SQL Sales & Finance/Supply Chain Analytics

Business Model Explained

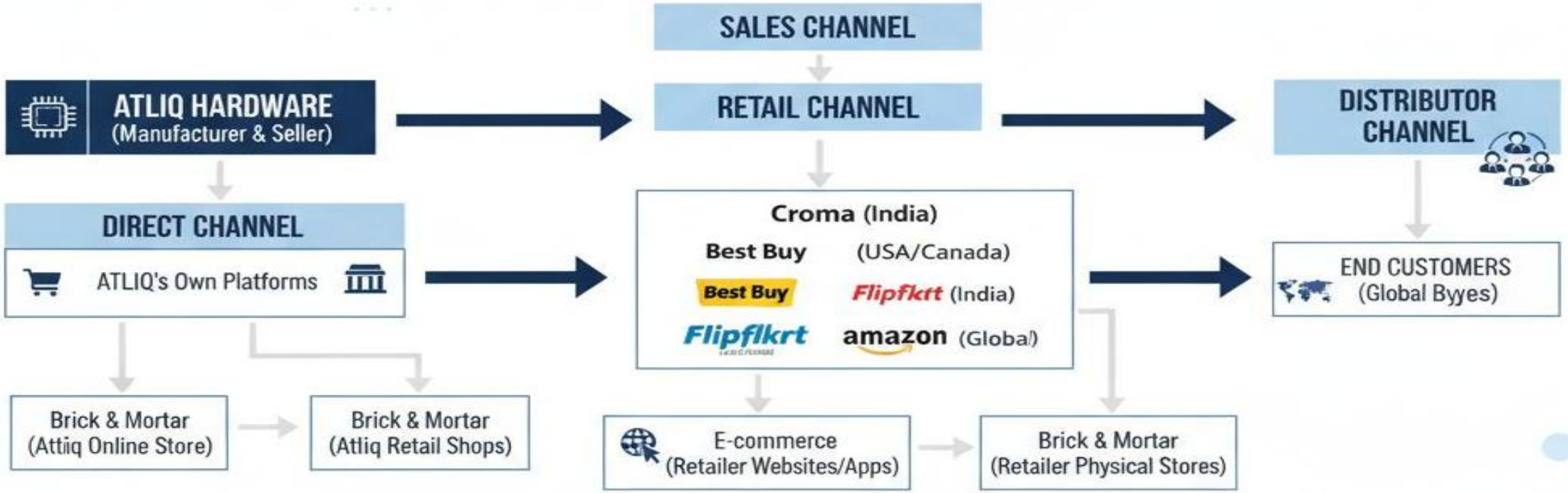
- Atliq Hardware is a leading hardware supplier that caters to multiple customer segments in various countries across **E-commerce and Brick & Mortar platforms.**

Their products are sold through three primary channels:

- **Retail** – Sold to major retail chains such as **Croma, Best Buy, Flipkart, and Amazon** etc.
- **Direct** – Customers can purchase directly from Atliq via online platforms and physical stores.
- **Distributor** – Products are supplied to authorized distributors who sell to secondary markets.

This multi-channel approach ensures **widespread market coverage**, allowing Atliq to serve both **end-consumers** and **B2B partners** across multiple regions and countries.

ATLIQ HARDWARE GLOBAL SALES & DISTRIBUTION MODEL

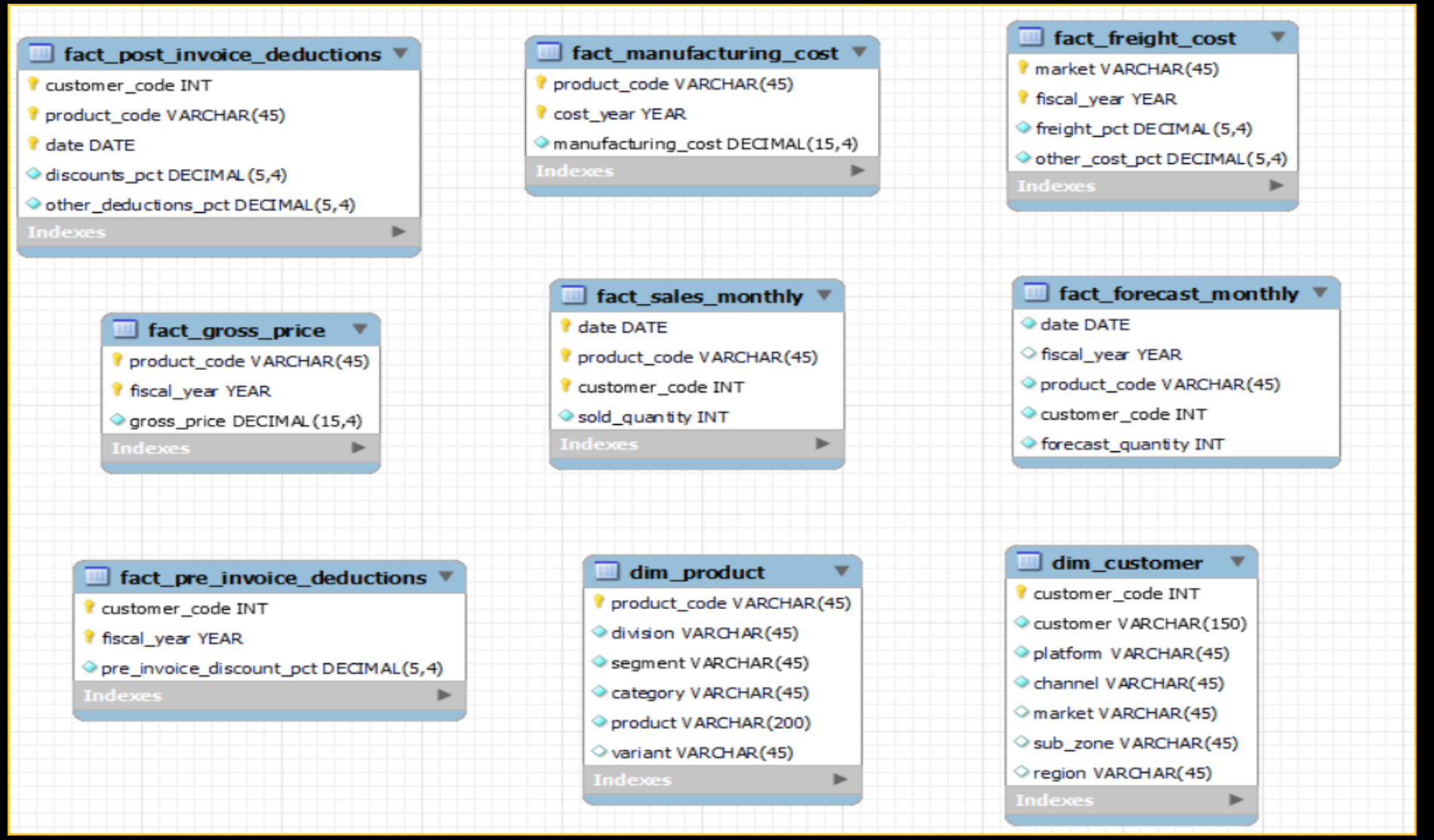


OBJECTIVE!

- Initially, all company sales reports were managed in **Excel**, but as data volume grew across multiple countries, products, and platforms, Excel could no longer handle the scale and complexity **with millions of records in a dataset.** Reports became slow, inconsistent, and hard to update.

- To overcome this, the company **migrated to a SQL-based data system MySQL** enabling faster, more accurate, and automated analysis. Using SQL, detailed insights were generated across **sales trends, product performance, customer segments, and supply chain flow**.

DATASET


fact_post_invoice_deductions
customer_code INT
product_code VARCHAR(45)
date DATE
discounts_pct DECIMAL(5,4)
other_deductions_pct DECIMAL(5,4)
Indexes
fact_manufacturing_cost
product_code VARCHAR(45)
cost_year YEAR
manufacturing_cost DECIMAL(15,4)
Indexes
fact_freight_cost
market VARCHAR(45)
fiscal_year YEAR
freight_pct DECIMAL(5,4)
other_cost_pct DECIMAL(5,4)
Indexes
fact_gross_price
product_code VARCHAR(45)
fiscal_year YEAR
gross_price DECIMAL(15,4)
Indexes
fact_sales_monthly
date DATE
product_code VARCHAR(45)
customer_code INT
sold_quantity INT
Indexes
fact_forecast_monthly
date DATE
fiscal_year YEAR
product_code VARCHAR(45)
customer_code INT
forecast_quantity INT
fact_pre_invoice_deductions
customer_code INT
fiscal_year YEAR
pre_invoice_discount_pct DECIMAL(5,4)
Indexes
dim_product
product_code VARCHAR(45)
division VARCHAR(45)
segment VARCHAR(45)
category VARCHAR(45)
product VARCHAR(200)
variant VARCHAR(45)
Indexes
dim_customer
customer_code INT
customer VARCHAR(150)
platform VARCHAR(45)
channel VARCHAR(45)
market VARCHAR(45)
sub_zone VARCHAR(45)
region VARCHAR(45)
Indexes

1. As a product owner I want to generate a report of individual product sales (aggregated on a monthly basis at the product level) for Croma India customers for FY=2021 so that I can track individual product sales and run further product analytics on it in excel

Croma India Product-wise Sales Report for Fiscal Year 2021

Generate a report that includes the following fields:

1. Month
2. Product Name & Variant
3. Sold Quantity
4. Gross Price Per Item
5. Gross Price Total
6. Variant Id

```sql
SELECT
    f.date,
    p.product_code,
    p.product,
    p.variant,
    f.sold_quantity,
    fg.gross_price,
    ROUND(fg.gross_price * f.sold_quantity, 2) as gross_price_total
FROM fact_sales_monthly f
JOIN dim_product p
    ON f.product_code = p.product_code
JOIN fact_gross_price fg
    ON fg.product_code = f.product_code
    AND fg.fiscal_year = get_fiscal_year(f.date)
WHERE
    customer_code = 90002002
    AND get_fiscal_year(f.date) = 2021
ORDER BY f.date;
```

get_fiscal_year() is user defined function

DESIRED OUTPUT

date	product_code	product	variant	sold_quantity	gross_price	gross_price_total
2020-09-01	A0118150101	AQ Dracula HDD ...	Standard	202	19.0573	3849.57
2020-09-01	A0118150102	AQ Dracula HDD ...	Plus	162	21.4565	3475.95
2020-09-01	A0118150103	AQ Dracula HDD ...	Premium	193	21.7795	4203.44
2020-09-01	A0118150104	AQ Dracula HDD ...	Premium ...	146	22.9729	3354.04
2020-09-01	A0219150201	AQ WereWolf NA...	Standard	149	23.6987	3531.11
2020-09-01	A0219150202	AQ WereWolf NA...	Plus	107	24.7312	2646.24
2020-09-01	A0220150203	AQ WereWolf NA...	Premium	123	23.6154	2904.69
2020-09-01	A0320150301	AQ Zion Saga	Standard	146	23.7223	3463.46
2020-09-01	A0321150302	AQ Zion Saga	Plus	236	27.1027	6396.24
2020-09-01	A0321150303	AQ Zion Saga	Premium	137	28.0059	3836.81

Result 5 | Read Only

Output

Action Output

#	Time	Action	Message	Duration / Fetch
1	23:53:04	SELECT f.date, p.product_code, p.product, p.variant, f.sold_quantity, fg.gross_price, ROUND(fg.gross_p...	3006 row(s) returned	0.797 sec / 0.016 sec

2. As a product owner I need an aggregate monthly gross sales report for Croma India customer so that I can track how much sales this particular customer is generating for AtliQ and manage our relationships accordingly.

