



SQL Project

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# **FINANCE AND SUPPLY CHAIN ANALYTICS AT ATLIQ HARDWARE**

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# ATLIQ HARDWARE AND BUSINESS MODEL

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Atliq Hardware is a global leader in electronics manufacturing. We specialize in producing and distributing a wide range of high-quality hardware products. Our offerings include personal computers, printers, microphones, and various computer accessories, serving the needs of customers around the world.



# PROBLEM STATEMENT & PROBLEM OVERVIEW

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## PROBLEM STATEMENT

Atliq Hardware is struggling with slow and complicated Excel files as their data keeps growing. To handle this issue, they created a team of data analysts to switch from Excel to MySQL. This move aims to improve efficiency and make better use of their data.

## PROBLEM OVERVIEW

The goal of this project is to explore the company's data using MySQL. The team will study sales, customer behavior, market patterns, and supply chain activities to discover useful insights that can help improve business decisions.

# CROMA SALES REPORT

Generate a report detailing the individual product sales for **Croma** India customer throughout the **fiscal year 2021**.

| date       | product_code | product   | variant      | sold_quantity | gross_price | gross_price_total |
|------------|--------------|---|--------------|---------------|-------------|-------------------|
| 2020-09-01 | A0118150101  | AQ Dracula HDD – 3.5 Inch SATA 6 Gb/s 5400 R... | Standard     | 202           | 19.0573     | 3849.57           |
| 2020-09-01 | A0118150102  | AQ Dracula HDD – 3.5 Inch SATA 6 Gb/s 5400 R... | Plus         | 162           | 21.4565     | 3475.95           |
| 2020-09-01 | A0118150103  | AQ Dracula HDD – 3.5 Inch SATA 6 Gb/s 5400 R... | Premium      | 193           | 21.7795     | 4203.44           |
| 2020-09-01 | A0118150104  | AQ Dracula HDD – 3.5 Inch SATA 6 Gb/s 5400 R... | Premium Plus | 146           | 22.9729     | 3354.04           |
| 2020-09-01 | A0219150201  | AQ WereWolf NAS Internal Hard Drive HDD – 8.... | Standard     | 149           | 23.6987     | 3531.11           |
| 2020-09-01 | A0219150202  | AQ WereWolf NAS Internal Hard Drive HDD – 8.... | Plus         | 107           | 24.7312     | 2646.24           |
| 2020-09-01 | A0220150203  | AQ WereWolf NAS Internal Hard Drive HDD – 8.... | 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           |
| 2020-09-01 | A0418150103  | AQ Mforce Gen X                                 | Standard 3   | 23            | 19.5235     | 449.04            |
| 2020-09-01 | A0418150104  | AQ Mforce Gen X                                 | Plus 1       | 82            | 19.9239     | 1633.76           |
| 2020-09-01 | A0418150105  | AO Mforce Gen X                                 | Plus 2       | 86            | 20.0766     | 1726.59           |

```
3 ● SELECT
4     s.date, s.product_code,
5     p.product, p.variant, s.sold_quantity,g.gross_price,
6     round(g.gross_price * s.sold_quantity,2) as gross_price_total
7 FROM fact_sales_monthly s
8 join dim_product p
9 on p.product_code = s.product_code
10 join fact_gross_price g
11 on g.product_code = s.product_code and
12 g.fiscal_year=get_fiscal_year(s.date)
13 where customer_code = "90002002" and
14 get_fiscal_year(date)=2021
15 order by date asc;
```



# CROMA YEARLY GROSS SALES REPORT

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

1. Fiscal Year ,2. **Total Gross Sales** amount in the year from **Croma**.

|   | fiscal_year | total_gross_sales |
|---|-------------|-------------------|
| ▶ | 2018        | 1324097.48        |
|   | 2019        | 3555079.19        |
|   | 2020        | 6502182.12        |
|   | 2021        | 23216512.73       |
|   | 2022        | 44638199.11       |

```
5 SELECT
6     get_fiscal_year(s.date) AS fiscal_year,
7     SUM(round(g.gross_price * s.sold_quantity,2)) AS total_gross_sales
8 FROM fact_sales_monthly s
9 JOIN fact_gross_price g
10    ON g.product_code = s.product_code
11    AND g.fiscal_year = get_fiscal_year(s.date)
12 WHERE customer_code = 90002002
13 GROUP BY get_fiscal_year(s.date)
14 ORDER BY fiscal_year;
```

