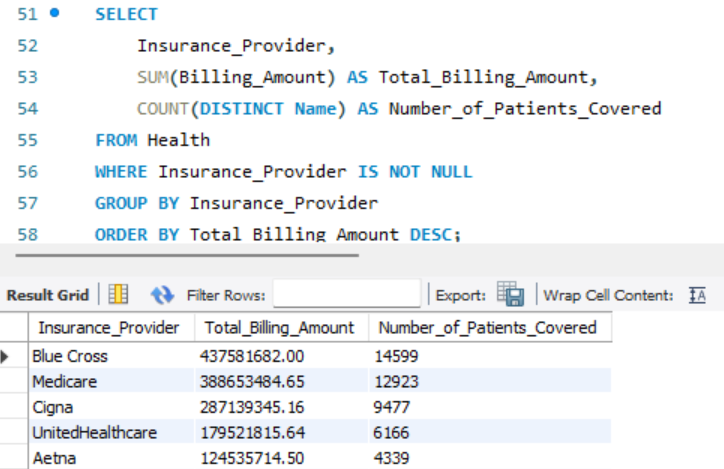
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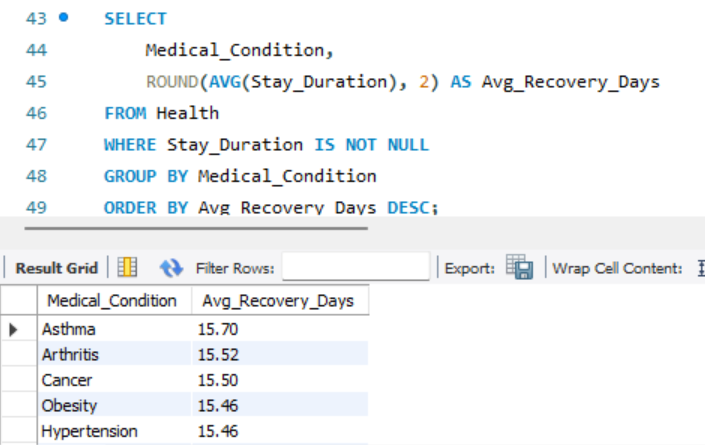
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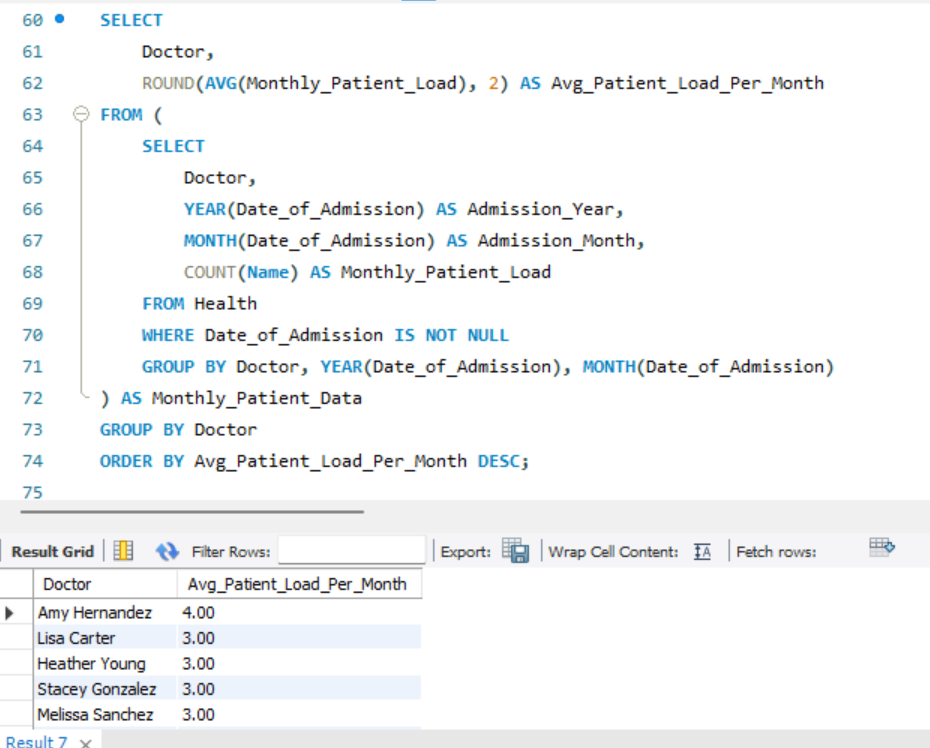
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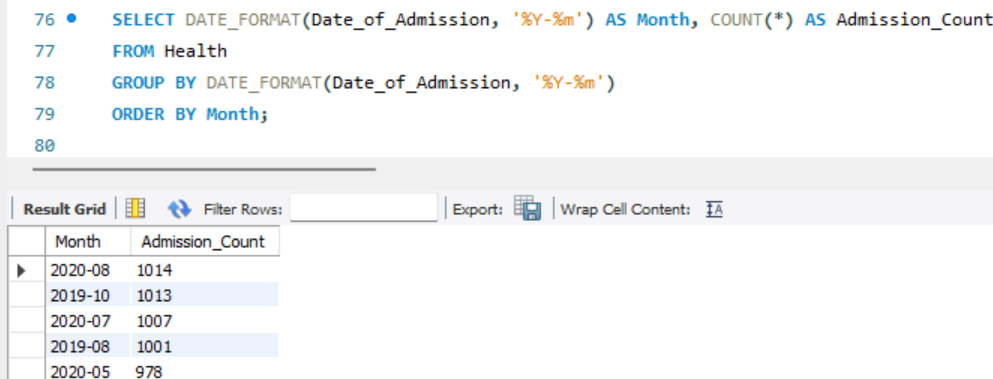
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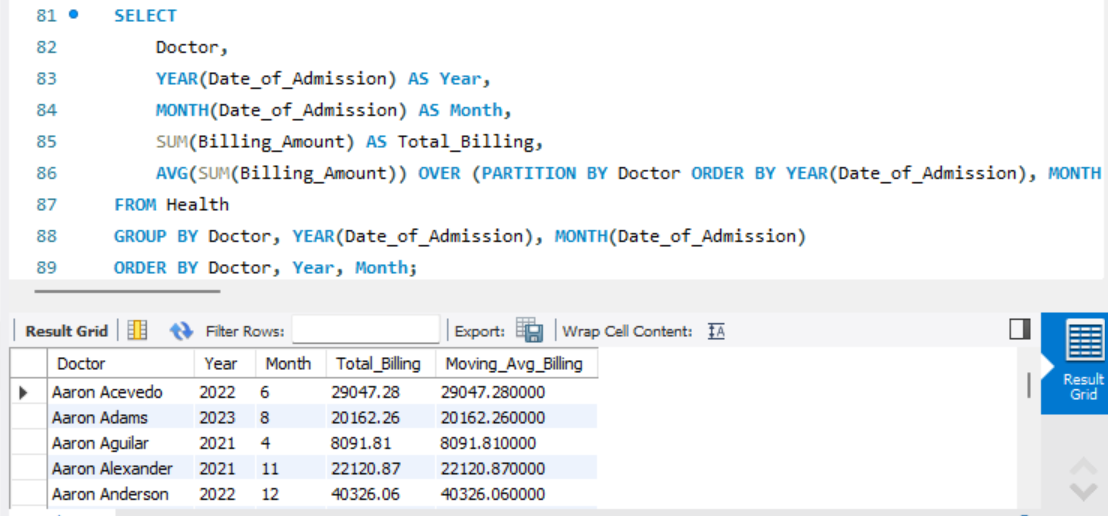
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