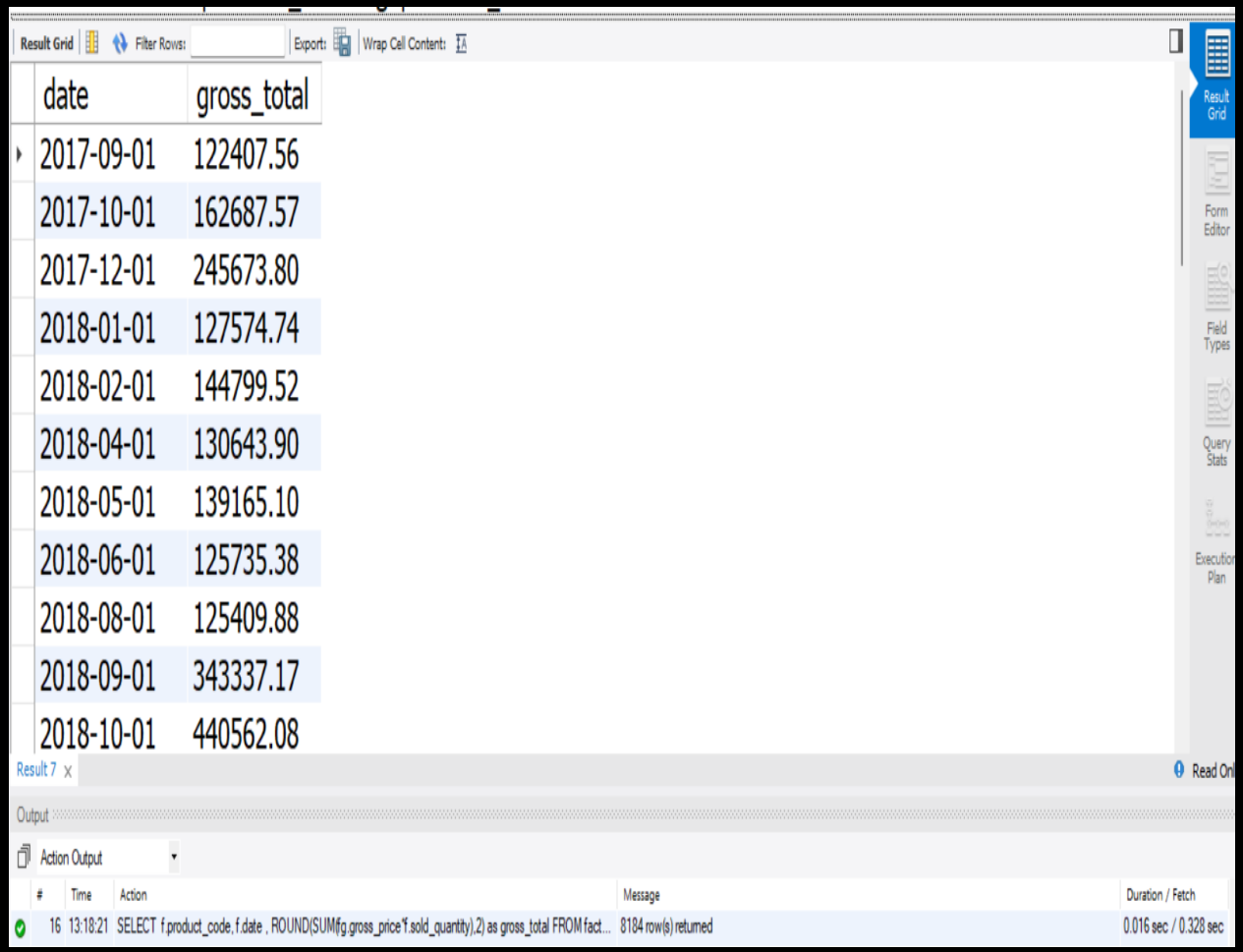
The report should have the following field

1.Month

2.Total gross sales amount to Croma India in this month.

```sql
SELECT
    f.date,
    ROUND(SUM(fg.gross_price * f.sold_quantity), 2) AS gross_total
FROM fact_sales_monthly f
JOIN fact_gross_price fg
    ON f.product_code = fg.product_code
    AND fg.fiscal_year = get_fiscal_year(f.date)
WHERE customer_code = 90002002
GROUP BY f.date;
```

DESIRED OUTPUT



date	gross_total
2017-09-01	122407.56
2017-10-01	162687.57
2017-12-01	245673.80
2018-01-01	127574.74
2018-02-01	144799.52
2018-04-01	130643.90
2018-05-01	139165.10
2018-06-01	125735.38
2018-08-01	125409.88
2018-09-01	343337.17
2018-10-01	440562.08

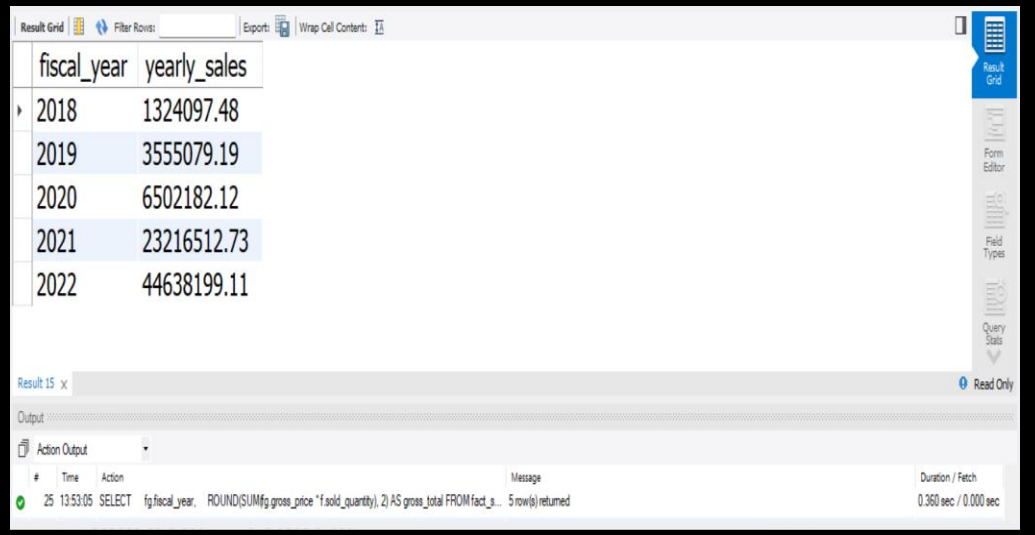
3. Generate a yearly report for Croma India where there are two columns

-Fiscal Year

-Total Gross sales amount in that year from Croma

```sql
SELECT
    get_fiscal_year(date) AS fiscal_year,
    SUM(ROUND(s.sold_quantity * g.gross_price, 2)) AS yearly_sales
FROM fact_sales_monthly s
JOIN fact_gross_price g
    ON g.fiscal_year = get_fiscal_year(s.date)
    AND g.product_code = s.product_code
WHERE customer_code = 90002002
GROUP BY get_fiscal_year(date)
ORDER BY fiscal_year;
```

DESIRED OUTPUT



fiscal_year	yearly_sales
2018	1324097.48
2019	3555079.19
2020	6502182.12
2021	23216512.73
2022	44638199.11

4. As a DA I want to create a stored proc for monthly gross sales report so that I don't have to manually modify the query every time.

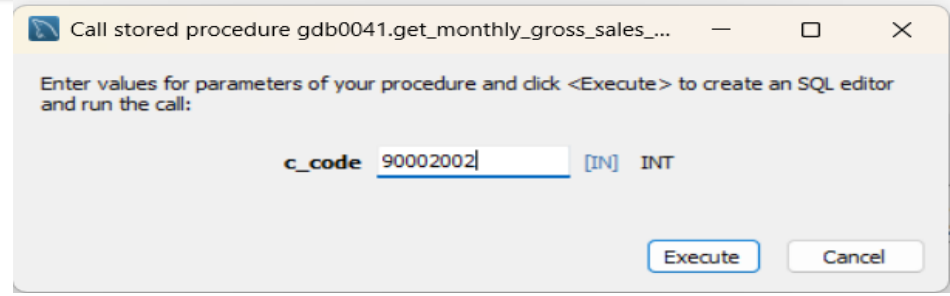
The report should have following columns:

1. Month
2. Total gross sales in that month from a given customer

Stored proc can be run by other users to (who have limited access to database) and they can generate this report without having to involve data analytics team.

Just need to enter customer_code for which monthly gross sales is needed.

```
CREATE PROCEDURE get_monthly_gross_sales_for_customer (
    IN c_code INT
)
BEGIN
    SELECT
        f.date,
        ROUND(SUM(fg.gross_price * f.sold_quantity), 2) AS gross_total
    FROM fact_sales_monthly f
    JOIN fact_gross_price fg
        ON f.product_code = fg.product_code
        AND fg.fiscal_year = get_fiscal_year(f.date)
    WHERE customer_code = c_code
    GROUP BY f.date;
END;
```




```
call gdb0041.get_monthly_gross_sales_for_customer(90002002)
```

date	gross_total
2017-09-01	122407.56
2017-10-01	162687.57
2017-12-01	245673.80
2018-01-01	127574.74
2018-02-01	144799.52
2018-04-01	130643.90
2018-05-01	139165.10
2018-06-01	125735.38
2018-08-01	125409.88
2018-09-01	343337.17
2018-10-01	440562.08
2018-12-01	653944.75

