1. Yearly Average Inflation

SELECT EXTRACT(YEAR FROM Date) AS Year, AVG(Inflation_Rate) AS Average_Inflation

FROM inflation.inflation

GROUP BY Year

ORDER BY Year;

```
108  -- 1. Calculate Yearly Average Inflation
109  SELECT EXTRACT(YEAR FROM Date) AS Year, AVG(Inflation_Rate) AS Average_Inflation
110  FROM inflation.inflation
111  GROUP BY Year
112  ORDER BY Year;
113
114
115
116
```

Results | Chart

YEAR	AVERAGE_INFLATION
2019	1.75
2020	1
2021	2.491666667
2022	7.9
2023	6.833333333
2024	3.283333333

Query Details

Query duration 439ms

Rows 6

Query ID 01ba4cac-0001-8a3c-0...

Show more

YEAR

2019 2024

2. Max and Min Price for Each Month (Fuel Data)

This query finds the maximum and minimum prices for each month in the fuel table.

sql

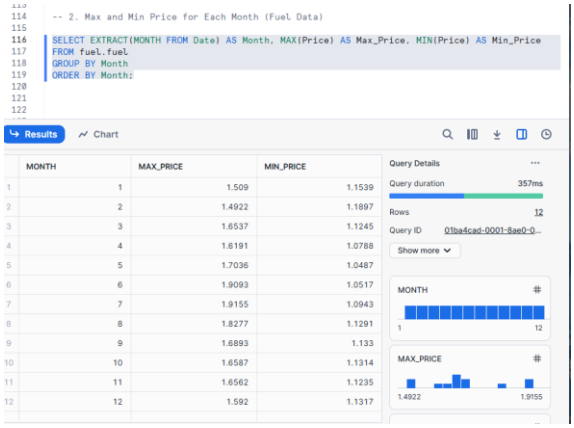
CopyEdit

SELECT EXTRACT(MONTH FROM Date) AS Month, MAX(Price) AS Max_Price, MIN(Price) AS Min_Price

FROM fuel.fuel

GROUP BY Month

ORDER BY Month;



3. Percentage Change in Oil Prices

SELECT DATE,

PRICE,

LAG(PRICE) OVER (ORDER BY DATE) AS Previous_Price,

((PRICE - LAG(PRICE) OVER (ORDER BY DATE)) / LAG(PRICE) OVER (ORDER BY DATE)) * 100 AS Percentage_Change

FROM oil.oil;

```
121
122  -- 3. Calculate Percentage Change in Oil Prices
123  SELECT DATE,
124         PRICE,
125         LAG(PRICE) OVER (ORDER BY DATE) AS Previous_Price,
126         ((PRICE - LAG(PRICE) OVER (ORDER BY DATE)) / LAG(PRICE) OVER (ORDER BY DATE)) * 100
     AS Percentage_Change
127  FROM oil.oil
128  LIMIT 10;
129
130
131
132
133
```

Results | Chart

	DATE	PRICE	PREVIOUS_PRICE	PERCENTAGE_CHANGE
1	2019-01-01	59.41	null	null
2	2019-02-01	63.96	59.41	7.658643326
3	2019-03-01	66.14	63.96	3.408380238
4	2019-04-01	71.23	66.14	7.695796795
5	2019-05-01	71.32	71.23	0.1263512565
6	2019-06-01	64.22	71.32	-9.9551318
7	2019-07-01	63.92	64.22	-0.4671441918
8	2019-08-01	59.04	63.92	-7.634543179
9	2019-09-01	62.83	59.04	6.419376694
10	2019-10-01	59.71	62.83	-4.965780678

Query Details

Query duration 346ms

Rows 10

Query ID 01ba4cb1-0001-8ae4-0...

Show more

DATE

2019-01-01 2019-10-01

PRICE

59.04 71.32

4. Fuel Price Per Month

SELECT EXTRACT(MONTH FROM Date) AS Month, SUM(Price) AS Total_Fuel_Price

FROM fuel.fuel

GROUP BY Month

ORDER BY Month;

```
130  -- 4. Total Fuel Price Per Month
131  SELECT EXTRACT(MONTH FROM Date) AS Month, SUM(Price) AS Total_Fuel_Price
132  FROM fuel.fuel
133  GROUP BY Month
134  ORDER BY Month;
135
136
137
138
139
140
141
142
143
```

Results | Chart

	MONTH	TOTAL_FUEL_PRICE
1	1	41.7159
2	2	33.442
3	3	35.04
4	4	35.2909
5	5	37.2063
6	6	34.5466
7	7	38.0877
8	8	37.9086
9	9	35.934
10	10	36.4282
11	11	35.9166
12	12	35.3649

Query Details

Query duration 331ms

Rows 12

Query ID 01ba4cb2-0001-8a07-0...

