SQL TIPS AND TRICKS

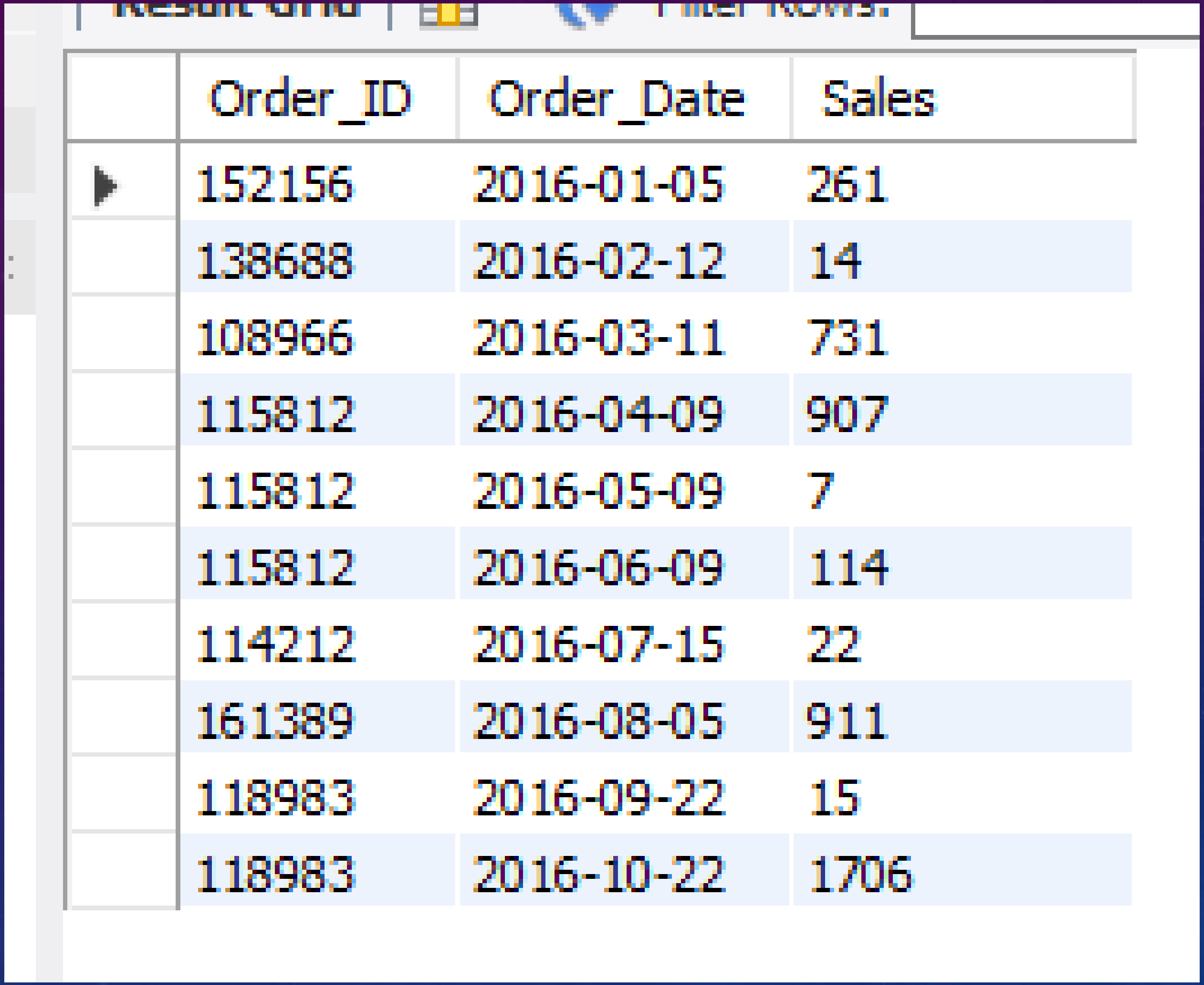
PART 27

Adv. SQL

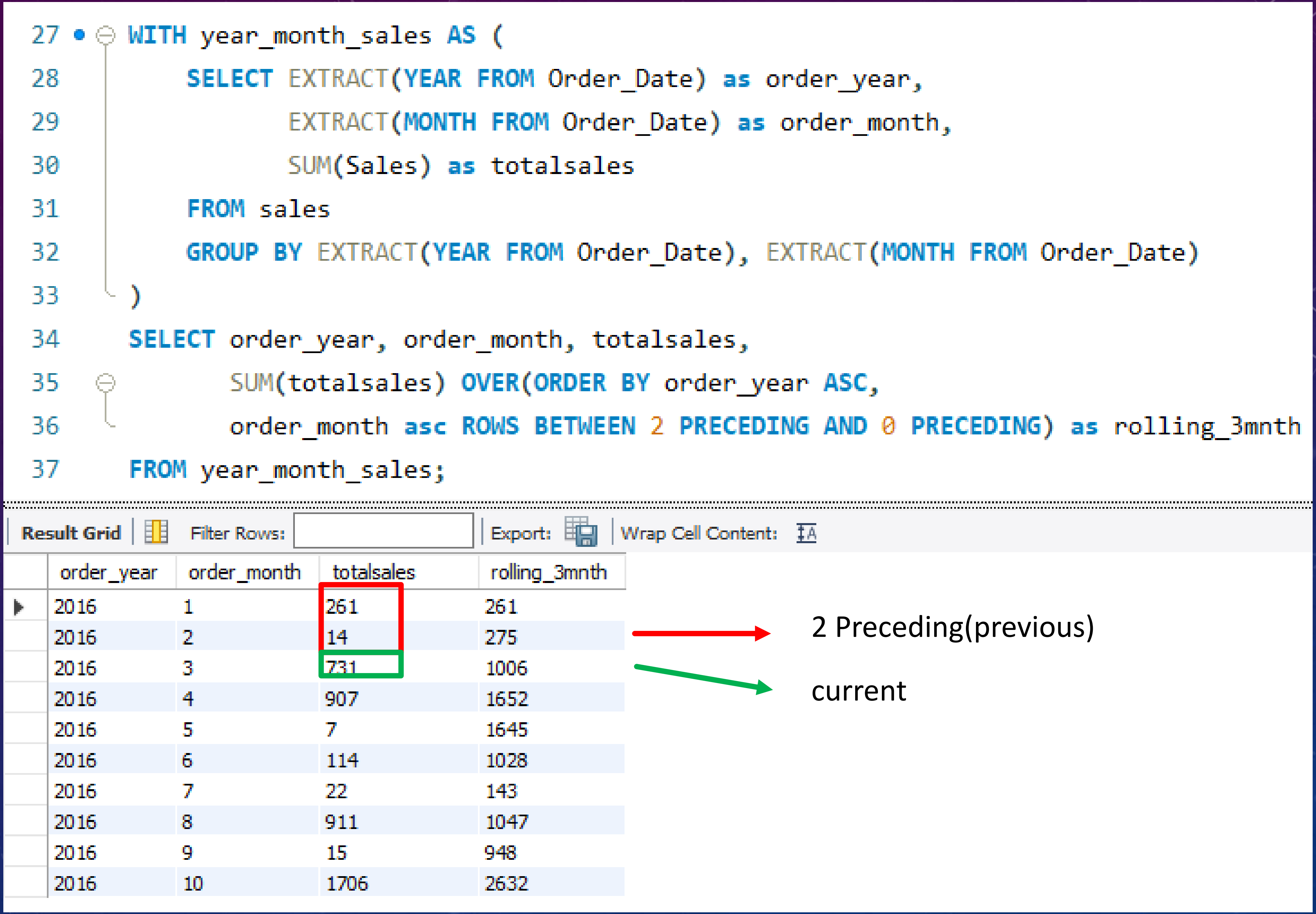
ROLLING CALCULATIONS

MAYURI DANDEKAR

Example--



Order_ID	Order_Date	Sales
152156	2016-01-05	261
138688	2016-02-12	14
108966	2016-03-11	731
115812	2016-04-09	907
115812	2016-05-09	7
115812	2016-06-09	114
114212	2016-07-15	22
161389	2016-08-05	911
118983	2016-09-22	15
118983	2016-10-22	1706