Output

Action Output

#	Time	Action	Message
29	17:10:51	Apply changes to get_monthly_gross_sales_for_customer	Changes applied

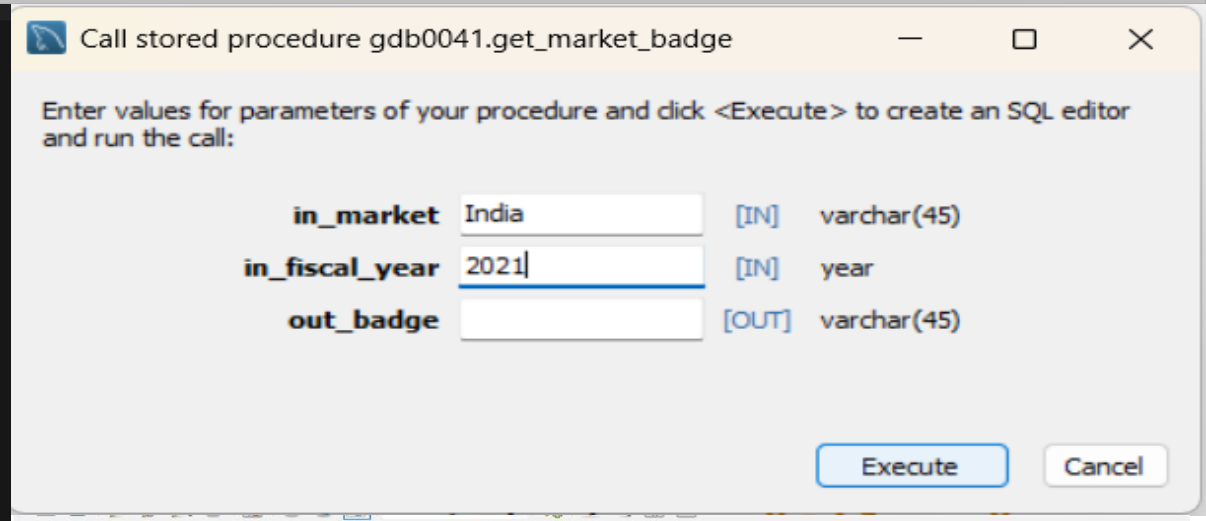
5. Stored procedure for market badge

Create a store proc that can determine the market badge based on the following logic-
If **total sold qty>5million** that market is considered **Gold** else it is **Silver**
My input will be - Market , fiscal year
Output should be - Market badge

```
CREATE PROCEDURE get_market_badge (
    IN in_market VARCHAR(45),
    IN in_fiscal_year YEAR,
    OUT out_badge VARCHAR(45)
)
BEGIN
    DECLARE qty INT DEFAULT 0;
    IF in_market = '' THEN SET in_market = 'India'; END IF;

    SELECT SUM(sold_quantity) INTO qty
    FROM fact_sales_monthly f
    JOIN dim_customer c ON f.customer_code = c.customer_code
    WHERE get_fiscal_year(f.date) = in_fiscal_year
          AND c.market = in_market
    GROUP BY c.market;

    IF qty > 5000000 THEN
        SET out_badge = 'Gold';
    ELSE
        SET out_badge = 'Silver';
    END IF;
END;
```




```
set @out_badge = '0';
call gdb0041.get_market_badge('India', 2021, @out_badge);
select @out_badge;
```

@out_badge
Gold

#	Time	Action	Message
40	17:57:45	set @out_badge = '0'	0 row(s) affected
41	17:57:45	call gdb0041.get_market_badge('India', 2021, @out_badge)	1 row(s) affected
42	17:58:00	select @out_badge LIMIT 0, 500	1 row(s) returned

6. As a product owner I want a report for top markets , products , customers by net sales for a given financial year so that I can have a holistic view of our financial performance and can take appropriate actions to address any potential issues.

1. Optimized query performance - Used same code from previous query and replaced get_fiscal_year() function by adding a generated column fiscal_year in fact_sales_monthly table.

2. Created VIEWS to simplify query and in order to reuse same code to get required final report.

VIEW-Table -1

sales_preinv_discount

Gross_price – pre_invoice_deduction=Net_Invoice_sales

Net_Invoice_sales-post_invoice_deduction= *Net_sales*

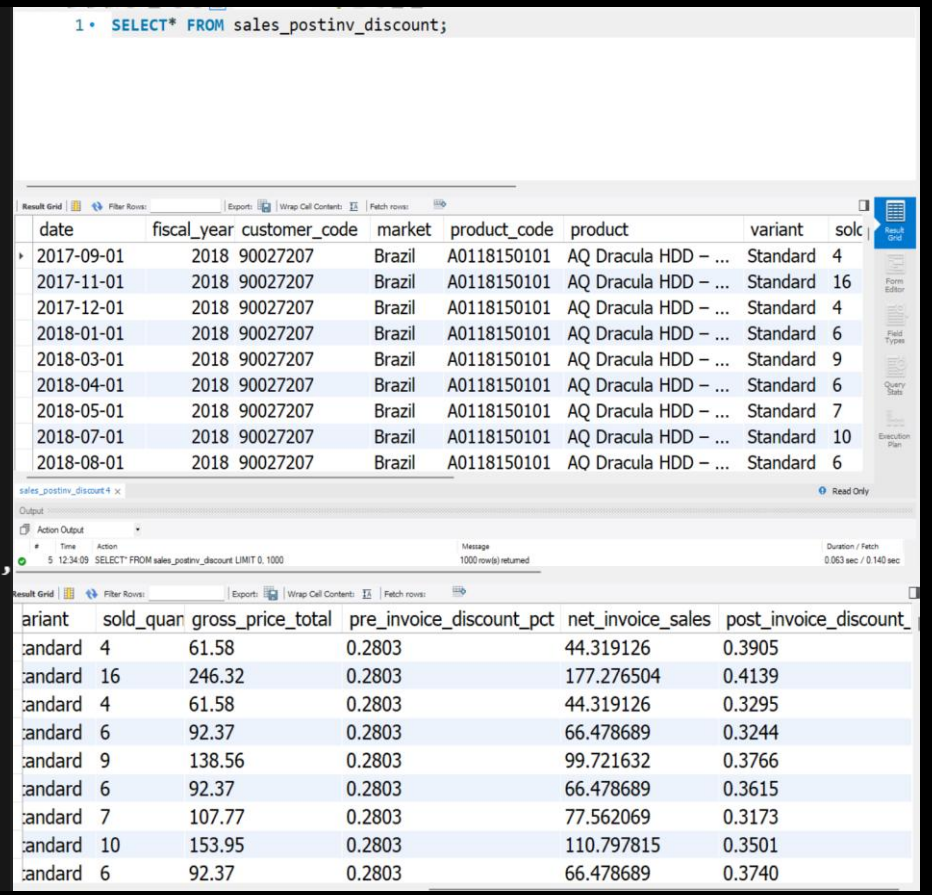
Result Grid | Filter Rows: | Export: | Wrap Cell Content: | Fetch rows:

date	fiscal_yea	product_code	market	product	varian	sold_	gross_price	customer_co	gross_price
201...	2018	A0118150101	India	AQ Dra...	Sta...	51	15.3952	70002017	785.16
201...	2018	A0118150101	India	AQ Dra...	Sta...	77	15.3952	70002018	1185.43
201...	2018	A0118150101	Indo...	AQ Dra...	Sta...	17	15.3952	70003181	261.72
201...	2018	A0118150101	Indo...	AQ Dra...	Sta...	6	15.3952	70003182	92.37
201...	2018	A0118150101	Philip...	AQ Dra...	Sta...	5	15.3952	70006157	76.98
201...	2018	A0118150101	Philip...	AQ Dra...	Sta...	7	15.3952	70006158	107.77
201...	2018	A0118150101	Sout...	AQ Dra...	Sta...	29	15.3952	70007198	446.46
201...	2018	A0118150101	Sout...	AQ Dra...	Sta...	34	15.3952	70007199	523.44
201...	2018	A0118150101	Austr...	AQ Dra...	Sta...	22	15.3952	70008169	338.69

```sql
SELECT
    f.date,
    f.fiscal_year,
    p.product_code,
    c.market,
    p.product,
    p.variant,
    f.sold_quantity,
    fg.gross_price,
    f.customer_code,
    ROUND(fg.gross_price * f.sold_quantity, 2) AS gross_price_total
FROM fact_sales_monthly f
JOIN dim_customer c
    ON f.customer_code = c.customer_code
JOIN dim_product p
    ON f.product_code = p.product_code
JOIN fact_gross_price fg
    ON fg.product_code = f.product_code
   AND fg.fiscal_year = f.fiscal_year
JOIN fact_pre_invoice_deductions pre
    ON f.customer_code = pre.customer_code
   AND pre.fiscal_year = f.fiscal_year;
```

VIEW- Table -2 **sales_postinv_discount**

```sql
SELECT
    s.date,
    s.fiscal_year,
    s.customer_code,
    s.market,
    s.product_code,
    s.product,
    s.variant,
    s.sold_quantity,
    s.gross_price_total,
    s.pre_invoice_discount_pct,
    (s.gross_price_total - s.pre_invoice_discount_pct * s.gross_price_total) AS net_invoice_sales,
    (po.discounts_pct + po.other_deductions_pct) AS post_invoice_discount_pct
FROM sales_preinv_discount s
JOIN fact_post_invoice_deductions po
    ON po.customer_code = s.customer_code
   AND po.product_code = s.product_code
   AND po.date = s.date;
```



```sql
SELECT* FROM sales_postinv_discount;
```

date	fiscal_year	customer_code	market	product_code	product	variant	solc
2017-09-01	2018	90027207	Brazil	A0118150101	AQ Dracula HDD – ...	Standard	4
2017-11-01	2018	90027207	Brazil	A0118150101	AQ Dracula HDD – ...	Standard	16
2017-12-01	2018	90027207	Brazil	A0118150101	AQ Dracula HDD – ...	Standard	4
2018-01-01	2018	90027207	Brazil	A0118150101	AQ Dracula HDD – ...	Standard	6
2018-03-01	2018	90027207	Brazil	A0118150101	AQ Dracula HDD – ...	Standard	9
2018-04-01	2018	90027207	Brazil	A0118150101	AQ Dracula HDD – ...	Standard	6
2018-05-01	2018	90027207	Brazil	A0118150101	AQ Dracula HDD – ...	Standard	7
2018-07-01	2018	90027207	Brazil	A0118150101	AQ Dracula HDD – ...	Standard	10
2018-08-01	2018	90027207	Brazil	A0118150101	AQ Dracula HDD – ...	Standard	6