Show more

MONTH

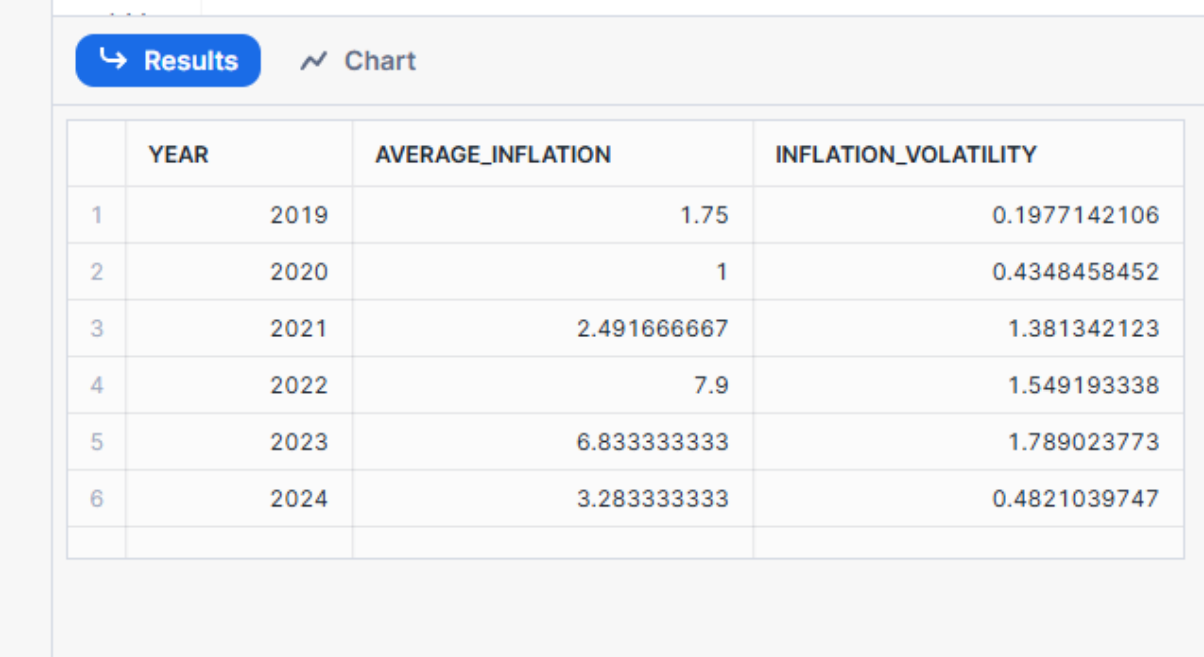
1 12

TOTAL_FUEL_PRICE

33.442 41.7159

5. Standard Deviation of Inflation

```
SELECT Country, AVG(Inflation) AS Average_Inflation
SELECT
    EXTRACT(YEAR FROM DATE) AS Year,
    AVG(Inflation_Rate) AS Average_Inflation,
    STDDEV(Inflation_Rate) AS Inflation_Volatility
FROM inflation.inflation
GROUP BY Year
ORDER BY Year;
```

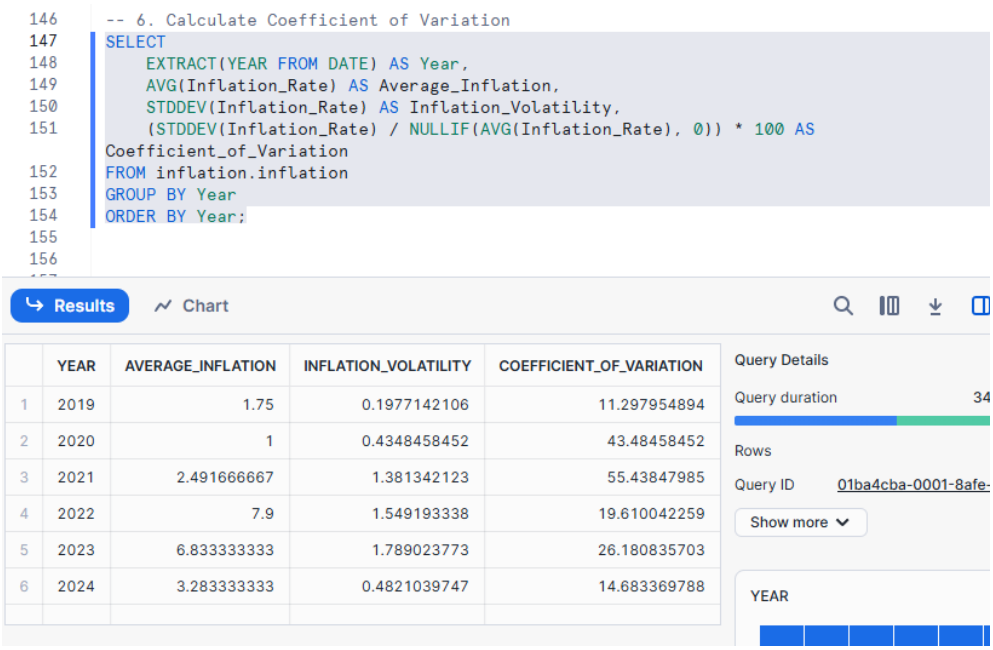


Results | Chart

	YEAR	AVERAGE_INFLATION	INFLATION_VOLATILITY
1	2019	1.75	0.1977142106
2	2020	1	0.4348458452
3	2021	2.491666667	1.381342123
4	2022	7.9	1.549193338
5	2023	6.833333333	1.789023773
6	2024	3.283333333	0.4821039747