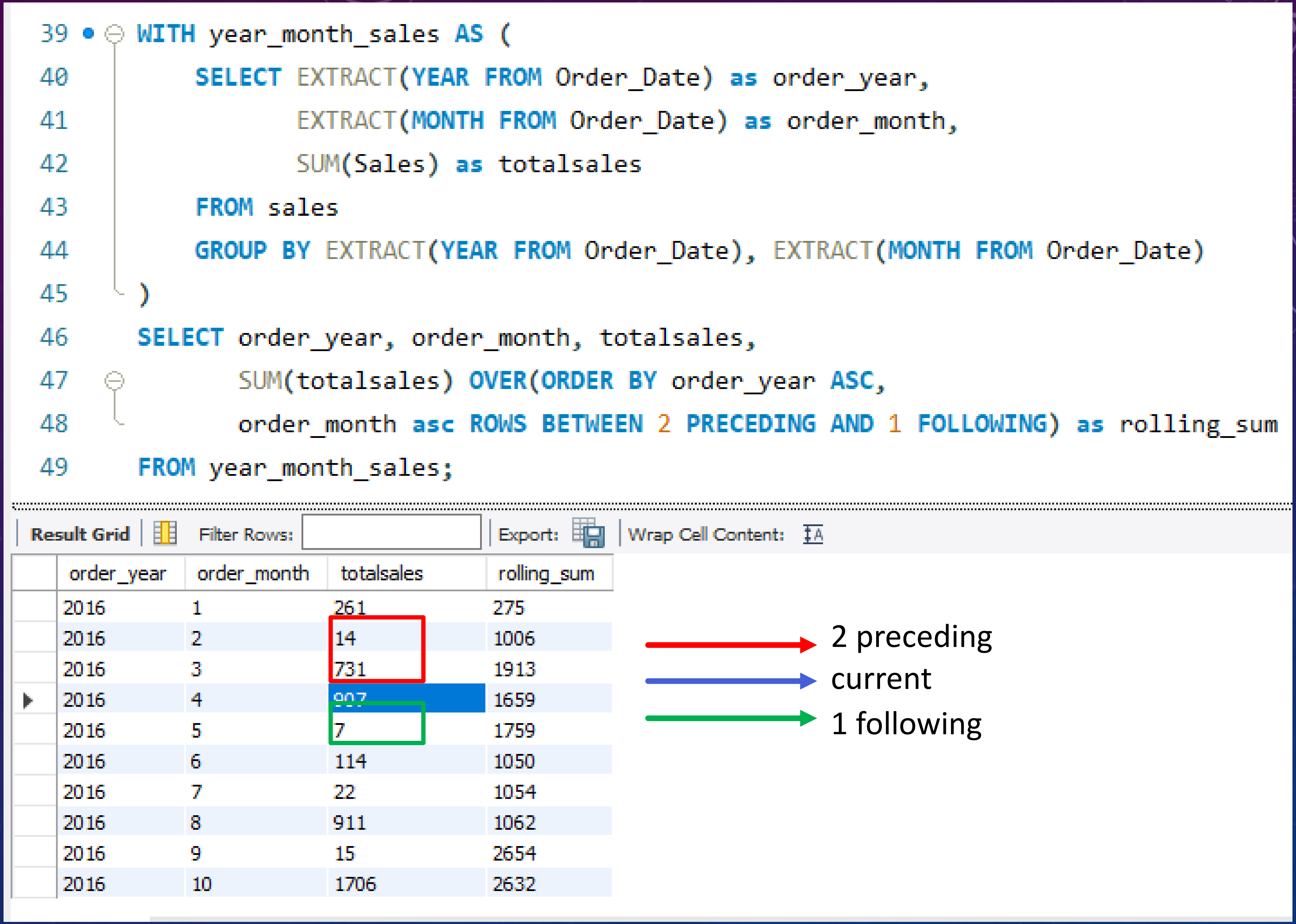


```sql
WITH year_month_sales AS (
    SELECT EXTRACT(YEAR FROM Order_Date) as order_year,
           EXTRACT(MONTH FROM Order_Date) as order_month,
           SUM(Sales) as totalsales
    FROM sales
    GROUP BY EXTRACT(YEAR FROM Order_Date), EXTRACT(MONTH FROM Order_Date)
)
SELECT order_year, order_month, totalsales,
       SUM(totalsales) OVER(ORDER BY order_year ASC,
       order_month asc ROWS BETWEEN 2 PRECEDING AND 0 PRECEDING) as rolling_3mnth
FROM year_month_sales;
```

order_year	order_month	totalsales	rolling_3mnth
2016	1	261	261
2016	2	14	275
2016	3	731	1006
2016	4	907	1652
2016	5	7	1645
2016	6	114	1028
2016	7	22	143
2016	8	911	1047
2016	9	15	948
2016	10	1706	2632

