**Sales for Retail and Food Services in U.S.A.**

**1)Top-performing industries in terms of sales for a year 2021, and how do their sales compare month-over-month?**

WITH monthly\_sales AS (

SELECT

year,

month,

industry,

SUM(sales) AS total\_sales

FROM

retail\_sales

WHERE

year = 2021

GROUP BY

year,

month,

industry

),

top\_industries AS (

SELECT

year,

month,

industry,

total\_sales,

RANK() OVER (PARTITION BY year, month ORDER BY total\_sales DESC) AS industry\_rank

FROM

monthly\_sales

)

SELECT

year,

month,

industry,

total\_sales

FROM

top\_industries

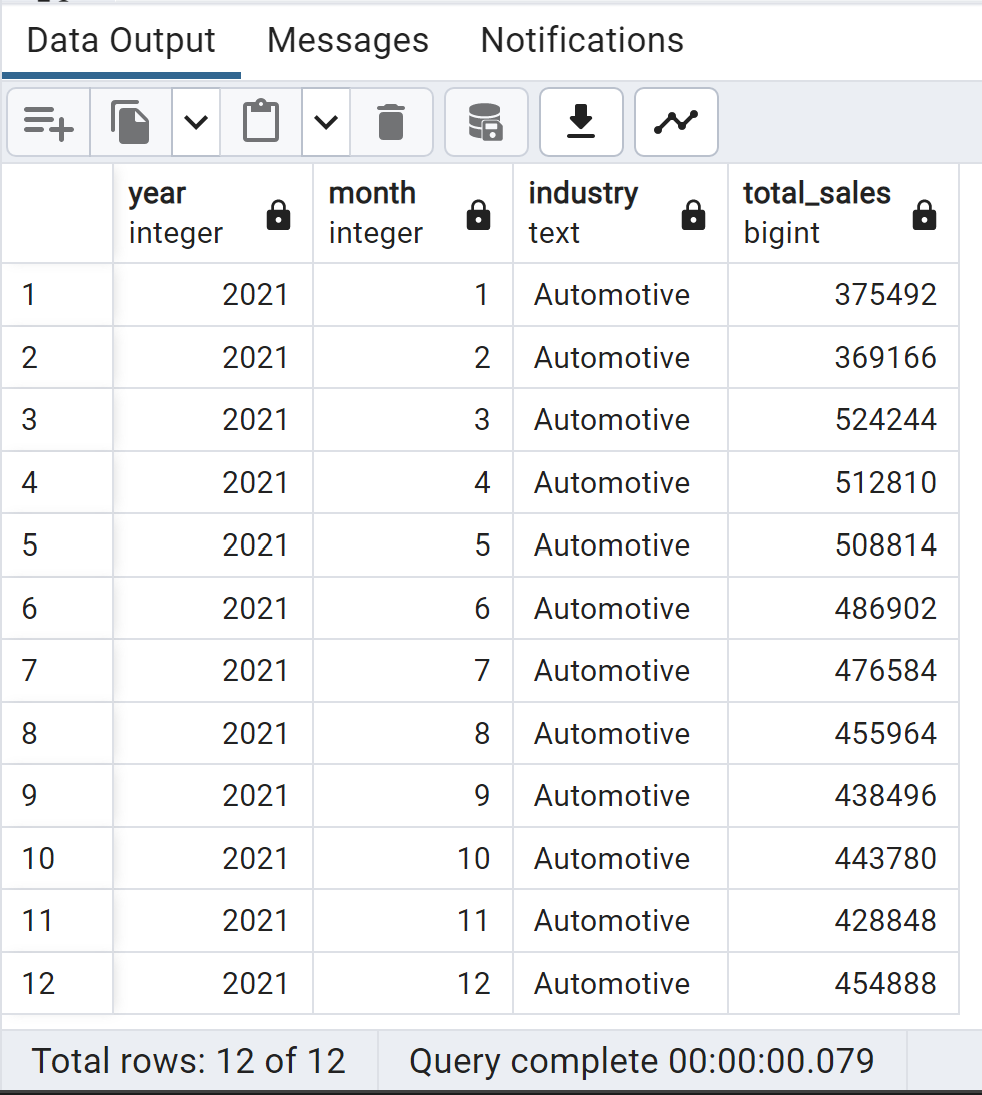
WHERE

industry\_rank = 1

ORDER BY

year,

month;