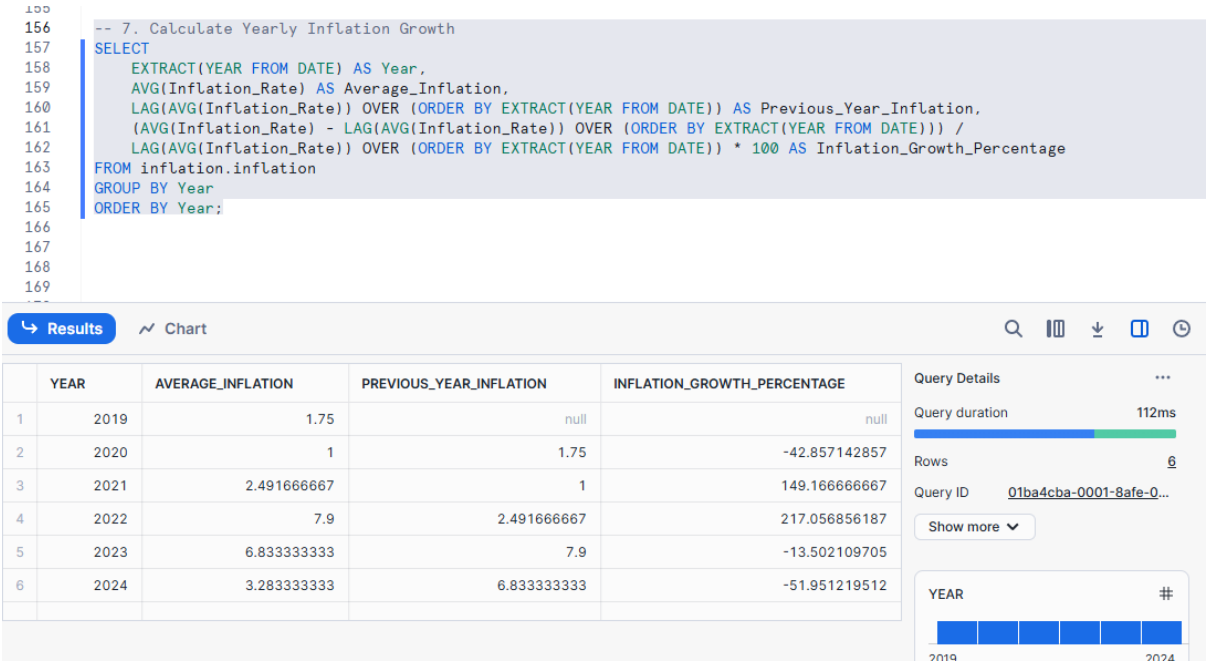
6. Coefficient of Variation

```
SELECT
    EXTRACT(YEAR FROM DATE) AS Year,
    AVG(Inflation_Rate) AS Average_Inflation,
    STDDEV(Inflation_Rate) AS Inflation_Volatility,
    (STDDEV(Inflation_Rate) / NULLIF(AVG(Inflation_Rate), 0)) * 100 AS Coefficient_of_Variation
FROM inflation.inflation
GROUP BY Year
ORDER BY Year;
```



7. Yearly Inflation Growth

```
SELECT
    EXTRACT(YEAR FROM DATE) AS Year,
    AVG(Inflation_Rate) AS Average_Inflation,
    LAG(AVG(Inflation_Rate)) OVER (ORDER BY EXTRACT(YEAR FROM DATE)) AS Previous_Year_Inflation,
    (AVG(Inflation_Rate) - LAG(AVG(Inflation_Rate)) OVER (ORDER BY EXTRACT(YEAR FROM DATE))) /
    LAG(AVG(Inflation_Rate)) OVER (ORDER BY EXTRACT(YEAR FROM DATE)) * 100 AS Inflation_Growth_Percentage
FROM inflation.inflation
GROUP BY Year
ORDER BY Year;
```



Results | Chart

	YEAR	AVERAGE_INFLATION	PREVIOUS_YEAR_INFLATION	INFLATION_GROWTH_PERCENTAGE
1	2019	1.75	null	null
2	2020	1	1.75	-42.857142857
3	2021	2.491666667	1	149.166666667
4	2022	7.9	2.491666667	217.056856187
5	2023	6.833333333	7.9	-13.502109705
6	2024	3.283333333	6.833333333	-51.951219512

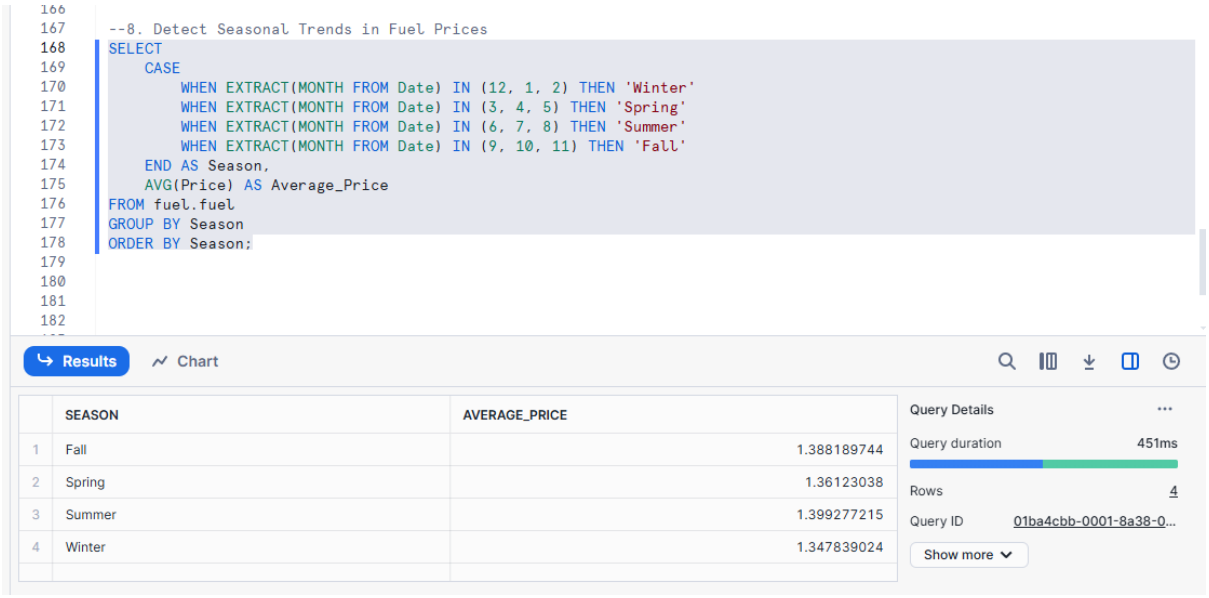
8. Seasonal Trends in Fuel Prices

This query compares the average fuel price by season (Winter, Spring, Summer, Fall):

