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;
```

Data Output Messages Notifications							
=+		v i s					
	year integer	month integer	industry text	total_sales bigint			
1	2021		Automotive	375492			
2	2021	2	Automotive	369166			
3	2021	3	3 Automotive	524244			
4	2021	4	Automotive	512810			
5	2021	į	Automotive	508814			
6	2021	(Automotive	486902			
7	2021	-	7 Automotive	476584			
8	2021	8	3 Automotive	455964			
9	2021	Ġ	Automotive	438496			
10	2021	10	Automotive	443780			
11	2021	11	Automotive	428848			
12	2021	12	2 Automotive	454888			
Total rows: 12 of 12 Query complete 00:00:00.079							

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 (

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```
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
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```

ORDER BY

year,

month;

Data Output Messages Notifications							
	year integer	month integer	industry text	total_sales bigint			
1	2022	1	Automotive	420473			
2	2022	2	Automotive	431998			
3	2022	3	Automotive	514582			
4	2022	4	Automotive	504116			
5	2022	5	Automotive	483482			
6	2022	6	Automotive	484120			
7	2022	7	Automotive	466716			
8	2022	8	Automotive	499292			
9	2022	9	Automotive	460062			
10	2022	10	Automotive	467212			
11	2022	11	Automotive	435198			
12	2022	12	Automotive	456984			

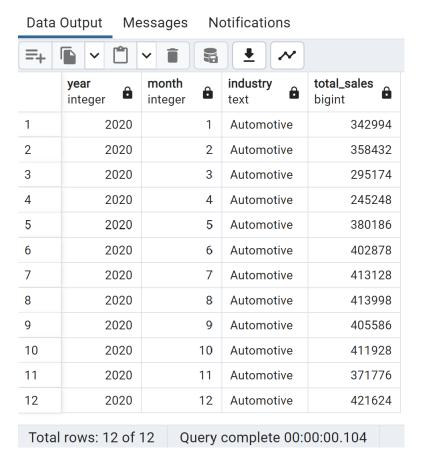
3)Top-performing industries in terms of sales for a year 2020, and how do their sales compare month-over-month?

Query complete 00:00:00.098

```
WITH monthly_sales AS (
SELECT
year,
month,
industry,
SUM(sales) AS total_sales
FROM
retail_sales
WHERE
year = 2020
GROUP BY
```

Total rows: 12 of 12

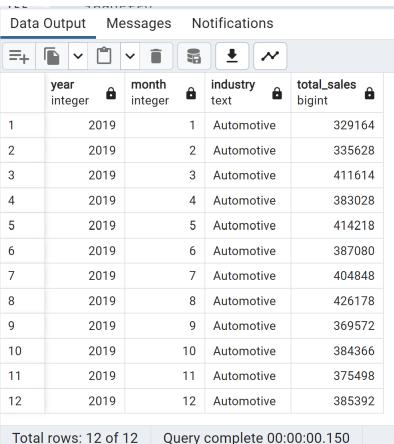
```
year,
    month,
    industry
),
top_industries AS (
  SELECT
    year,
    month,
    industry,
    total_sales,
    RANK() OVER (PARTITION BY year, month ORDER BY total_sales DESC) AS
industry_rank
  FROM
    monthly_sales
)
SELECT
  year,
  month,
  industry,
  total_sales
FROM
  top_industries
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;
```

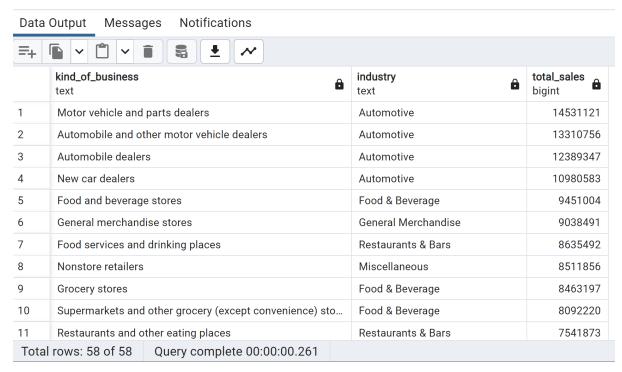


Query complete 00:00:00.150

Business Question

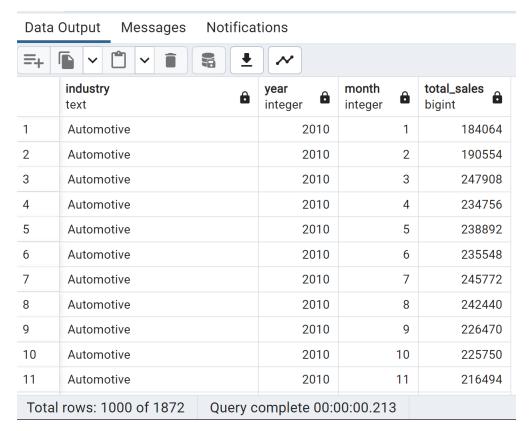
5) Which specific kind of businesses contribute the most to total sales, and how does their performance vary across industries?

```
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?

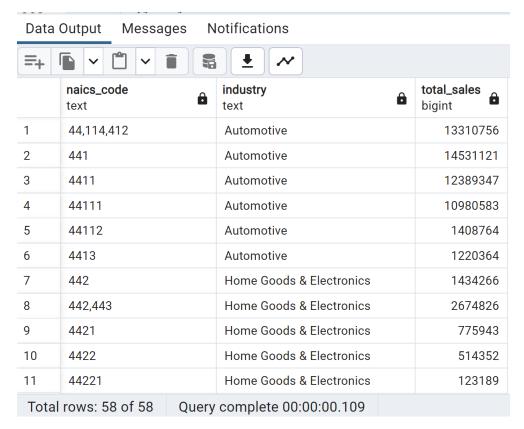
```
SELECT
industry,
year,
month,
SUM(sales) AS total_sales
FROM
retail_sales
GROUP BY
year,
industry,
month
ORDER BY
year,
industry,
month;
```



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
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```

```
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;
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```

```
--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,
```

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```
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 I

SELECT

month,

sales AS current_sales,

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https://github.com/tushar2704/Sales-for-Retail-and-Food-Services
```

```
-- 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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