**2)Top-performing industries in terms of sales for a year 2022, and how do their sales compare month-over-month?**

WITH monthly\_sales AS (

SELECT

year,

month,

industry,

SUM(sales) AS total\_sales

FROM

retail\_sales

WHERE

year = 2022

GROUP BY

year,

month,

industry

),

top\_industries AS (

SELECT

year,

month,

industry,

total\_sales,

RANK() OVER (PARTITION BY year, month ORDER BY total\_sales DESC) AS industry\_rank

FROM

monthly\_sales

)

SELECT

year,

month,

industry,

total\_sales

FROM

top\_industries

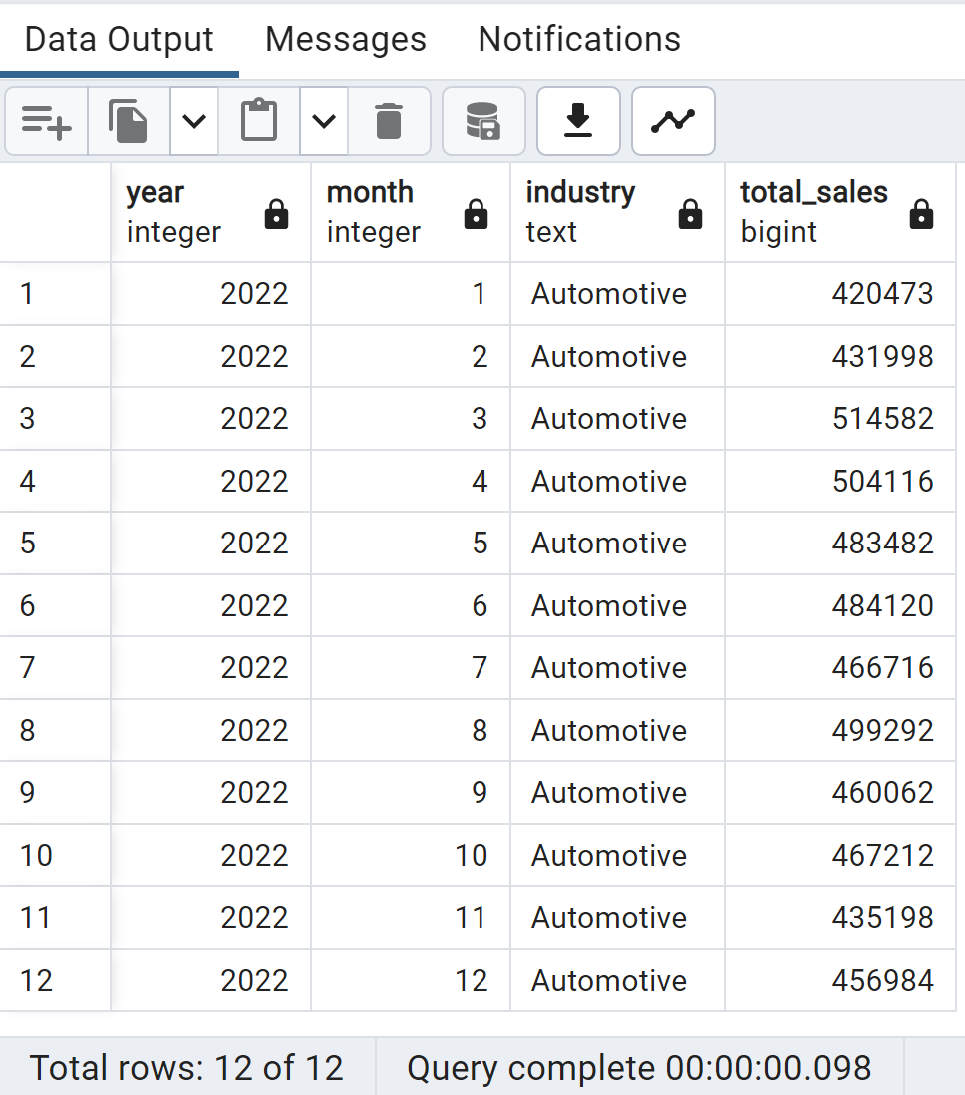
WHERE

industry\_rank = 1

ORDER BY

year,

month;



**3)Top-performing industries in terms of sales for a year 2020, and how do their sales compare month-over-month?**

WITH monthly\_sales AS (

SELECT

year,

month,

industry,

SUM(sales) AS total\_sales

FROM

retail\_sales

WHERE

year = 2020

GROUP BY

year,

month,

industry

),

top\_industries AS (

SELECT

year,

month,

industry,

total\_sales,

RANK() OVER (PARTITION BY year, month ORDER BY total\_sales DESC) AS industry\_rank