sql

CopyEdit

```
SELECT
  CASE
    WHEN EXTRACT(MONTH FROM Date) IN (12, 1, 2) THEN 'Winter'
    WHEN EXTRACT(MONTH FROM Date) IN (3, 4, 5) THEN 'Spring'
    WHEN EXTRACT(MONTH FROM Date) IN (6, 7, 8) THEN 'Summer'
    WHEN EXTRACT(MONTH FROM Date) IN (9, 10, 11) THEN 'Fall'
  END AS Season,
  AVG(Price) AS Average_Price
FROM fuel.fuel
GROUP BY Season
ORDER BY Season;
```



9. Average Duty Rate for Oil and ULSP

```
SELECT
    f.DATE,
    AVG(f.Price) AS Average_Fuel_Price,
    AVG(o.PRICE) AS Average_Oil_Price
FROM fuel.fuel f
JOIN oil.oil o ON f.DATE = o.DATE
GROUP BY f.DATE
ORDER BY f.DATE;
```

```
-- 9. Average Duty Rate for Oil and ULSP
SELECT
    f.DATE,
    AVG(f.Price) AS Average_Fuel_Price,
    AVG(o.PRICE) AS Average_Oil_Price
FROM fuel.fuel f
JOIN oil.oil o ON f.DATE = o.DATE
GROUP BY f.DATE
ORDER BY f.DATE;
```

Results | Chart

	DATE	AVERAGE_FUEL_PRICE	AVERAGE_OIL_PRICE
1	2019-04-01	1.217	71.23
2	2019-07-01	1.2649	63.92
3	2020-06-01	1.0517	40.27
4	2021-02-01	1.1914	62.28
5	2021-03-01	1.2217	65.41

Query Details

Query duration 380ms

Rows 11

Query ID 01ba4cbf-0001-8ae5-0...

Show more

10. Price Difference Between ULSP and ULSD

```
SELECT DATE,
    ULSP_Price,
    ULSD_Price,
    (ULSP_Price - ULSD_Price) AS Price_Difference
FROM fuel.fuel;
```

```
-- 10. Price Difference Between ULSP and ULSD

SELECT DATE,
       ULSP_Price,
       ULSD_Price,
       (ULSP_Price - ULSD_Price) AS Price_Difference
FROM fuel.fuel;

DESC TABLE fuel.fuel;
```

Results | Chart

	name	type	kind	null?	default	primary key	unique key	check	expression	comment	poli
1	DATE	DATE	COLUMN	Y	null	N	N	null	null	null	null
2	ULSP_PRICE	FLOAT	COLUMN	Y	null	N	N	null	null	null	null
3	ULSD_PRICE	FLOAT	COLUMN	Y	null	N	N	null	null	null	null
4	ULSP_DUTY	FLOAT	COLUMN	Y	null	N	N	null	null	null	null
5	ULSD_DUTY	FLOAT	COLUMN	Y	null	N	N	null	null	null	null

Query Details

Query duration 43ms

Rows 5

Query ID 01ba4ccf-0001-8b2d-0...