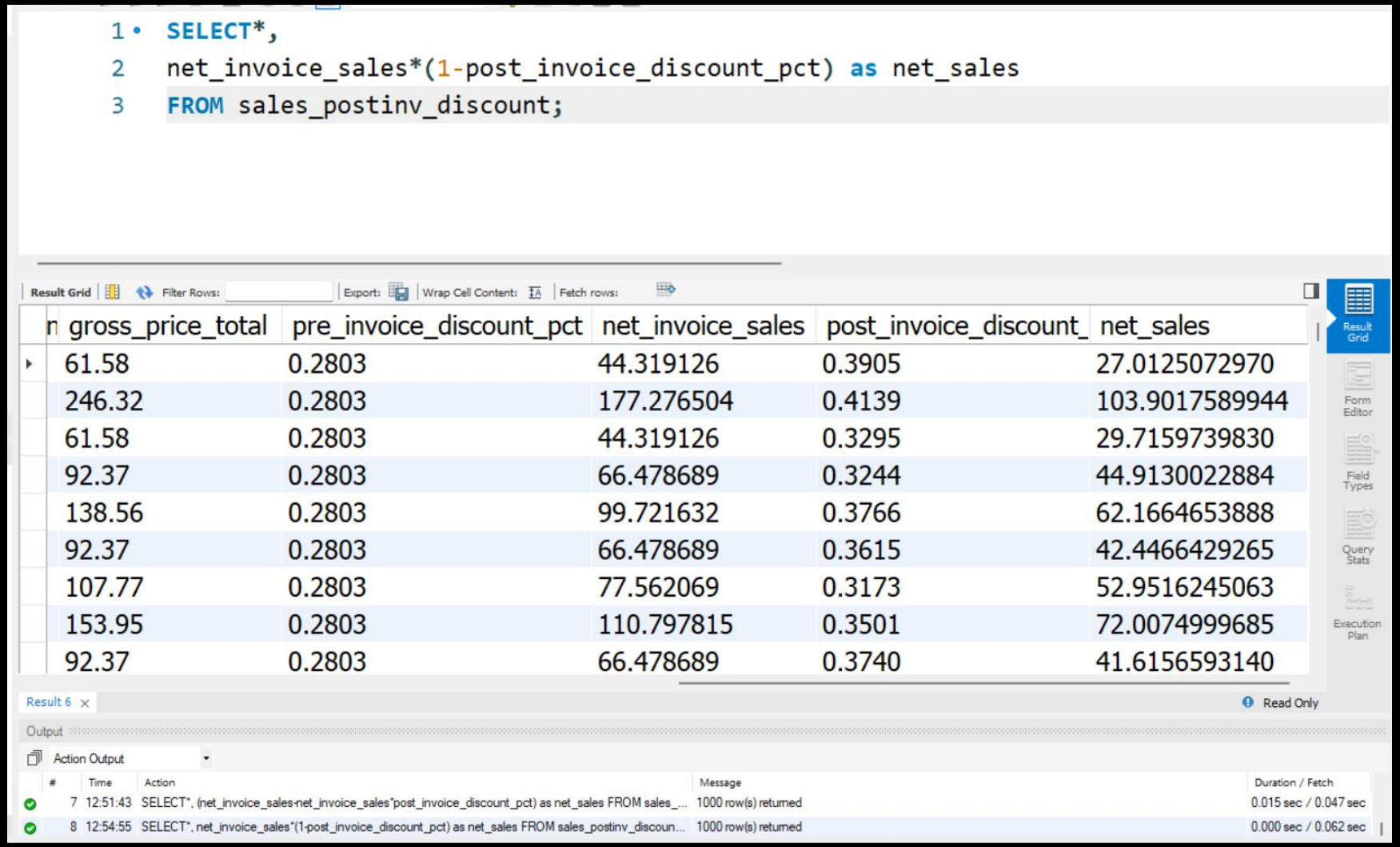
Action Output

#	Time	Action	Message	Duration / Fetch
5	12:34:09	SELECT* FROM sales_postinv_discount LIMIT 0, 1000	1000 row(s) returned	0.063 sec / 0.140 sec

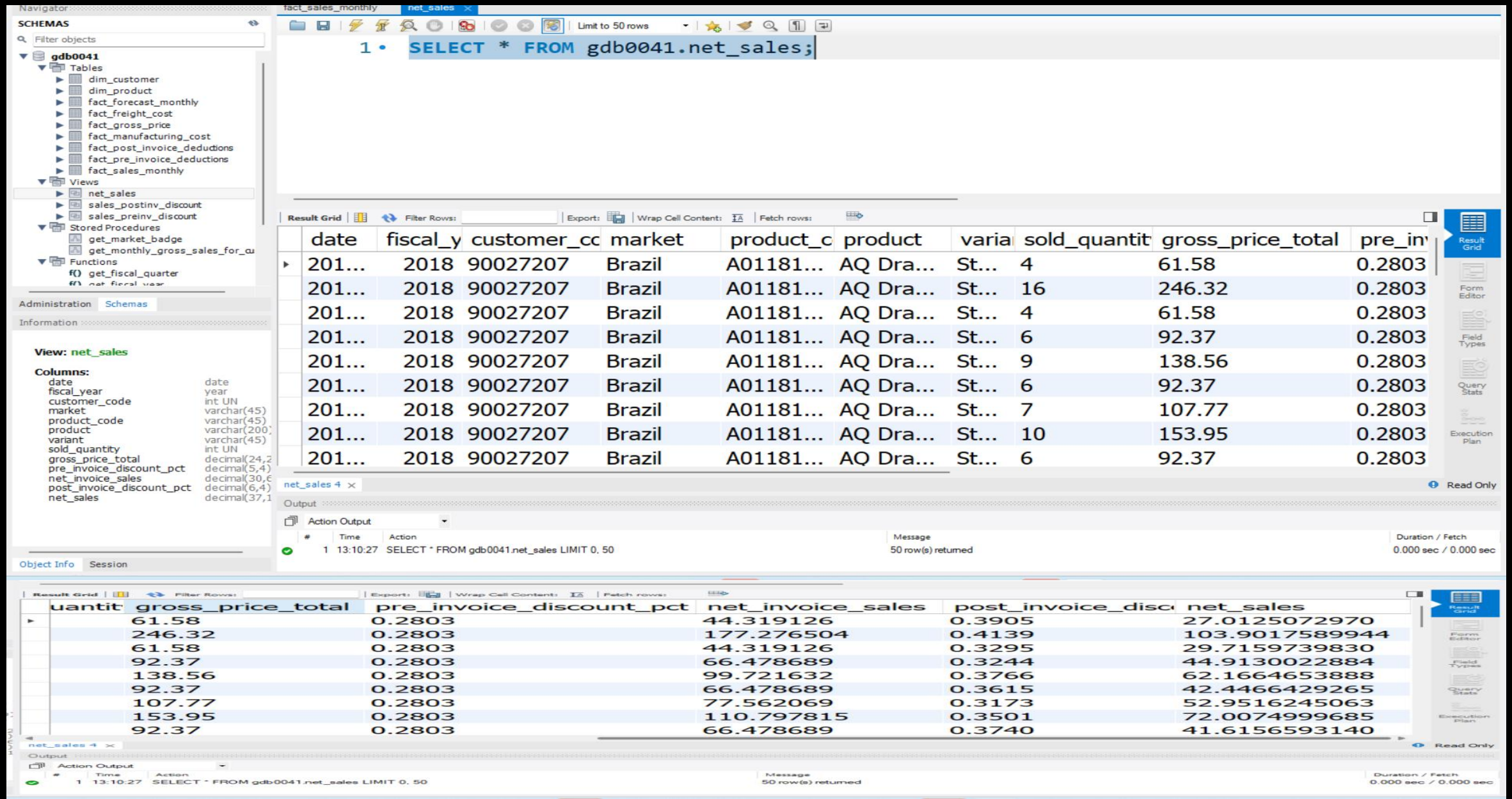
ariant	sold_quan	gross_price_total	pre_invoice_discount_pct	net_invoice_sales	post_invoice_discount_
tandard	4	61.58	0.2803	44.319126	0.3905
tandard	16	246.32	0.2803	177.276504	0.4139
tandard	4	61.58	0.2803	44.319126	0.3295
tandard	6	92.37	0.2803	66.478689	0.3244
tandard	9	138.56	0.2803	99.721632	0.3766
tandard	6	92.37	0.2803	66.478689	0.3615
tandard	7	107.77	0.2803	77.562069	0.3173
tandard	10	153.95	0.2803	110.797815	0.3501
tandard	6	92.37	0.2803	66.478689	0.3740

We have two views — **sales_preinv_discount** and **sales_postinv_discount** now we can easily calculate the **Net Sales**, and create a consolidated view to represent it.

The **Net Sales** column has now been derived. We'll convert this query into a **view**, enabling us to generate reports that identify the **top markets, products, and customers by net sales** for a given fiscal year.

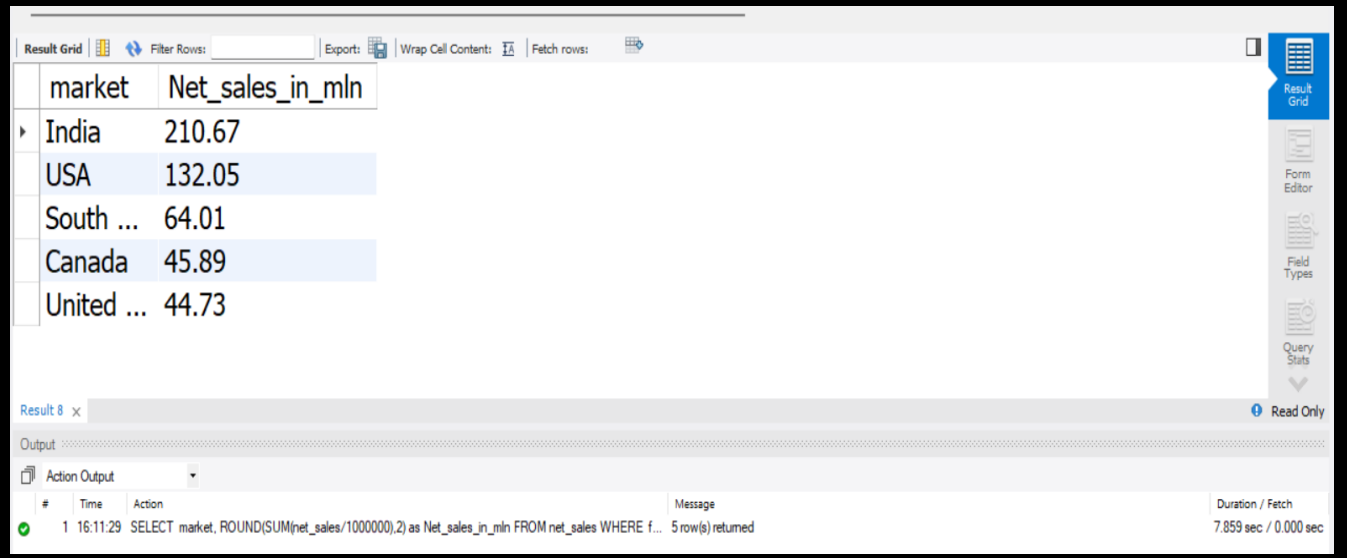


Net Sales view is now ready!



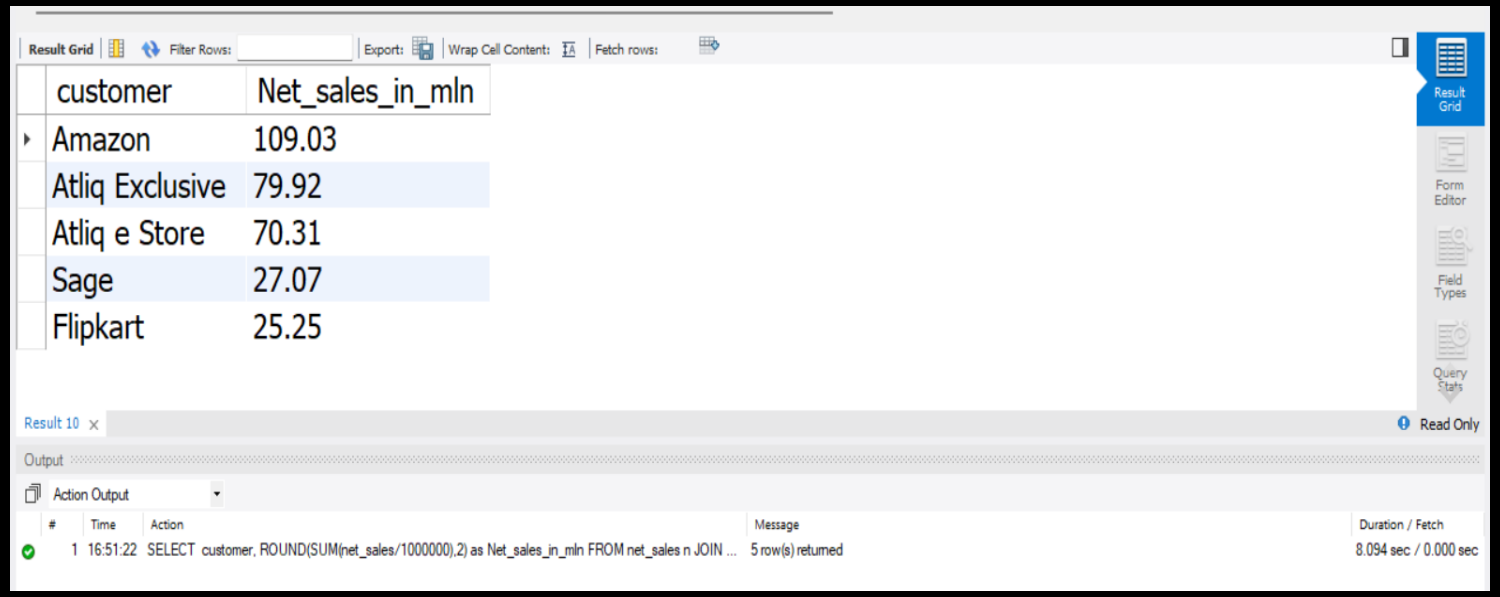
TOP 5 MARKETS BY NET SALES(in millions)
IN FISCAL YEAR 2021

```sql
SELECT
    market,
    ROUND(SUM(net_sales / 1000000), 2) AS Net_sales_in_mln
FROM net_sales
WHERE fiscal_year = 2021
GROUP BY market
ORDER BY Net_sales_in_mln DESC
LIMIT 5;
```