FROM

monthly\_sales

)

SELECT

year,

month,

industry,

total\_sales

FROM

top\_industries

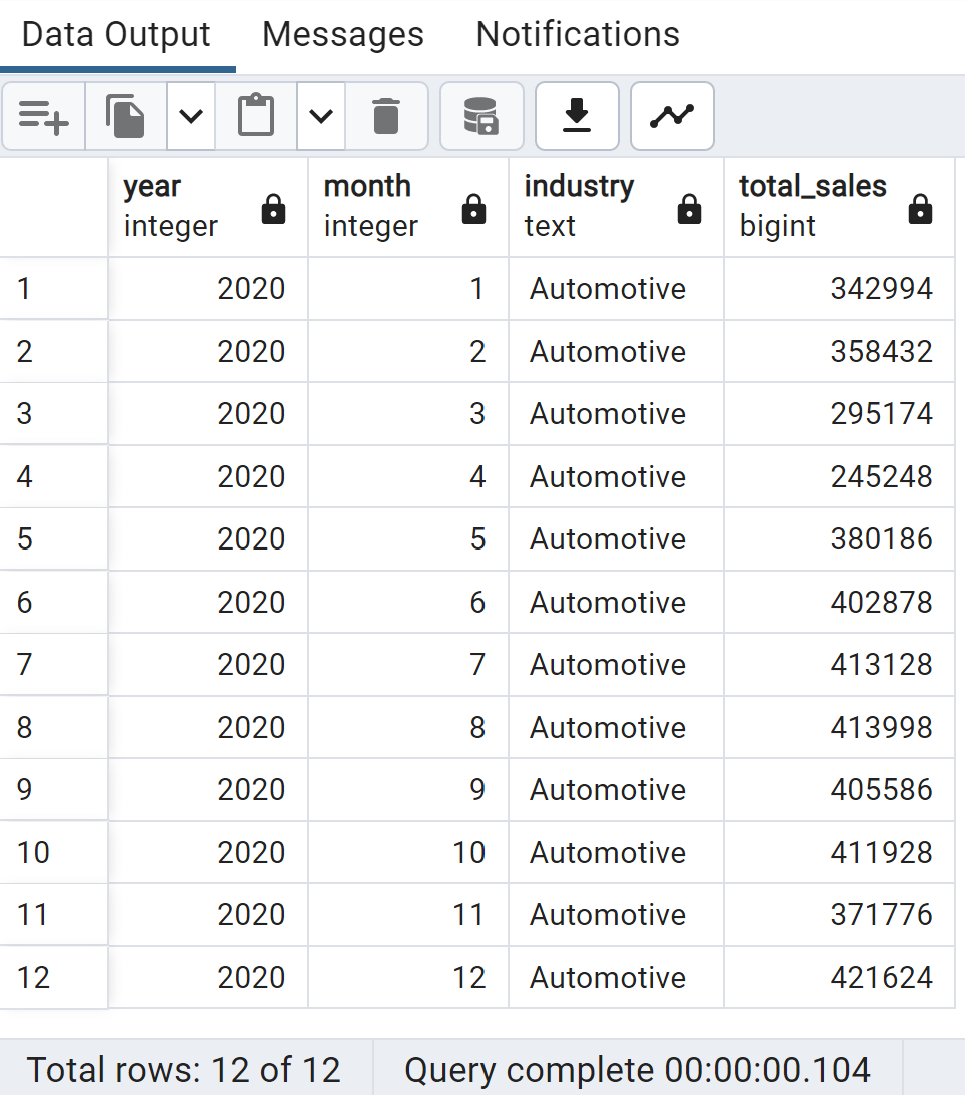
WHERE

industry\_rank = 1

ORDER BY

year,

month;



**4)Top-performing industries in terms of sales for a year 2019, and how do their sales compare month-over-month?**

WITH monthly\_sales AS (

SELECT

year,

month,

industry,

SUM(sales) AS total\_sales

FROM

retail\_sales

WHERE

year = 2019

GROUP BY

year,

month,

industry

),

top\_industries AS (

SELECT

year,

month,

industry,

total\_sales,

RANK() OVER (PARTITION BY year, month ORDER BY total\_sales DESC) AS industry\_rank

FROM

monthly\_sales

)