## TOP 5 MARKETS

Generate a report getting **Top 5** markets by **Net Sales** in Fiscal Year **2021**.

```
4 ● SELECT
5     market,
6     round(sum(net_sales)/1000000,2)as net_sales_mln
7     from gdb0041.net_sales
8     where fiscal_year = 2021
9     group by market
10    order by net_sales_mln desc
11    limit 5;
```

|   | market         | net_sales_mln |
|---|----------------|---------------|
| ▶ | India          | 210.67        |
|   | USA            | 132.05        |
|   | South Korea    | 64.01         |
|   | Canada         | 45.89         |
|   | United Kingdom | 44.73         |

## TOP 5 CUSTOMERS

Generate a report getting **Top 5** customers by **Net Sales** in Fiscal Year **2021**.

| customer       | net_sales_mln |
|----------------|---------------|
| Amazon         | 109.03        |
| Atiq Exclusive | 79.92         |
| Atiq e Store   | 70.31         |
| Sage           | 27.07         |
| Flipkart       | 25.25         |

```

4  ●  SELECT
5      c.customer,
6      round(sum(net_sales)/1000000,2)as net_sales_mln
7  from gdb0041.net_sales n
8  join dim_customer c
9  on c.customer_code = n.customer_code
10 where fiscal_year = 2021
11 group by c.customer
12 order by net_sales_mln desc
13 limit 5;

```



## TOP 5 PRODUCTS

Generate a report getting **Top 5** products by **Net Sales** in Fiscal Year **2021**.

```

3  ●  SELECT
4      p.product,
5      round(sum(net_sales)/1000000,2)as net_sales_mln
6  from gdb0041.net_sales n
7  join dim_product p
8  on p.product_code = n.product_code
9  where fiscal_year = 2021
10 group by p.product
11 order by net_sales_mln desc
12 limit 5;

```

| product       | net_sales_mln |
|---------------|---------------|
| AQ BZ Allin 1 | 33.75         |
| AQ Qwerty     | 27.84         |
| AQ Trigger    | 26.95         |
| AQ Gen Y      | 23.58         |
| AQ Maxima     | 22.32         |

## NET SALES % REPORT

Write a query to show each customer's net sales (in millions) for fiscal year 2021, along with their percentage contribution to total net sales. Use **CTE** and window functions.

```

4 with cte1 as (
5     select
6     customer,
7     round(sum(net_sales)/1000000,2) as net_sales_mln
8     from net_sales s
9     join dim_customer c
10    on s.customer_code = c.customer_code
11    where s.fiscal_year = 2021
12    group by customer)
13
14 select *,
15 net_sales_mln * 100/sum(net_sales_mln) over () as pct
16 from cte1
17 order by net_sales_mln desc

```

| customer           | net_sales_mln | pct       |
|--------------------|---------------|-----------|
| Amazon             | 109.03        | 13.233402 |
| Atliq Exclusive    | 79.92         | 9.700206  |
| Atliq e Store      | 70.31         | 8.533803  |
| Sage               | 27.07         | 3.285593  |
| Flipkart           | 25.25         | 3.064692  |
| Leader             | 24.52         | 2.976089  |
| Neptune            | 21.01         | 2.550067  |
| Ebay               | 19.88         | 2.412914  |
| Electricalsociety  | 16.25         | 1.972327  |
| Synthetic          | 16.10         | 1.954121  |
| Electricalslytical | 15.64         | 1.898289  |
| Acclaimed Sto...   | 14.32         | 1.738075  |
| Propel             | 14.14         | 1.716228  |
| Novus              | 12.01         | 1.566038  |



## REGION & CUSTOMER WHISE NET SALES % REPORT

Generate a Net Sales % report of Customers in differnet regions

| customer         | region | net_sales_mln | pct_share_region |
|------------------|--------|---------------|------------------|
| Amazon           | APAC   | 57.41         | 12.99            |
| Atliq Exclusive  | APAC   | 51.58         | 11.67            |
| Atliq e Store    | APAC   | 36.97         | 8.36             |
| Leader           | APAC   | 24.52         | 5.55             |
| Sage             | APAC   | 22.85         | 5.17             |
| Neptune          | APAC   | 21.01         | 4.75             |
| Electricalsocity | APAC   | 16.25         | 3.68             |
| Propel           | APAC   | 14.14         | 3.20             |
| Synthetic        | APAC   | 14.14         | 3.20             |
| Flipkart         | APAC   | 12.96         | 2.93             |
| Novus            | APAC   | 12.91         | 2.92             |
| Expression       | APAC   | 12.90         | 2.92             |
| Girias           | APAC   | 11.30         | 2.56             |

```

4 with cte1 as (
5   select c.customer,c.region,
6   round(sum(net_sales)/1000000,2) as net_sales_mln
7   from net_sales s
8   join dim_customer c
9   on s.customer_code = c.customer_code
10  where s.fiscal_year = 2021
11  group by c.customer,c.region)
12
13  select *, round(net_sales_mln*100/sum(net_sales_mln)
14  over (partition by region),2) as pct_share_region
15  from cte1
16  order by region ,net_sales_mln desc