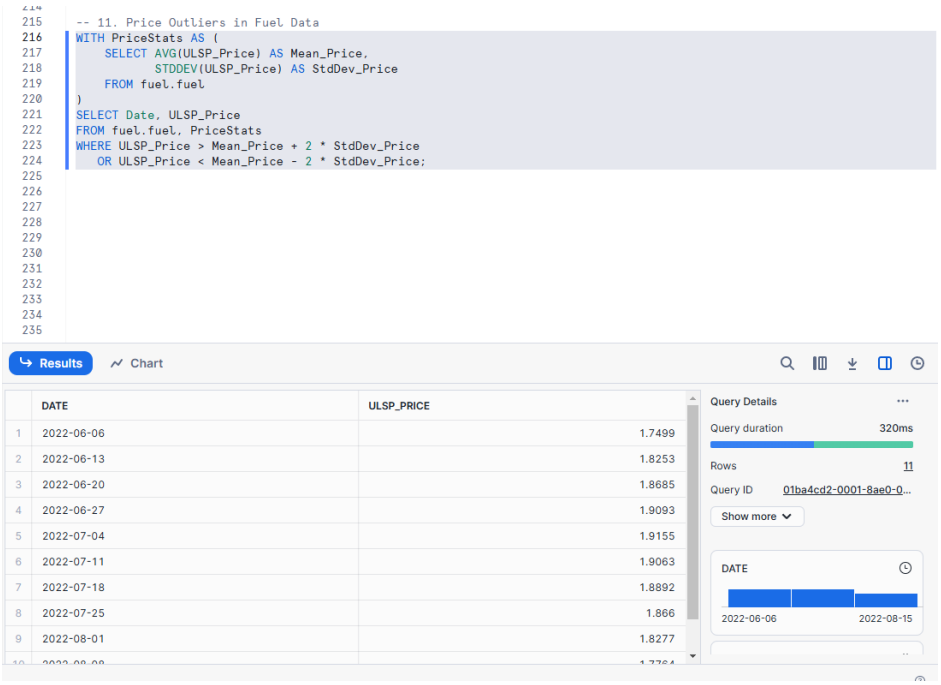
Show more

name A

100% filled

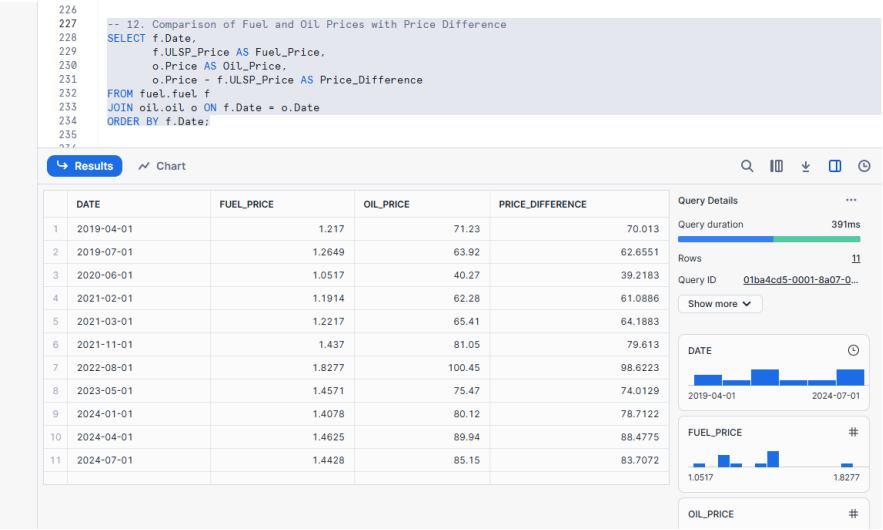
11. Price Outliers in Fuel Data

```
WITH PriceStats AS (
    SELECT AVG(Price) AS Mean_Price, STDDEV(Price) AS StdDev_Price
    FROM fuel.fuel
)
SELECT Date, Price
FROM fuel.fuel, PriceStats
WHERE Price > Mean_Price + 2 * StdDev_Price
   OR Price < Mean_Price - 2 * StdDev_Price;
```



12. Comparison of Fuel and Oil Prices with Price Difference

```
SELECT f.Date,
    f.ULSP_Price AS Fuel_Price,
    o.Price AS Oil_Price,
    o.Price - f.ULSP_Price AS Price_Difference
FROM fuel.fuel f
JOIN oil.oil o ON f.Date = o.Date
ORDER BY f.Date
```



```
-- 12. Comparison of Fuel and Oil Prices with Price Difference
SELECT f.Date,
       f.ULSP_Price AS Fuel_Price,
       o.Price AS Oil_Price,
       o.Price - f.ULSP_Price AS Price_Difference
FROM fuel.fuel f
JOIN oil.oil o ON f.Date = o.Date
ORDER BY f.Date;
```

Results | Chart

	DATE	FUEL_PRICE	OIL_PRICE	PRICE_DIFFERENCE
1	2019-04-01	1.217	71.23	70.013
2	2019-07-01	1.2649	63.92	62.6551
3	2020-06-01	1.0517	40.27	39.2183
4	2021-02-01	1.1914	62.28	61.0886
5	2021-03-01	1.2217	65.41	64.1883
6	2021-11-01	1.437	81.05	79.613
7	2022-08-01	1.8277	100.45	98.6223
8	2023-05-01	1.4571	75.47	74.0129
9	2024-01-01	1.4078	80.12	78.7122
10	2024-04-01	1.4625	89.94	88.4775
11	2024-07-01	1.4428	85.15	83.7072

Query Details

Query duration 391ms

Rows 11

Query ID 01ba4cd5-0001-8a07-0...

Show more

DATE

2019-04-01 2024-07-01

FUEL_PRICE

1.0517 1.8277

OIL_PRICE

13. Join Data from Multiple Schemas (Fuel and Inflation)

```
SELECT f.Date,
       f.ULSP_Price AS Fuel_Price,
       i.INFLATION_RATE AS Inflation
FROM fuel.fuel f
JOIN inflation.inflation i
    ON EXTRACT(MONTH FROM f.Date) = EXTRACT(MONTH FROM i.Date)
WHERE f.Date BETWEEN '2020-01-01' AND '2020-12-31'
ORDER BY f.Date;
```

```
237  -- 13. Join Data from Multiple Schemas (Fuel and Inflation)
238  SELECT f.Date,
239         f.ULSP_Price AS Fuel_Price,
240         i.INFLATION_RATE AS Inflation
241  FROM fuel.fuel f
242  JOIN inflation.inflation i
243      ON EXTRACT(MONTH FROM f.Date) = EXTRACT(MONTH FROM i.Date)
244  WHERE f.Date BETWEEN '2020-01-01' AND '2020-12-31'
245  ORDER BY f.Date;
246
247
```

Results | Chart

	DATE	FUEL_PRICE	INFLATION
1	2020-01-06	1.2609	1.8
2	2020-01-06	1.2609	4.2
3	2020-01-06	1.2609	8.8
4	2020-01-06	1.2609	4.9
5	2020-01-06	1.2609	0.9
6	2020-01-06	1.2609	1.8
7	2020-01-13	1.2717	1.8
8	2020-01-13	1.2717	4.2
9	2020-01-13	1.2717	8.8
10	2020-01-13	1.2717	4.9
11	2020-01-13	1.2717	0.9
12	2020-01-13	1.2717	1.8
13	2020-01-20	1.2718	0.9
14	2020-01-20	1.2718	4.9