2 Preceding(previous)

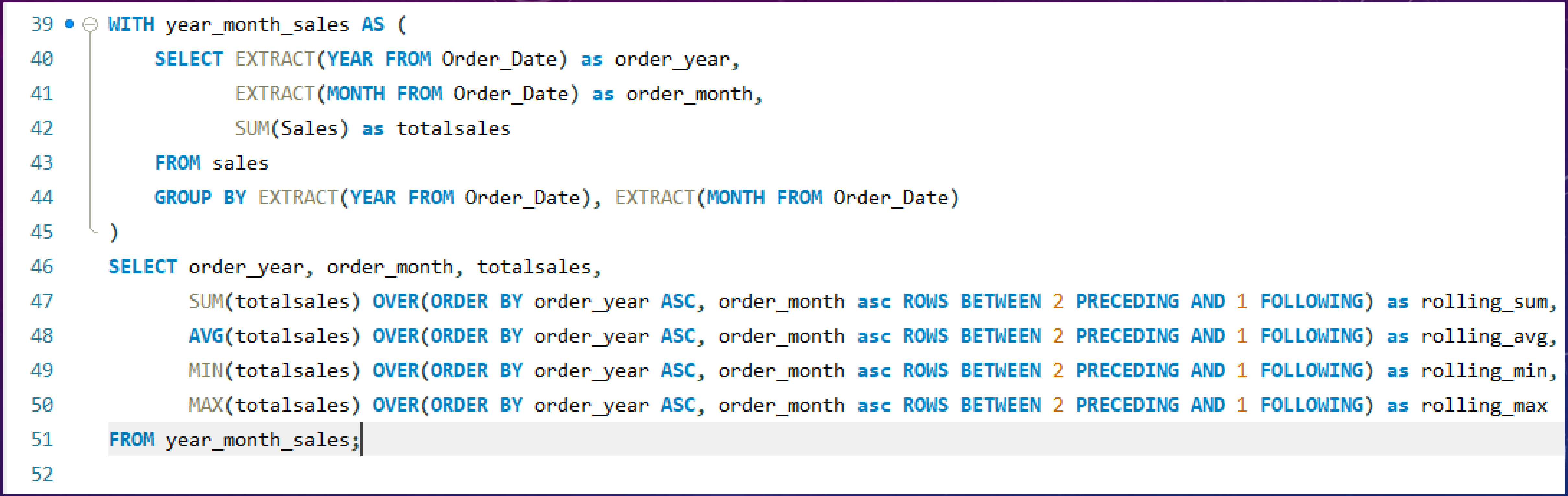
current



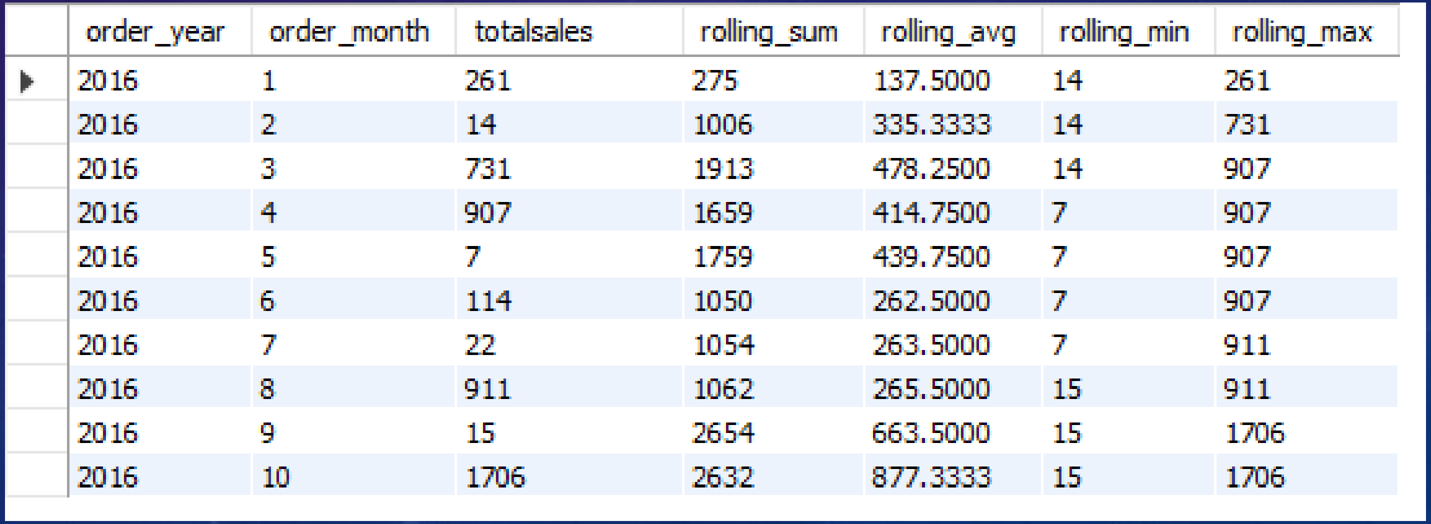
```sql
WITH year_month_sales AS (
    SELECT EXTRACT(YEAR FROM Order_Date) as order_year,
           EXTRACT(MONTH FROM Order_Date) as order_month,
           SUM(Sales) as totalsales
    FROM sales
    GROUP BY EXTRACT(YEAR FROM Order_Date), EXTRACT(MONTH FROM Order_Date)
)
SELECT order_year, order_month, totalsales,
       SUM(totalsales) OVER(ORDER BY order_year ASC,
       order_month asc ROWS BETWEEN 2 PRECEDING AND 1 FOLLOWING) as rolling_sum
FROM year_month_sales;
```

order_year	order_month	totalsales	rolling_sum
2016	1	261	275
2016	2	14	1006
2016	3	731	1913
2016	4	907	1659
2016	5	7	1759
2016	6	114	1050
2016	7	22	1054
2016	8	911	1062
2016	9	15	2654
2016	10	1706	2632

2 preceding
current
1 following



```sql
WITH year_month_sales AS (
    SELECT EXTRACT(YEAR FROM Order_Date) as order_year,
           EXTRACT(MONTH FROM Order_Date) as order_month,
           SUM(Sales) as totalsales
    FROM sales
    GROUP BY EXTRACT(YEAR FROM Order_Date), EXTRACT(MONTH FROM Order_Date)