```

# TOP PRODUCTS BY REGION

Get top n products in each division by their quantity sold;

```

3  with cte1 as
4  (select
5   p.division,p.product,
6   sum(sold_quantity) as total_qty
7   from fact_sales_monthly s
8   join dim_product p
9   on p.product_code = s.product_code
10  where fiscal_year = 2021
11  group by p.product,p.division),
12  cte2 as (
13  select
14  *,
15  dense_rank() over(partition by division
16  order by total_qty desc) as drnk
17  from cte1)
18  select * from cte2 where drnk <=3

```

| division | product                  | total_qty | drnk |
|----------|--------------------------|-----------|------|
| N & S    | AQ Pen Drive DRC         | 2034569   | 1    |
| N & S    | AQ Digit SSD             | 1240149   | 2    |
| N & S    | AQ Clx1                  | 1238683   | 3    |
| P & A    | AQ Gamers Ms             | 2477098   | 1    |
| P & A    | AQ Maxima Ms             | 2461991   | 2    |
| P & A    | AQ Master wireless x1 Ms | 2448784   | 3    |
| PC       | AQ Digit                 | 135092    | 1    |
| PC       | AQ Gen Y                 | 135031    | 2    |
| PC       | AQ Elite                 | 134431    | 3    |



## TOP 3 MARKETS BY SOLD QTY

Find the top 3 markets by sold quantity for each product division in 2021 using CTE and window functions.

```
WITH cte1 AS (
    SELECT
        c.market,
        c.region,
        p.division,
        SUM(s.sold_quantity) AS total_qty
    FROM fact_sales_monthly s
    JOIN dim_product p
        ON p.product_code = s.product_code
    JOIN dim_customer c
        ON c.customer_code = s.customer_code
    WHERE fiscal_year = 2021
    GROUP BY c.market, c.region, p.division
),
cte2 AS (
    SELECT *,
        DENSE_RANK() OVER(PARTITION BY
            division ORDER BY total_qty DESC) AS drnk
    FROM cte1
)
SELECT *
FROM cte2
WHERE drnk <= 3;
```

| market      | region | division | total_qty | drnk |
|-------------|--------|----------|-----------|------|
| India       | APAC   | N & S    | 2893813   | 1    |
| USA         | NA     | N & S    | 1695281   | 2    |
| South Korea | APAC   | N & S    | 849889    | 3    |
| India       | APAC   | P & A    | 10456809  | 1    |
| USA         | NA     | P & A    | 6021839   | 2    |
| South Korea | APAC   | P & A    | 2980642   | 3    |
| India       | APAC   | PC       | 400807    | 1    |
| USA         | NA     | PC       | 234704    | 2    |
| South Korea | APAC   | PC       | 117263    | 3    |

## TOP 2 MARKETS BY GROSS SALES BY REGION

Find the top 2 markets by gross sales (in millions) per region for fiscal year 2021 using CTE and window functions.

```

3  WITH cte1 AS (
4      SELECT
5          c.market,
6          c.region,
7          ROUND(SUM(s.gross_price_total)/1000000, 2)
8          AS gross_sales_mln
9      FROM gross_sales s
10     JOIN dim_customer c
11         ON c.customer_code = s.customer_code
12     WHERE fiscal_year = 2021
13     GROUP BY c.region, c.market
14 ),
15  cte2 AS (
16      SELECT *,
17      DENSE_RANK() OVER(PARTITION BY
18          region ORDER BY gross_sales_mln DESC) AS drnk
19      FROM cte1
20  )
21  SELECT *
22  FROM cte2
23  WHERE drnk <= 2;

```

| market         | region | gross_sales_mln | drnk |
|----------------|--------|-----------------|------|
| India          | APAC   | 455.05          | 1    |
| South Korea    | APAC   | 131.86          | 2    |
| United Kingdom | 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    |

## CONCLUSION

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- Atliq Hardware had its highest-ever sales in 2022.
- In 2021, India was the top country by sales, reaching 210.67 million.
- Amazon was the leading platform in 2021 with sales of 109.03 million.
- The best-selling product in 2021 was the AQBZ All-in-One, with 33.75 million in sales.
- Amazon dominated the market in the APAX, LATAM, and North America regions.
- In the European Union, Atliq's own e-stores were the top performers.
- Identified top 5 products contributing highest net sales in 2021.
- Found customers with decreased forecast accuracy from 2020 to 2021.

# THANK YOU

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