SELECT

year,

month,

industry,

total\_sales

FROM

top\_industries

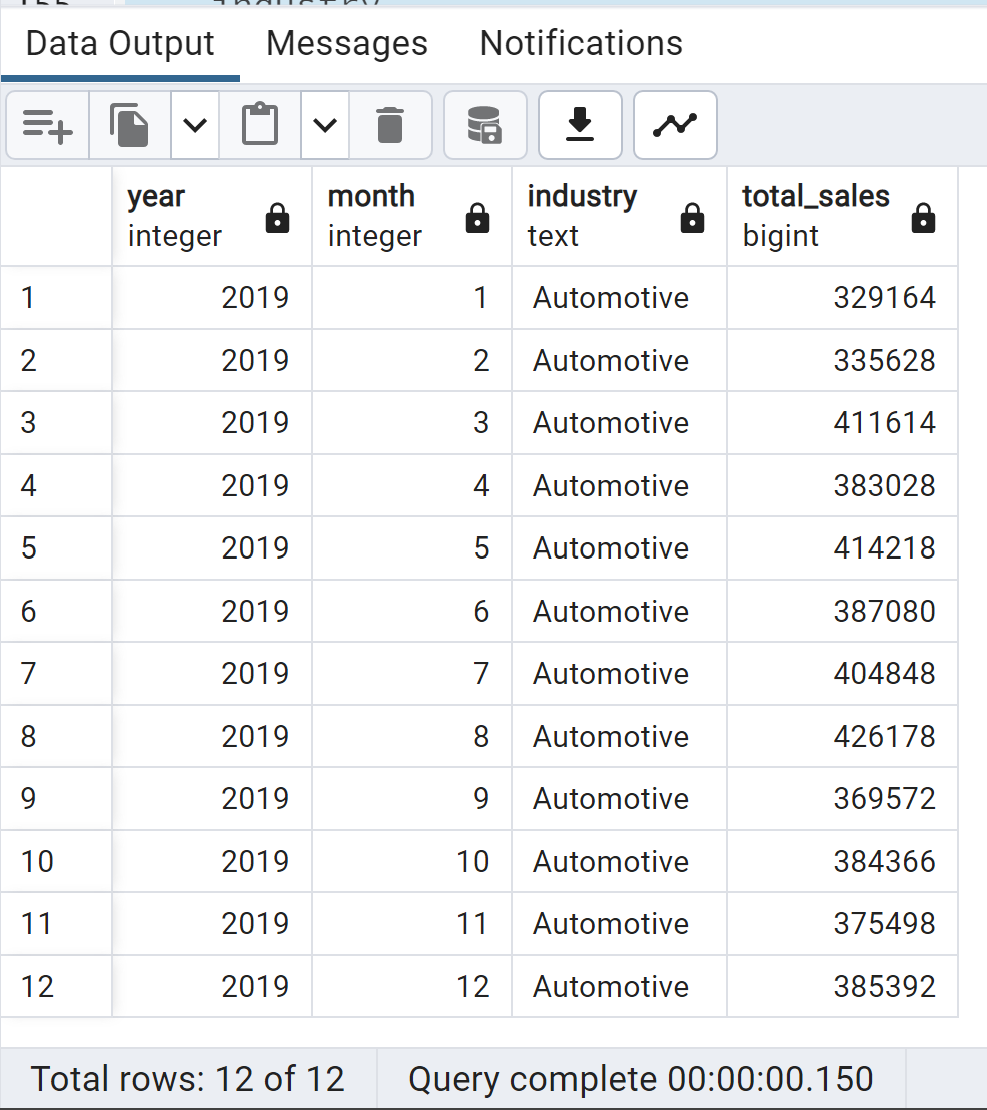
WHERE

industry\_rank = 1

ORDER BY

year,

month;



**Business Question**

**5) Which specific kind of businesses contribute the most to total sales, and how does their performance vary across industries?**