)
SELECT order_year, order_month, totalsales,
       SUM(totalsales) OVER(ORDER BY order_year ASC, order_month asc ROWS BETWEEN 2 PRECEDING AND 1 FOLLOWING) as rolling_sum,
       AVG(totalsales) OVER(ORDER BY order_year ASC, order_month asc ROWS BETWEEN 2 PRECEDING AND 1 FOLLOWING) as rolling_avg,
       MIN(totalsales) OVER(ORDER BY order_year ASC, order_month asc ROWS BETWEEN 2 PRECEDING AND 1 FOLLOWING) as rolling_min,
       MAX(totalsales) OVER(ORDER BY order_year ASC, order_month asc ROWS BETWEEN 2 PRECEDING AND 1 FOLLOWING) as rolling_max
FROM year_month_sales;
```



order_year	order_month	totalsales	rolling_sum	rolling_avg	rolling_min	rolling_max
2016	1	261	275	137.5000	14	261
2016	2	14	1006	335.3333	14	731
2016	3	731	1913	478.2500	14	907
2016	4	907	1659	414.7500	7	907
2016	5	7	1759	439.7500	7	907
2016	6	114	1050	262.5000	7	907
2016	7	22	1054	263.5000	7	911
2016	8	911	1062	265.5000	15	911
2016	9	15	2654	663.5000	15	1706
2016	10	1706	2632	877.3333	15	1706

THANK YOU

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