14. Average Fuel Price by Month Across Schemas (Fuel and Oil)

```
SELECT
   EXTRACT(MONTH FROM f.Date) AS Month,
   AVG(f.ULSP_Price) AS Avg_Fuel_Price,
   AVG(o.Price) AS Avg_Oil_Price
FROM fuel.fuel f
JOIN oil.oil o ON EXTRACT(MONTH FROM f.Date) = EXTRACT(MONTH FROM o.Date)
GROUP BY Month
ORDER BY Month;
```

```
247  -- 14. Average Fuel Price by Month Across Schemas (Fuel and Oil)
248  SELECT
249      EXTRACT(MONTH FROM f.Date) AS Month,
250      AVG(f.ULSP_Price) AS Avg_Fuel_Price,
251      AVG(o.Price) AS Avg_Oil_Price
252  FROM fuel.fuel f
253  JOIN oil.oil o ON EXTRACT(MONTH FROM f.Date) = EXTRACT(MONTH FROM o.Date)
254  GROUP BY Month
255  ORDER BY Month;
256
257
```

Results | Chart

	MONTH	AVG_FUEL_PRICE	AVG_OIL_PRICE
1	1	1.345674194	71.16
2	2	1.33768	74.183333333
3	3	1.347692308	74.108333333
4	4	1.357342308	72.263333333
5	5	1.378011111	73.298333333
6	6	1.381864	76.241666667
7	7	1.410655556	76.586666667
8	8	1.404022222	73.581666667
9	9	1.382076923	72.621666667
10	10	1.401084615	73.833333333
11	11	1.381407692	72.61
12	12	1.360188462	70.646666667

15. Correlation Between Fuel Prices and Inflation

```
SELECT
    CORR(f.ULSP_Price, i.INFLATION_RATE) AS Fuel_Inflation_Correlation
FROM fuel.fuel f
JOIN inflation.inflation i
    ON EXTRACT(MONTH FROM f.Date) = EXTRACT(MONTH FROM i.Date)
WHERE f.Date BETWEEN '2019-01-01' AND '2020-12-31';
```

16. Month with Highest Difference Between ULSP and Fuel Prices

```
SELECT
   EXTRACT(MONTH FROM f.Date) AS Month,
   MAX(ABS(f.ULSP_Price - o.Price)) AS Max_Price_Difference
FROM fuel.fuel f
JOIN oil.oil o
   ON EXTRACT(MONTH FROM f.Date) = EXTRACT(MONTH FROM o.Date)
GROUP BY Month
ORDER BY Max_Price_Difference DESC
LIMIT 1;
```

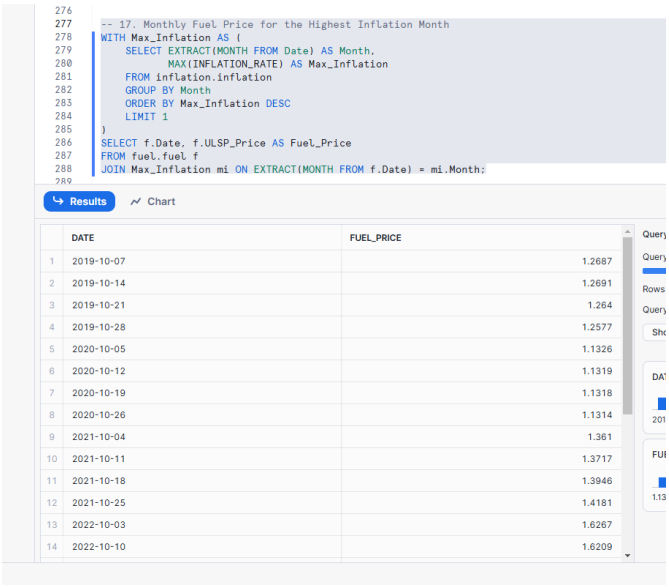
```
265
266  -- 16. Month with Highest Difference Between ULSP and Fuel Prices
267  SELECT
268      EXTRACT(MONTH FROM f.Date) AS Month,
269      MAX(ABS(f.ULSP_Price - o.Price)) AS Max_Price_Difference
270  FROM fuel.fuel f
271  JOIN oil.oil o
272      ON EXTRACT(MONTH FROM f.Date) = EXTRACT(MONTH FROM o.Date)
273  GROUP BY Month
274  ORDER BY Max_Price_Difference DESC
275  LIMIT 1;
276
277
278
279
280
281
282
```

Results | Chart

	MONTH	MAX_PRICE_DIFFERENCE
1	6	121.6583

17. Monthly Fuel Price for the Highest Inflation Month

```
WITH Max_Inflation AS (
    SELECT EXTRACT(MONTH FROM Date) AS Month,
        MAX(INFLATION_RATE) AS Max_Inflation
    FROM inflation.inflation
    GROUP BY Month
    ORDER BY Max_Inflation DESC
    LIMIT 1
)
SELECT f.Date, f.ULSP_Price AS Fuel_Price
FROM fuel.fuel f
JOIN Max_Inflation mi ON EXTRACT(MONTH FROM f.Date) = mi.Month;
```



```
276
277  -- 17. Monthly Fuel Price for the Highest Inflation Month
278  WITH Max_Inflation AS (
279      SELECT EXTRACT(MONTH FROM Date) AS Month,
280             MAX(INFLATION_RATE) AS Max_Inflation
281      FROM inflation.inflation
282      GROUP BY Month
283      ORDER BY Max_Inflation DESC
284      LIMIT 1
285  )
286  SELECT f.Date, f.ULSP_Price AS Fuel_Price
287  FROM fuel.fuel f
288  JOIN Max_Inflation mi ON EXTRACT(MONTH FROM f.Date) = mi.Month;
289
```