SELECT

kind\_of\_business,

industry,

SUM(sales) AS total\_sales

FROM

retail\_sales

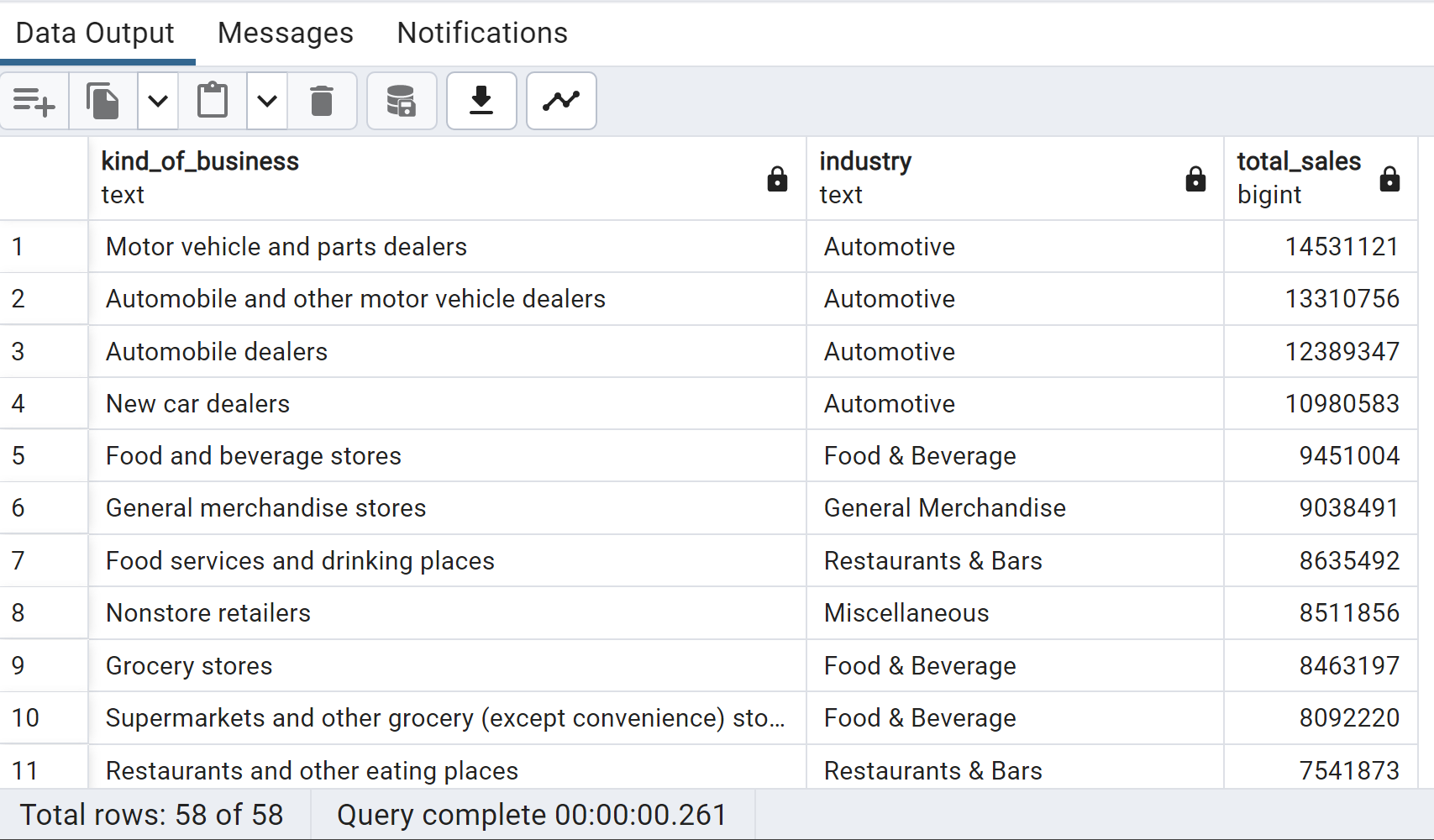
GROUP BY

kind\_of\_business,

industry

ORDER BY

total\_sales DESC;