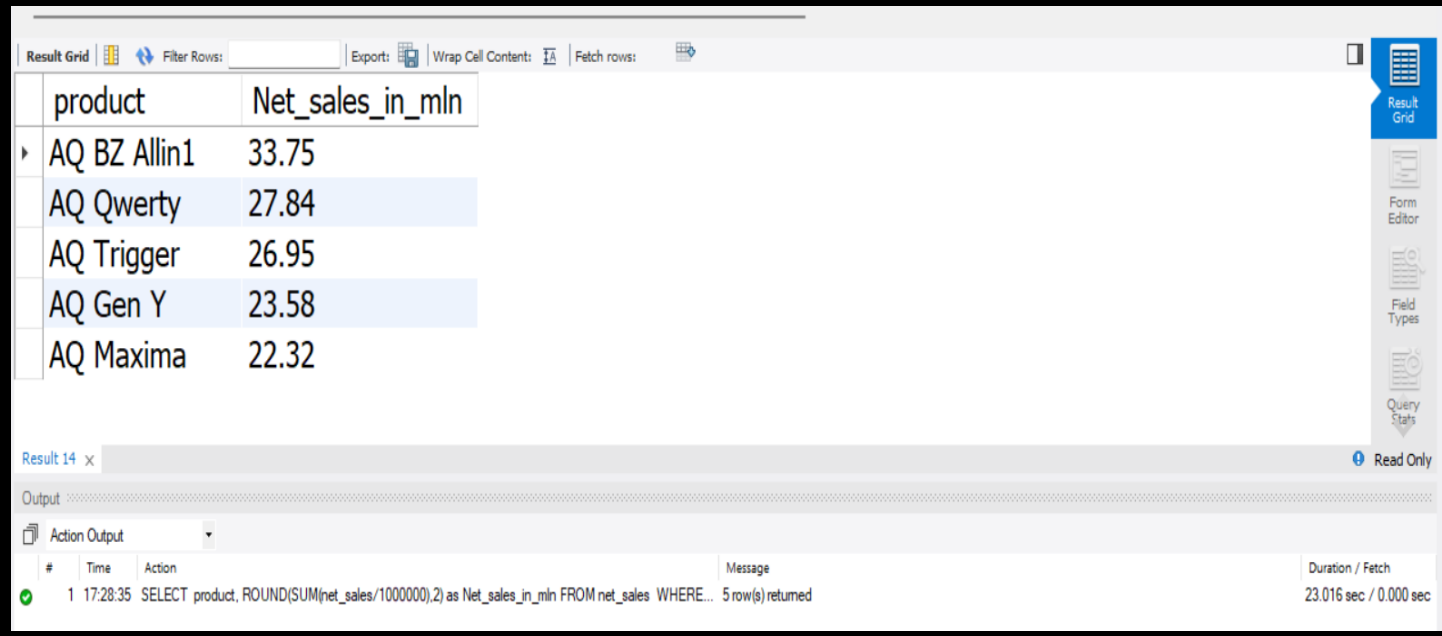
TOP 5 CUSTOMERS BY NET SALES(in millions) IN FISCAL YEAR 2021

```sql
SELECT
    customer,
    ROUND(SUM(net_sales / 1000000), 2) AS Net_sales_in_mln
FROM net_sales n
JOIN dim_customer c
    ON n.customer_code = c.customer_code
WHERE fiscal_year = 2021
GROUP BY customer
ORDER BY Net_sales_in_mln DESC
LIMIT 5;
```



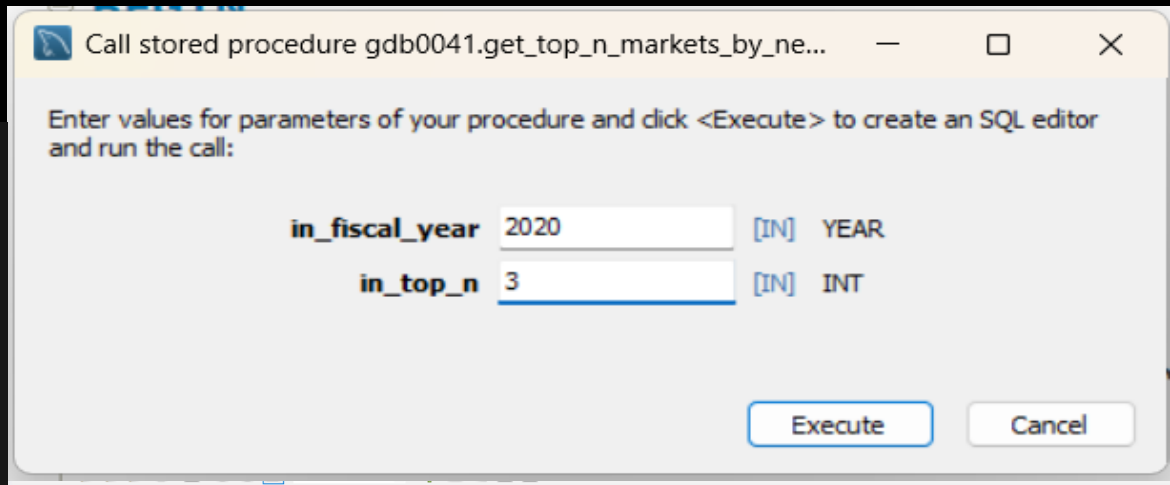
TOP 5 PRODUCTS BY NET SALES(in millions)
IN FISCAL YEAR 2021

```sql
SELECT
    product,
    ROUND(SUM(net_sales / 1000000), 2) AS Net_sales_in_mln
FROM net_sales
WHERE fiscal_year = 2021
GROUP BY product
ORDER BY Net_sales_in_mln DESC
LIMIT 5;
```



7. Automated report - Stored procedure for Top N markets by Net sales in any fiscal year

```sql
CREATE PROCEDURE `get_top_n_markets_by_net_sales` (
    IN in_fiscal_year INT,
    IN in_top_n INT
)
BEGIN
    SELECT
        market,
        ROUND(SUM(net_sales / 1000000), 2) AS Net_sales_in_mln
    FROM net_sales
    WHERE fiscal_year = in_fiscal_year
    GROUP BY market
    ORDER BY Net_sales_in_mln DESC
    LIMIT in_top_n;
END;
```




```sql
call gdb0041.get_top_n_markets_by_net_sales(2020, 3);
```

market	Net_sales_in_mln
India	64.73
USA	46.35
South ...	22.38

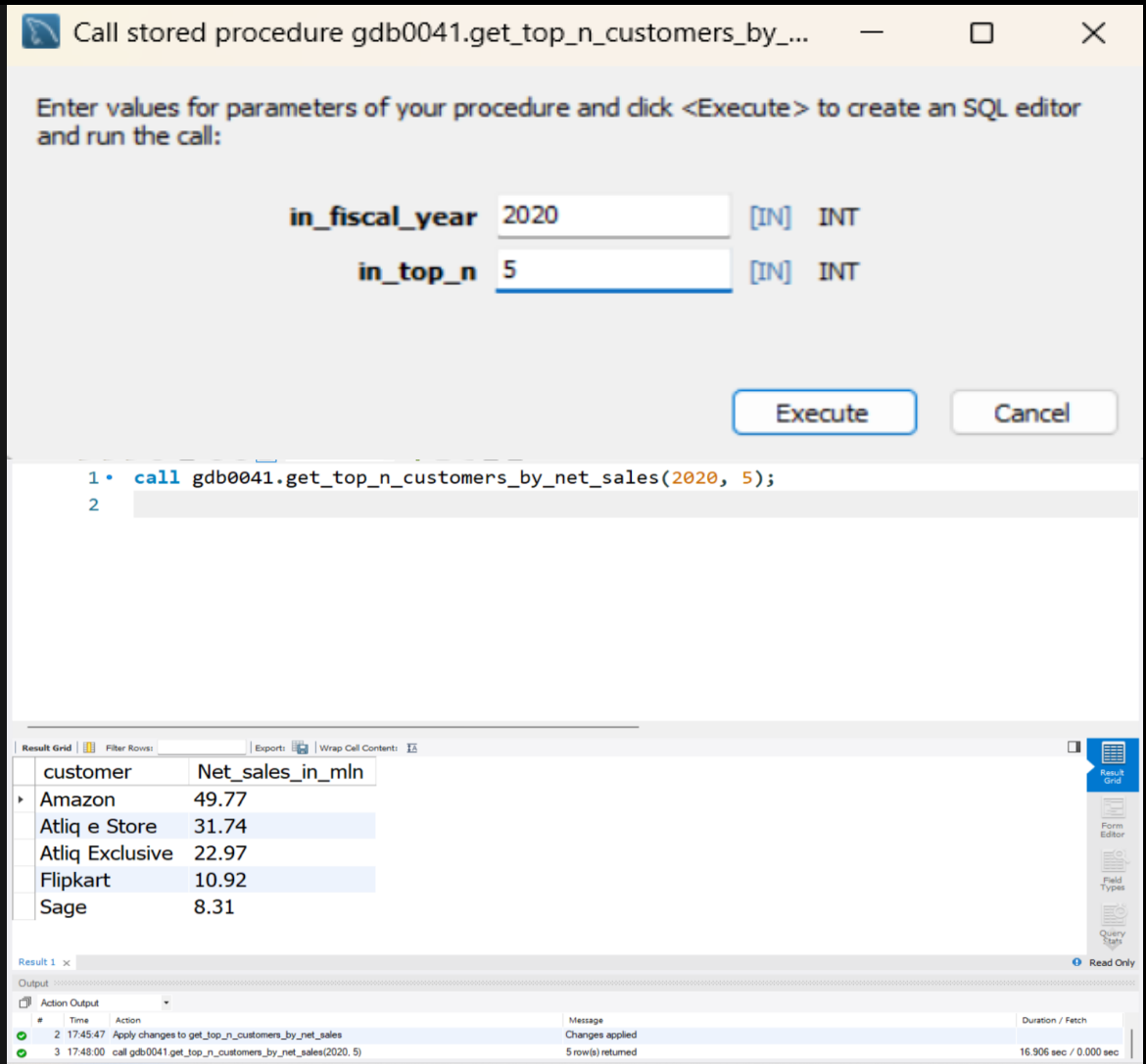
Output

Action Output

#	Time	Action	Message	Duration / Fetch
4	16:28:51	Apply changes to get_top_n_markets_by_net_sales	Changes applied	
5	16:29:04	call gdb0041.get_top_n_markets_by_net_sales(2020, 3)	3 row(s) returned	6.500 sec / 0.000 sec