Results | Chart

	DATE	FUEL_PRICE
1	2019-10-07	1.2687
2	2019-10-14	1.2691
3	2019-10-21	1.264
4	2019-10-28	1.2577
5	2020-10-05	1.1326
6	2020-10-12	1.1319
7	2020-10-19	1.1318
8	2020-10-26	1.1314
9	2021-10-04	1.361
10	2021-10-11	1.3717
11	2021-10-18	1.3946
12	2021-10-25	1.4181
13	2022-10-03	1.6267
14	2022-10-10	1.6209

18. Difference Between Duty Rates (Fuel vs Oil)

```
SELECT
    o.Date,
    o.ULSP_Duty - f.ULSP_Duty AS ULSP_Duty_Difference,
    o.ULSD_Duty - f.ULSD_Duty AS ULSD_Duty_Difference
FROM oil.oil o
JOIN fuel.fuel f ON o.Date = f.Date
ORDER BY o.Date;
```

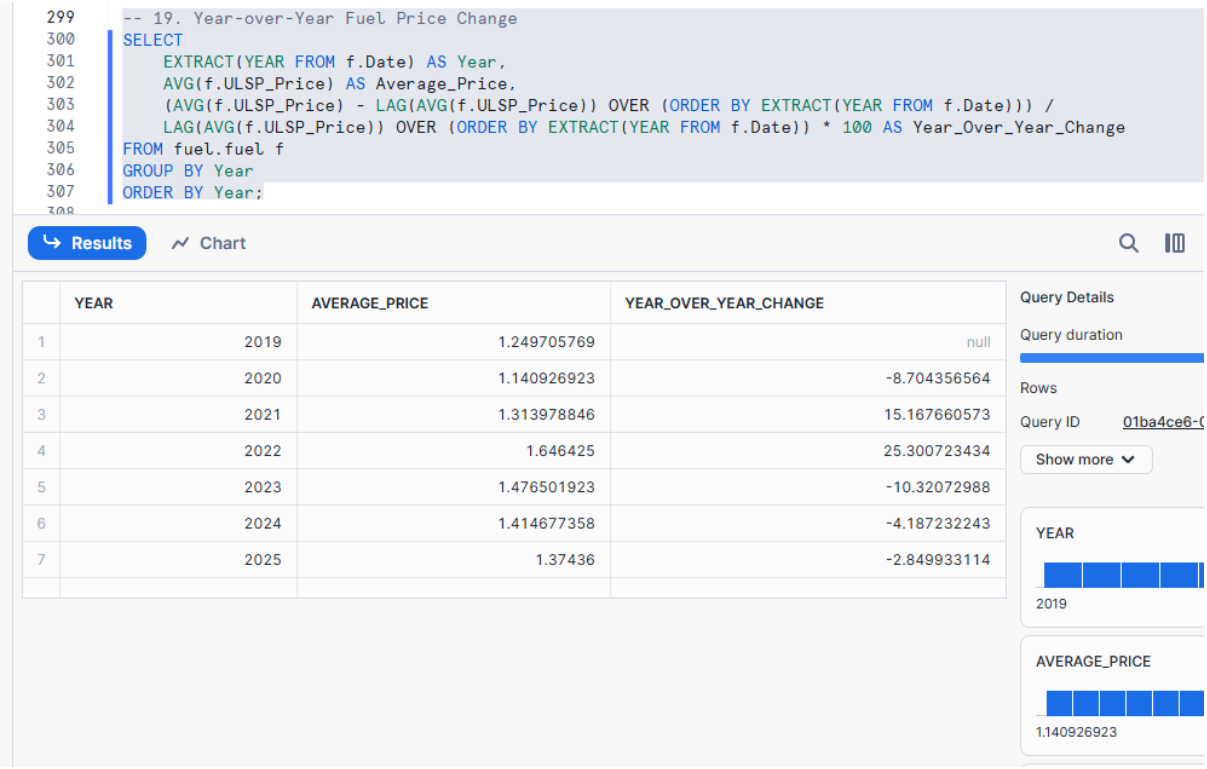
```
290  -- 18. Difference Between Duty Rates (Fuel vs Oil)
291  SELECT
292      f.Date,
293      f.ULSP_Duty AS ULSP_Duty_Fuel,
294      f.ULSD_Duty AS ULSD_Duty_Fuel,
295      o.Price AS Oil_Price
296  FROM fuel.fuel f
297  JOIN oil.oil o ON f.Date = o.Date
298  ORDER BY f.Date;
299
300
```

Results | Chart

	DATE	ULSP_DUTY_FUEL	ULSD_DUTY_FUEL	OIL_PRICE
1	2019-04-01	0.5795	0.5795	71.23
2	2019-07-01	0.5795	0.5795	63.92
3	2020-06-01	0.5795	0.5795	40.27
4	2021-02-01	0.5795	0.5795	62.28
5	2021-03-01	0.5795	0.5795	65.41
6	2021-11-01	0.5795	0.5795	81.05
7	2022-08-01	0.5295	0.5295	100.45
8	2023-05-01	0.5295	0.5295	75.47
9	2024-01-01	0.5295	0.5295	80.12
10	2024-04-01	0.5295	0.5295	89.94
11	2024-07-01	0.5295	0.5295	85.15