**6) Is there any seasonality in sales for specific industries, and how do they perform month-over-month?**

SELECT

industry,

year,

month,

SUM(sales) AS total\_sales

FROM

retail\_sales

GROUP BY

year,

industry,

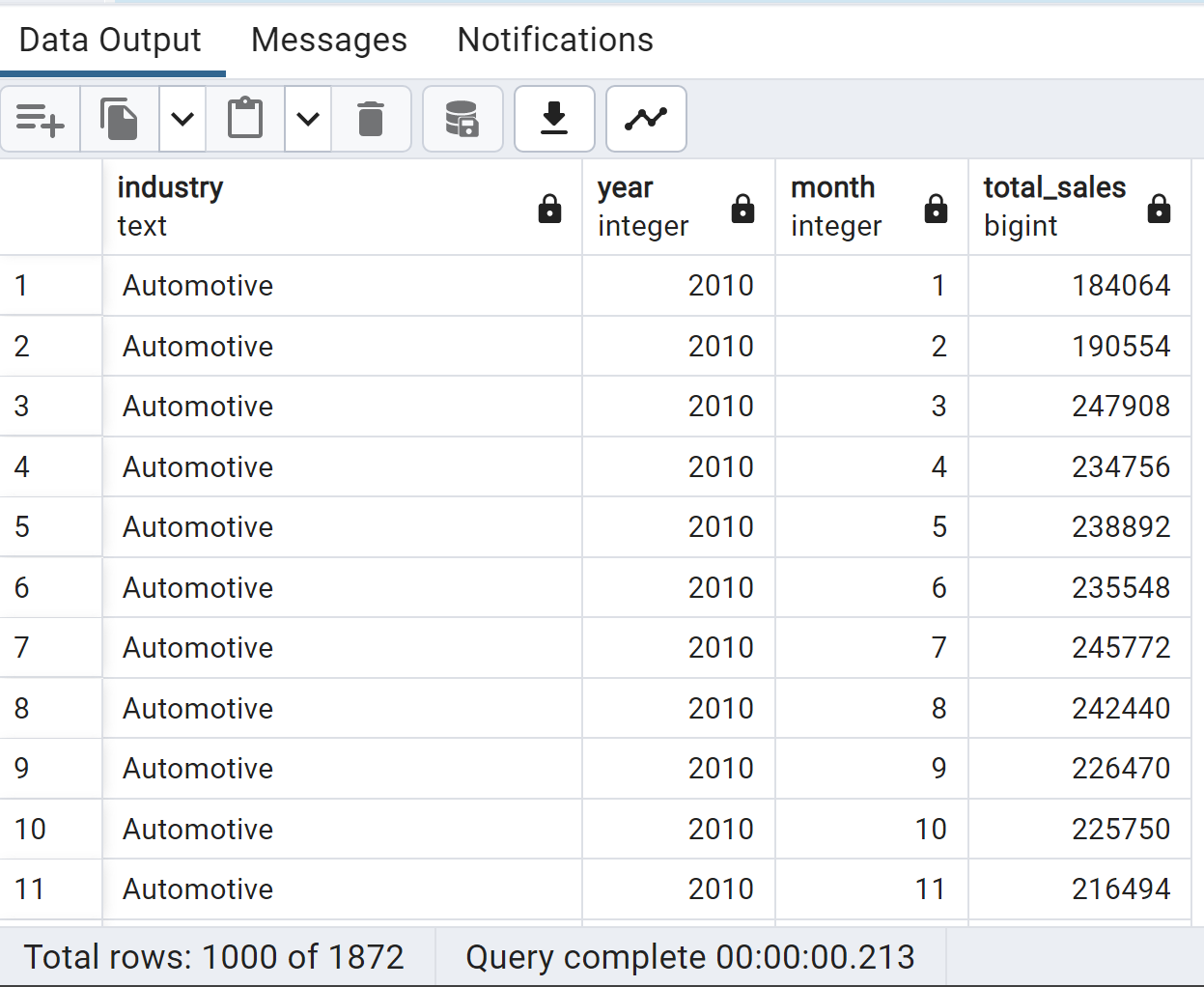
month

ORDER BY

year,

industry,

month;



**7) How does the sales distribution vary among industries based on their North American Industry Classification System (NAICS) codes?**