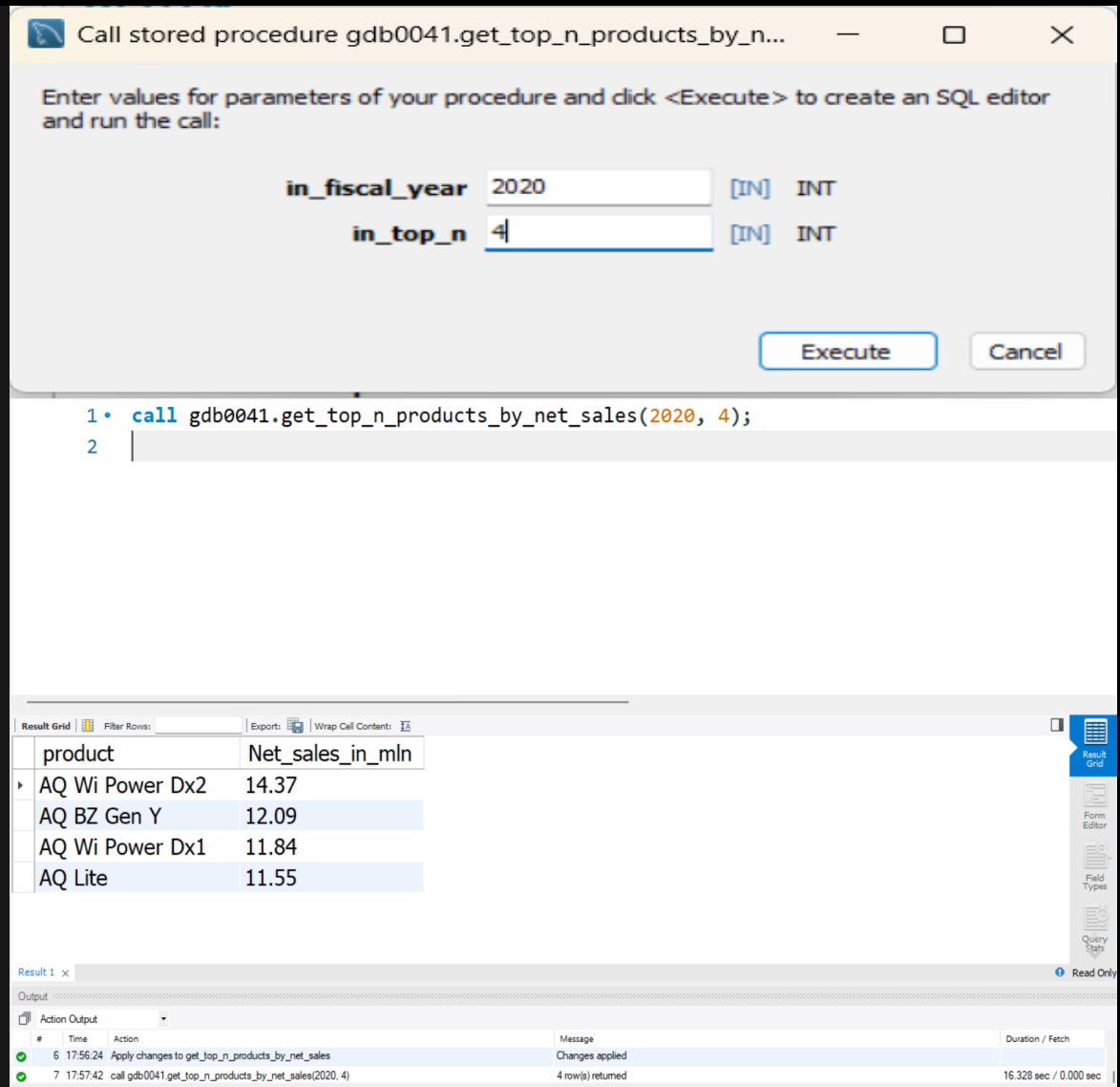
8. Automated report - Stored procedure for Top N Customers by Net sales in given fiscal year

```sql
CREATE PROCEDURE `get_top_n_customers_by_net_sales` (
    IN in_fiscal_year INT,
    IN in_top_n INT
)
BEGIN
    SELECT
        customer,
        ROUND(SUM(net_sales / 1000000), 2) AS Net_sales_in_mln
    FROM net_sales n
    JOIN dim_customer c
        ON n.customer_code = c.customer_code
    WHERE fiscal_year = in_fiscal_year
    GROUP BY customer
    ORDER BY Net_sales_in_mln DESC
    LIMIT in_top_n;
END;
```



9. Automated report - Stored procedure for Top N products by Net sales in any fiscal year

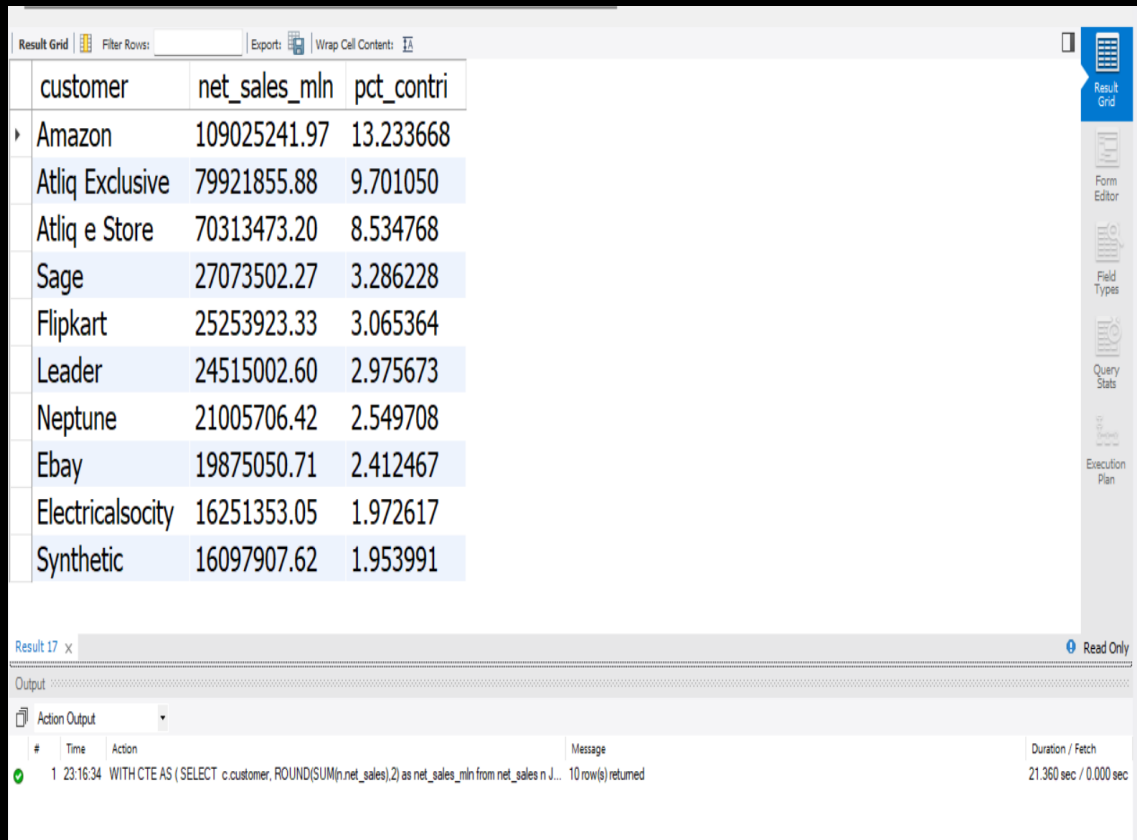
```sql
CREATE PROCEDURE `get_top_n_products_by_net_sales` (
    IN in_fiscal_year INT,
    IN in_top_n INT
)
BEGIN
    SELECT
        product,
        ROUND(SUM(net_sales / 1000000), 2) AS Net_sales_in_mln
    FROM net_sales
    WHERE fiscal_year = in_fiscal_year
    GROUP BY product
    ORDER BY Net_sales_in_mln DESC
    LIMIT in_top_n;
END;
```



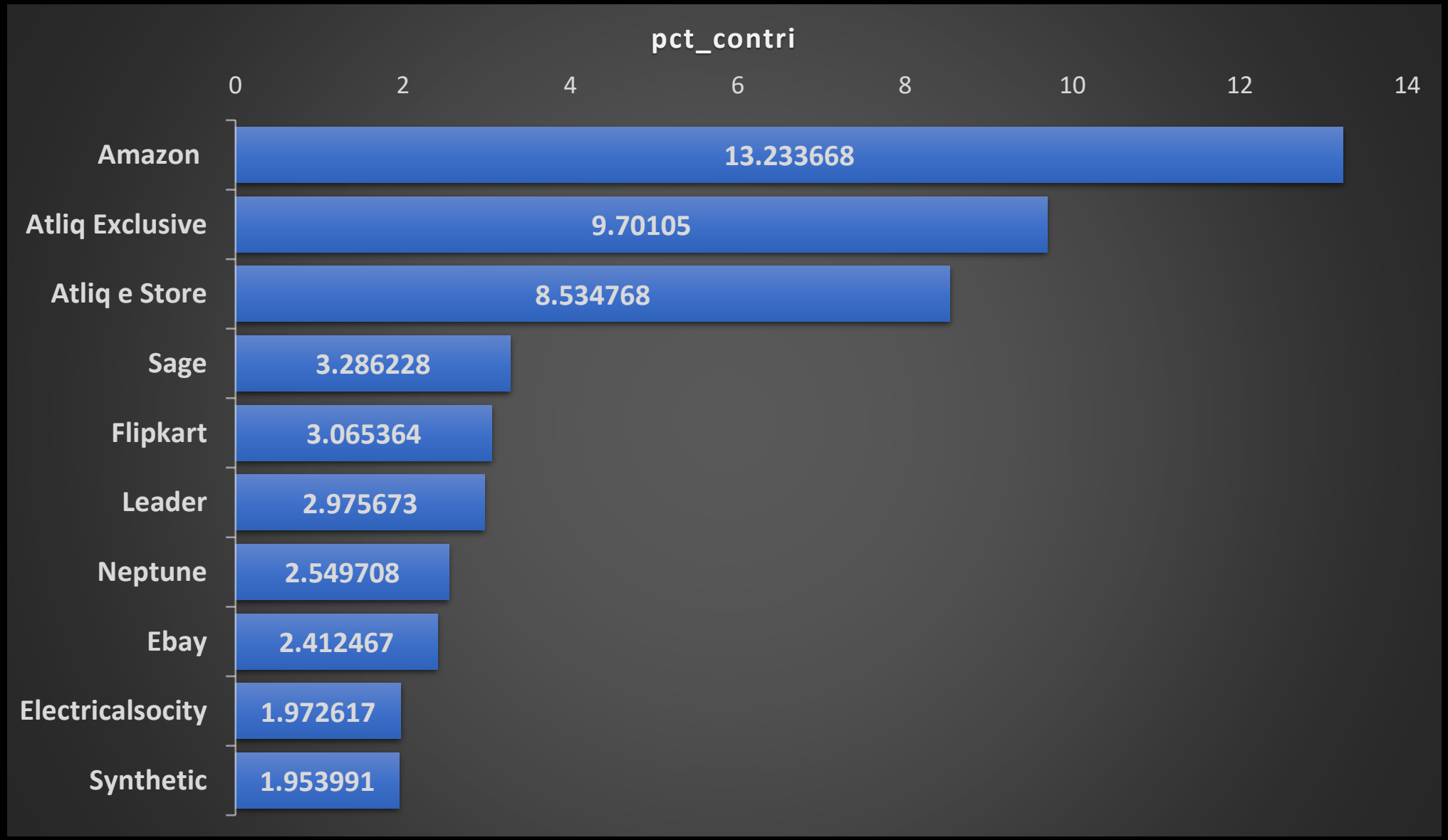
10. As a product owner, I want to see a bar chart that shows the top 10 markets with the highest percentage of net sales for the financial year 2021. The chart should display each market and its percentage share of total net sales.

```sql
WITH CTE AS (
    SELECT
        c.customer,
        ROUND(SUM(n.net_sales), 2) AS net_sales_mln
    FROM net_sales n
    JOIN dim_customer c
        ON n.customer_code = c.customer_code
    WHERE fiscal_year = 2021
    GROUP BY customer
    ORDER BY net_sales_mln DESC
)
SELECT *,
       (net_sales_mln * 100) / SUM(net_sales_mln) OVER() AS pct_contri
FROM CTE
LIMIT 10;
```