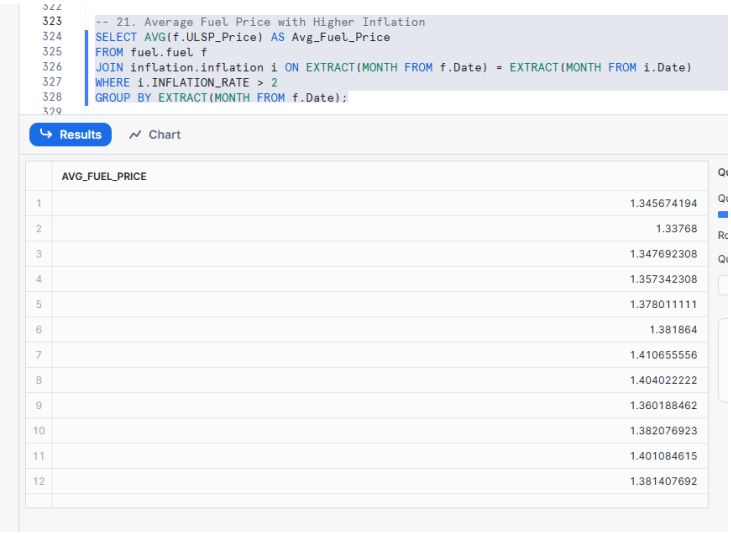
19. Year-over-Year Fuel Price Change

```
SELECT
    EXTRACT(YEAR FROM f.Date) AS Year,
    AVG(f.ULSP_Price) AS Average_Price,
    (AVG(f.ULSP_Price) - LAG(AVG(f.ULSP_Price)) OVER (ORDER BY EXTRACT(YEAR FROM f.Date))) /
    LAG(AVG(f.ULSP_Price)) OVER (ORDER BY EXTRACT(YEAR FROM f.Date)) * 100 AS
Year_Over_Year_Change
FROM fuel.fuel f
GROUP BY Year
ORDER BY Year;
```



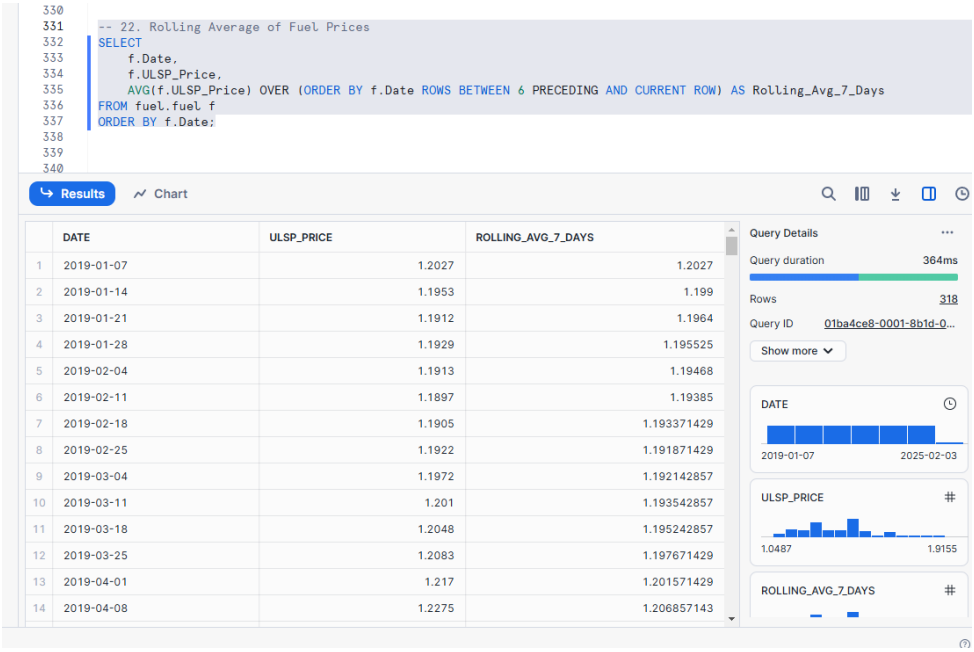
20. Average Fuel Price with Higher Inflation

```
SELECT AVG(f.ULSP_Price) AS Avg_Fuel_Price
FROM fuel.fuel f
JOIN inflation.inflation i ON EXTRACT(MONTH FROM f.Date) = EXTRACT(MONTH FROM i.Date)
WHERE i.INFLATION_RATE > 2
GROUP BY EXTRACT(MONTH FROM f.Date);
```



21. Rolling Average of Fuel Prices

```
SELECT
    f.Date,
    f.ULSP_Price,
    AVG(f.ULSP_Price) OVER (ORDER BY f.Date ROWS BETWEEN 6 PRECEDING AND CURRENT ROW) AS Rolling_Avg_7_Days
FROM fuel.fuel f
ORDER BY f.Date;
```



	DATE	ULSP_PRICE	ROLLING_AVG_7_DAYS
1	2019-01-07	1.2027	1.2027
2	2019-01-14	1.1953	1.199
3	2019-01-21	1.1912	1.1964
4	2019-01-28	1.1929	1.195525
5	2019-02-04	1.1913	1.19468
6	2019-02-11	1.1897	1.19385
7	2019-02-18	1.1905	1.193371429
8	2019-02-25	1.1922	1.191871429
9	2019-03-04	1.1972	1.192142857
10	2019-03-11	1.201	1.193542857
11	2019-03-18	1.2048	1.195242857
12	2019-03-25	1.2083	1.197671429
13	2019-04-01	1.217	1.201571429
14	2019-04-08	1.2275	1.206857143