SELECT

naics\_code,

industry,

SUM(sales) AS total\_sales

FROM

retail\_sales

GROUP BY

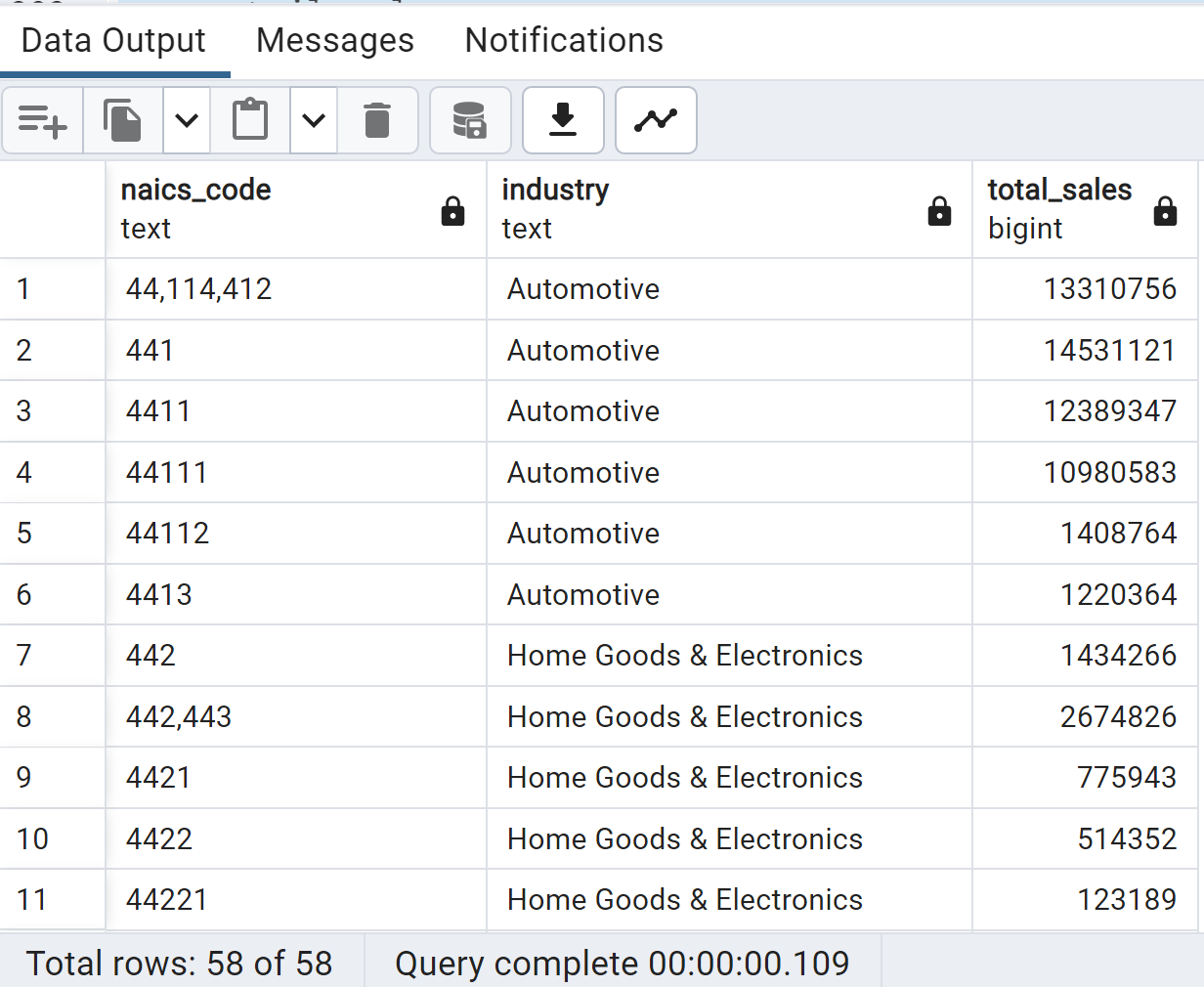
naics\_code,

industry

ORDER BY

naics\_code,

total\_sales DESC;



**8) Are there any outliers or significant changes in sales for specific industries during particular months or years?**

SELECT

    industry,

    year,

    month,

    sales

FROM

    retail\_sales

WHERE

    (industry, year, month) IN (

        SELECT

            industry,

            year,

            month

        FROM (

            SELECT

                industry,

                year,

                month,

                sales,

                LAG(sales) OVER (PARTITION BY industry ORDER BY year, month) AS prev\_sales,

                LEAD(sales) OVER (PARTITION BY industry ORDER BY year, month) AS next\_sales

            FROM

                retail\_sales

        ) AS sales\_analysis

        WHERE

            sales > 1.5 \* COALESCE(prev\_sales, 0) OR sales > 1.5 \* COALESCE(next\_sales, 0)

    )

ORDER BY

    industry,

    year,

    month;

**9)Which businesses all-time average sale was above 10 billion dollars?**

SELECT

    kind\_of\_business,

    AVG(sales) AS average\_sale

FROM

    retail\_sales

GROUP BY

    kind\_of\_business

HAVING

    AVG(sales) > 10000;  *-- 10 billion dollars in cents (1 dollar = 100 cents)*

**10)Which kind of businesses within the automotive industry had the highest sales revenue for 2022?**

SELECT

    kind\_of\_business,

    SUM(sales) AS total\_sales

FROM

    retail\_sales

WHERE

    industry = 'Automotive' AND year = 2022

GROUP BY

    kind\_of\_business

ORDER BY

    total\_sales DESC

;

**11)What is the contribution percentage of each business in the automotive industry this year?**

WITH automotive\_sales AS (

    SELECT

        kind\_of\_business,

        SUM(sales) AS total\_sales

    FROM

        retail\_sales

    WHERE

        industry = 'Automotive' AND

        year = 2022

    GROUP BY

        kind\_of\_business

),

total\_sales\_automotive AS (

    SELECT

        SUM(sales) AS total\_sales\_automotive

    FROM

        retail\_sales

    WHERE

        industry = 'Automotive' AND

        year = 2022

)