Will export this file to excel to create a bar chart



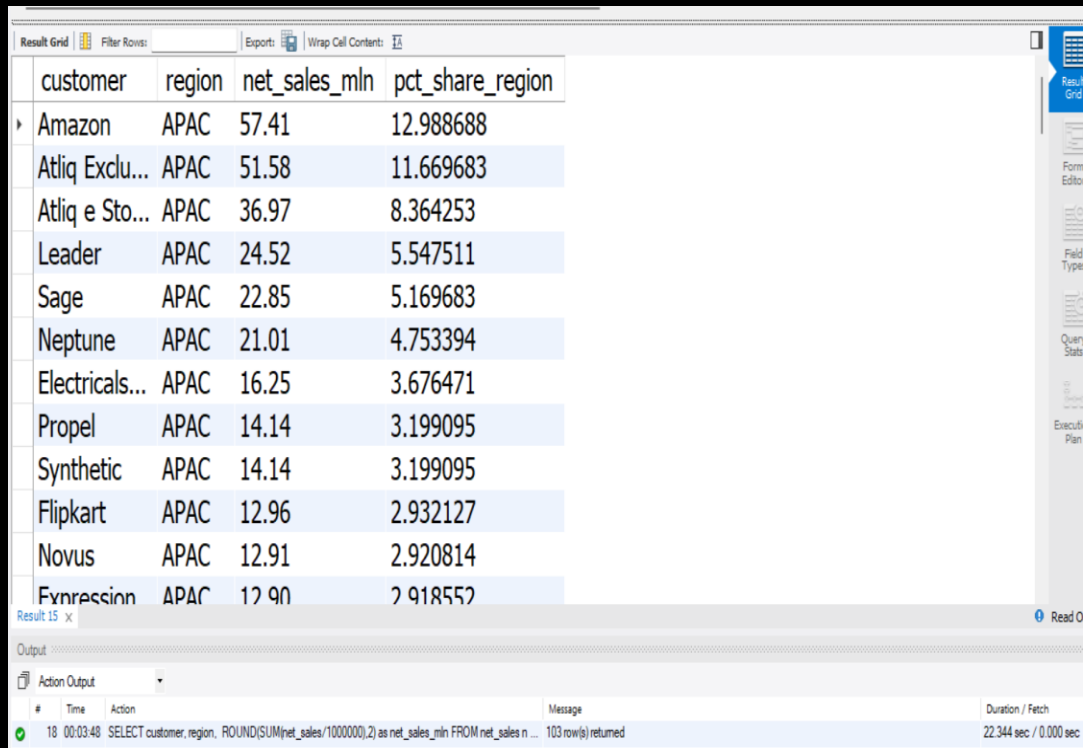
customer	net_sales_mln	pct_contri
Amazon	109025241.97	13.233668
Atliq Exclusive	79921855.88	9.701050
Atliq e Store	70313473.20	8.534768
Sage	27073502.27	3.286228
Flipkart	25253923.33	3.065364
Leader	24515002.60	2.975673
Neptune	21005706.42	2.549708
Ebay	19875050.71	2.412467
Electricalsocity	16251353.05	1.972617
Synthetic	16097907.62	1.953991


pct_contri
0
2
4
6
8
10
12
14
Amazon
13.233668
Atliq Exclusive
9.70105
Atliq e Store
8.534768
Sage
3.286228
Flipkart
3.065364
Leader
2.975673
Neptune
2.549708
Ebay
2.412467
Electricalsocity
1.972617
Synthetic
1.953991

11. As a product owner, I want to see region wise (APAC, EU, LATAM etc) % net sales breakdown by customers in a respective region so that I can perform my regional analysis on financial performance of the company. The end results should be charts in pie format for FY =2021 .
Build a reusable asset that we can use to conduct analysis for any financial year.

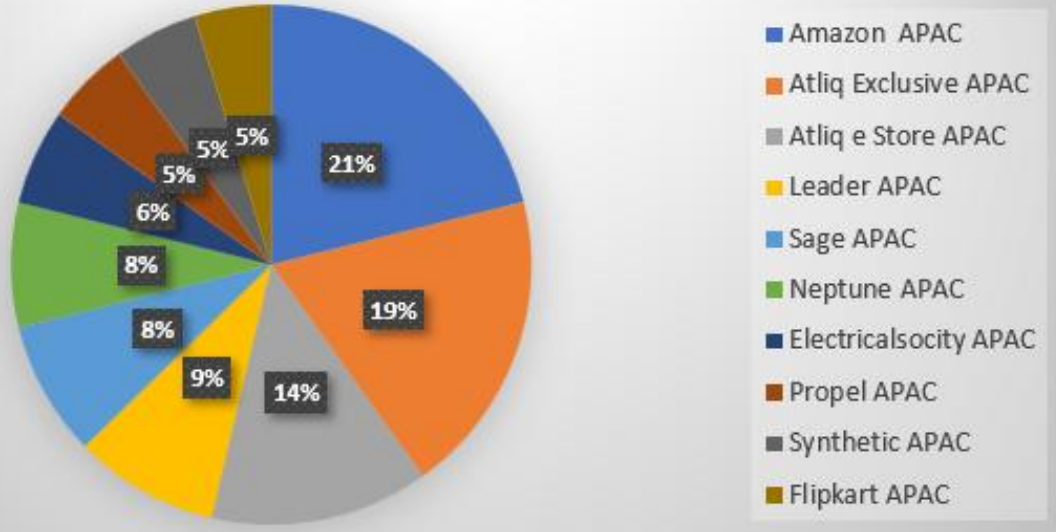
```sql
WITH CTE AS (
    SELECT
        customer,
        region,
        ROUND(SUM(net_sales / 1000000), 2) AS net_sales_mln
    FROM net_sales n
    JOIN dim_customer c
        ON c.customer_code = n.customer_code
    WHERE fiscal_year = 2021
    GROUP BY customer, region
    ORDER BY net_sales_mln DESC
)
SELECT *,
       net_sales_mln * 100 / SUM(net_sales_mln) OVER(PARTITION BY region) AS pct_share_region
FROM CTE
ORDER BY region, net_sales_mln DESC;
```

Will export this file to excel to create a pie chart

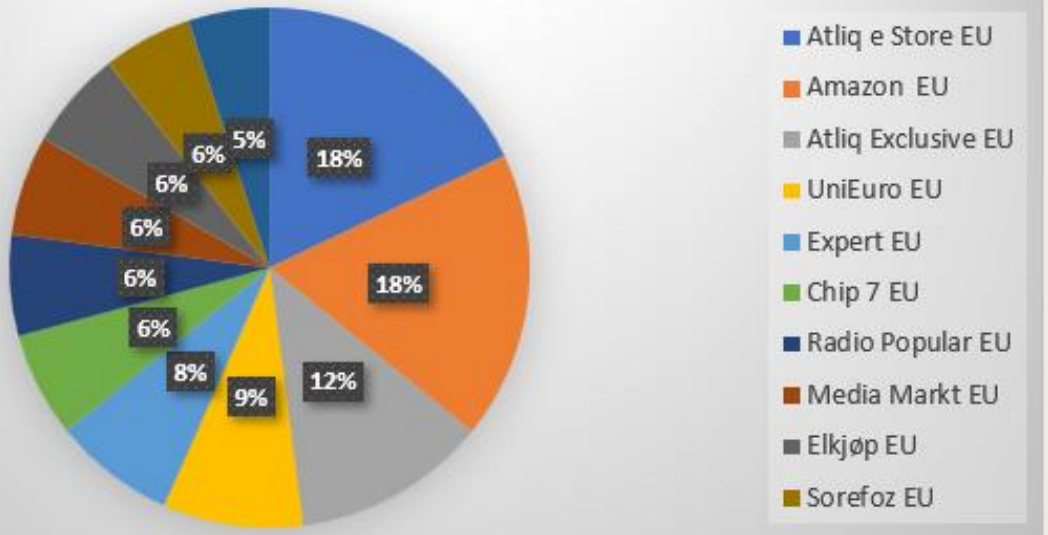


customer	region	net_sales_mln	pct_share_region
Amazon	APAC	57.41	12.988688
Atliq Exclu...	APAC	51.58	11.669683
Atliq e Sto...	APAC	36.97	8.364253
Leader	APAC	24.52	5.547511
Sage	APAC	22.85	5.169683
Neptune	APAC	21.01	4.753394
Electricals...	APAC	16.25	3.676471
Propel	APAC	14.14	3.199095
Synthetic	APAC	14.14	3.199095
Flipkart	APAC	12.96	2.932127
Novus	APAC	12.91	2.920814
Expression	APAC	12.90	2.918552