SELECT

    kind\_of\_business,

    ROUND((total\_sales / total\_sales\_automotive.total\_sales\_automotive) \* 100, 2) AS contribution\_percentage

FROM

    automotive\_sales

CROSS JOIN

    total\_sales\_automotive;

*----------------*

*--*

with total\_sales as(select year, industry, sum(sales) as sales\_sum

from retail\_sales

GROUP BY 1,2)

SELECT curr.industry, prev.year as previous\_year, curr.year as current\_year,

    (curr.sales\_sum - prev.sales\_sum) / prev.sales\_sum \* 100 as YoY

from total\_sales as curr

join total\_sales as prev

   on curr.year=prev.year+1 AND curr.industry=prev.industry

ORDER BY industry, curr.year DESC;

**12 )What are the year-over-year growth rates for each industry per year?**

with total\_sales as(select year, industry, sum(sales) as sales\_sum

from retail\_sales

GROUP BY 1,2)

SELECT curr.industry, prev.year as previous\_year, curr.year as current\_year,

    (curr.sales\_sum - prev.sales\_sum) / prev.sales\_sum \* 100 as YoY

from total\_sales as curr

join total\_sales as prev

   on curr.year=prev.year+1 AND curr.industry=prev.industry

ORDER BY industry, curr.year DESC;

*--OR--*

SELECT

    year,

    industry,

    (sales - LAG(sales) OVER (PARTITION BY industry ORDER BY year)) / LAG(sales) OVER (PARTITION BY industry ORDER BY year) \* 100 AS growth\_rate

FROM

    retail\_sales

ORDER BY

    industry, year;

**13)What are the yearly total sales for women's clothing stores and men's clothing stores?**

SELECT

    year,

    sum(CASE WHEN kind\_of\_business = 'Women''s clothing stores' THEN sales ELSE 0 END) as women\_sales,

    sum(CASE WHEN kind\_of\_business = 'Men''s clothing stores' THEN sales ELSE 0 END) as men\_sales

FROM

    retail\_sales

GROUP BY

    year;

**14)What is the yearly ratio of total sales for women's clothing stores to total sales for men's clothing stores?**

SELECT year, women\_sales/men\_sales as Women\_to\_Men\_ratio

FROM (

    SELECT year,

    sum(CASE WHEN kind\_of\_business = 'Women''s clothing stores' THEN sales ELSE 0 END) as women\_sales,

    sum(CASE WHEN kind\_of\_business = 'Men''s clothing stores' THEN sales ELSE 0 END) as men\_sales

    FROM retail\_sales

    GROUP BY 1

) subquery;

**15)What is the year-to-date total sale of each month for 2019, 2020, 2021, and 2022 for the women’s clothing stores?**

SELECT

    rs.month,

    rs.year,

    rs.sales,

    (

        (

            SELECT SUM(sales)

            FROM retail\_sales rs2

            WHERE rs2.year = rs.year

            AND rs2.month <= rs.month

            AND rs2.kind\_of\_business = 'Women\'s clothing stores'

        )

    ) AS ytd\_sales

FROM

    retail\_sales AS rs

WHERE

    rs.kind\_of\_business = 'Women\'s clothing stores'

    AND rs.year IN (2019, 2020, 2021, 2022);

**16)What is the month-over-month growth rate of women’s clothing businesses in 2022?**

*-- Query 1*

SELECT

    month,

    sales AS current\_sales,

*-- now we want the sales from 1 previous period*

    LAG(sales, 1) OVER (ORDER BY month) AS prev\_sales

FROM

    retail\_sales

WHERE

    kind\_of\_business = 'Women\'s clothing stores'

    AND year = 2022;

*-- Query 2*

SELECT

    month,

    sales AS current\_sales,

    LAG(sales, 1) OVER (ORDER BY month) AS prev\_sales,

    (sales - LAG(sales, 1) OVER (ORDER BY month)) / LAG(sales, 1) OVER (ORDER BY month) \* 100 AS growth\_rate

FROM

    retail\_sales

WHERE

    kind\_of\_business = 'Women\'s clothing stores'

    AND year = 2022;

**Data Source:** U.S. Government, Open available data

**GitHub Repo:** <https://github.com/tushar2704/Sales-for-Retail-and-Food-Services>

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