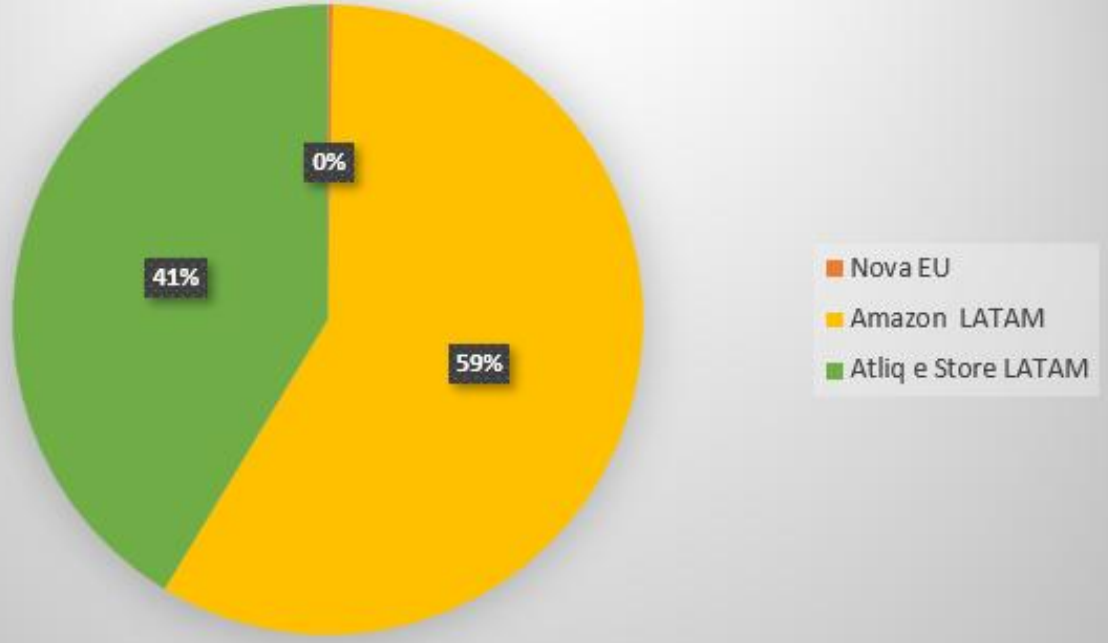
APAC Market Share : Net Sales



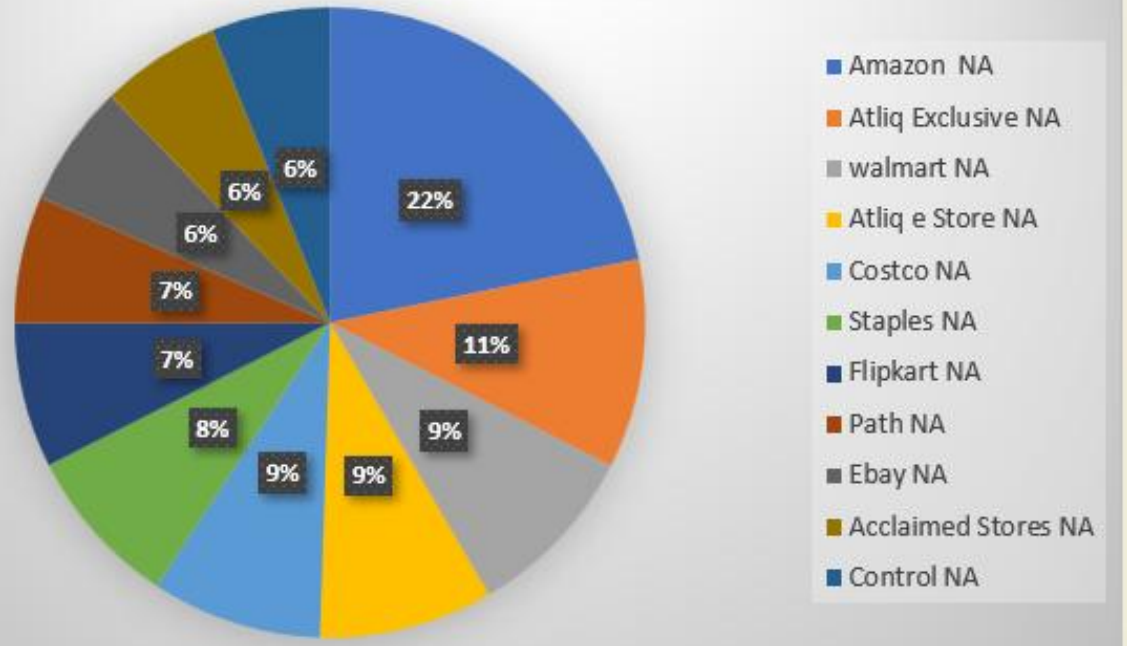
EU Market Share: Net Sales



LATAM Market Share : Net Sales

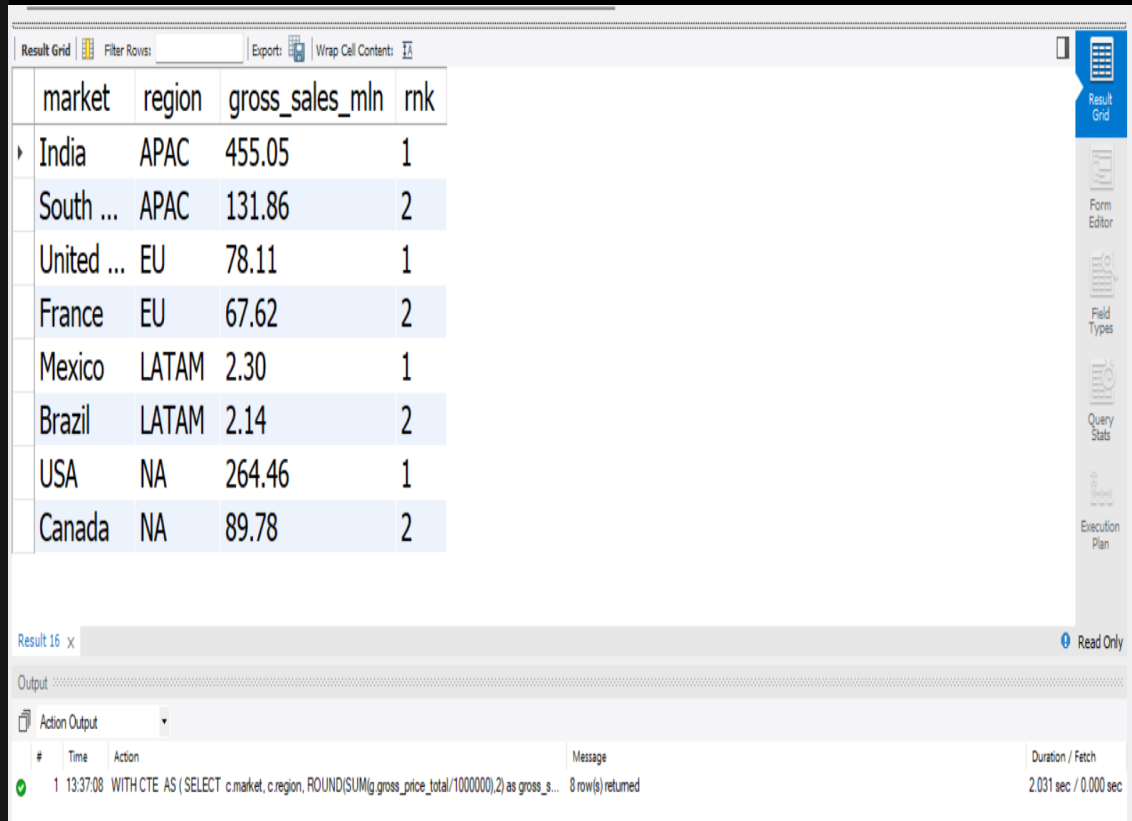


NA Market Share : Net Sales



12. Retrieve the top 2 markets in every region by their gross sales amount in FY=2021.

```sql
WITH CTE AS (
    SELECT
        c.market,
        c.region,
        ROUND(SUM(g.gross_price_total / 1000000), 2) AS gross_sales_mln
    FROM gross_sales g
    JOIN dim_customer c
        ON c.customer_code = g.customer_code
    WHERE g.fiscal_year = 2021
    GROUP BY c.market, c.region
    ORDER BY gross_sales_mln DESC
),
CTE1 AS (
    SELECT *,
           DENSE_RANK() OVER (PARTITION BY region ORDER BY gross_sales_mln DESC) AS rnk
    FROM CTE
)
SELECT *
FROM CTE1
WHERE rnk < 3;
```



Result Grid | Filter Rows: | Export: | Wrap Cell Contents:

market	region	gross_sales_mln	rnk
India	APAC	455.05	1
South ...	APAC	131.86	2
United ...	EU	78.11	1
France	EU	67.62	2
Mexico	LATAM	2.30	1
Brazil	LATAM	2.14	2
USA	NA	264.46	1
Canada	NA	89.78	2

Result 16 | Read Only

Output

Action Output

#	Time	Action	Message	Duration / Fetch
1	13:37:08	WITH CTE AS (SELECT c.market, c.region, ROUND(SUM(g.gross_price_total/1000000),2) as gross_s...	8 row(s) returned	2.031 sec / 0.000 sec

14. As a product owner , I need an aggregate forecast accuracy report for all the customers for a given fiscal year so that I can track the accuracy of the forecast we make for these customers.

The report should have fields-

1. **Customer code , name market**
2. **Total Sold Quantity**
3. **Total Forecast Quantity**
4. **Net Error**
5. **Absolute Error**
6. **Forecast Accuracy%**

customer_code	customer	market	total_sold_qty	total_forecast_qty	net_error	net_error_pct	abs_error	abs_error_pct	forecast_accuracy
70014142	Atliq Exclu...	Netherl...	81324	44740	-36584	-81.7702	47940	107.1524	0.0000
70014143	Atliq e Sto...	Netherl...	81942	45345	-36597	-80.7079	48575	107.1232	0.0000
90014135	Electricals...	Netherl...	82731	46718	-36013	-77.0859	48449	103.7052	0.0000
90014136	Reliance ...	Netherl...	84808	48442	-36366	-75.0712	48472	100.0619	0.0000
90014137	Media Ma...	Netherl...	77931	44802	-33129	-73.9454	45767	102.1539	0.0000
90014138	Mbit	Netherl...	79249	43779	-35470	-81.0206	45846	104.7214	0.0000
90014139	Elkjøp	Netherl...	83198	46240	-36958	-79.9265	48450	104.7794	0.0000
90014140	Radio Pop...	Netherl...	85581	47577	-38004	-79.8789	49774	104.6178	0.0000
90014141	Amazon	Netherl...	77462	43905	-33557	-76.4309	45033	102.5692	0.0000
90007197	Amazon	South ...	344240	226857	-117383	-51.7432	191047	84.2147	15.7853
90019202	Argos (Sai...	Sweden	26581	18218	-8363	-45.9051	15273	83.8347	16.1653

```
WITH forecast_err_table AS (
  SELECT
    s.customer_code,
    SUM(s.sold_quantity) AS total_sold_qty,
    SUM(s.forecast_quantity) AS total_forecast_qty,
    SUM(s.forecast_quantity - s.sold_quantity) AS net_error,
    SUM(s.forecast_quantity - s.sold_quantity) * 100 / SUM(s.forecast_quantity) AS net_error_pct,
    SUM(ABS(s.forecast_quantity - s.sold_quantity)) AS abs_error,
    SUM(ABS(s.forecast_quantity - s.sold_quantity)) * 100 / SUM(ABS(s.forecast_quantity)) AS abs_error_pct
  FROM fact_act_est s
  JOIN dim_customer c USING(customer_code)
  WHERE s.fiscal_year = 2021
  GROUP BY s.customer_code
)
SELECT
  e.customer_code,
  c.customer,
  c.market,
  e.total_sold_qty,
  e.total_forecast_qty,
  e.net_error,
  e.net_error_pct,
  e.abs_error,
  e.abs_error_pct,
  IF(e.abs_error_pct > 100, 0, 100 - e.abs_error_pct) AS forecast_accuracy
FROM forecast_err_table e
JOIN dim_customer c USING(customer_code)
ORDER BY forecast_accuracy;
```

THANK YOU!