CONSUMER GOOD
AD-HOC INSIGHTS

PRESENTED BY:

NUPUR GUPTA

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ABOUT ATLIQ HARDWARE

- AtliQ Hardware is a leading computer hardware manufacturer based in India with a significant global footprint. Our commitment lies in providing cutting-edge and dependable hardware solutions that propel technological advancement worldwide.

- AtliQ Hardware is dedicated to pushing the boundaries of technology. Our research and development teams work tirelessly to innovate and develop next-generation hardware solutions that cater to the evolving demands of the tech industry.

- The management team at AtliQ Hardware has identified a crucial need: the absence of readily accessible and insightful data that can support swift and informed decision-making processes. This gap has underscored the importance of robust data analytics capabilities within the company.

PROBLEM STATEMENT

AtliQ Hardware faces the challenge of delivering timely and actionable insights in response to 10 ad hoc requests. The absence of these insights hampers the ability to make quick, data-driven decisions essential for maintaining our competitive edge.
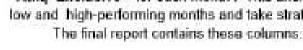
AD-HOC REQUESTS

Codebasics SQL Challenge

Requests:

1. Provide the list of markets in which customer "Atliq Exclusive" operates its business in the APAC region.

2. What is the percentage of unique product increase in 2021 vs. 2020? The final output contains these fields, unique_products_2020 unique_products_2021 percentage_chg

3. Provide a report with all the unique product counts for each segment and sort them in descending order of product counts. The final output contains 2 fields, segment

   product_count

4. Follow-up: Which segment had the most increase in unique products in 2021 vs 2020? The final output contains these
   fields, segment product_count_2020
   product_count_2021 difference

5. Get the products that have the highest and lowest manufacturing costs. The final output should contain these fields, product_code product manufacturing_cost

6. Generate a report which contains the top 5 customers who received an average high pre_invoice_discount_pct for the fiscal_year 2021 and in the Indian market. The final output contains these fields, customer_code customer average_discount_percentage

7. Get the complete report of the Gross sales amount for the customer "Atliq Exclusive" for each month. This analysis helps to get an idea of low and high-performing months and take strategic decisions. The final report contains these columns:

   Month
   Year
   Gross sales Amount

8. In which quarter of 2020, got the maximum total_sold_quantity? The final output contains these fields sorted by the total_sold_quantity,
   Quarter
   total_sold_quantity

9. Which channel helped to bring more gross sales in the fiscal year 2021 and the percentage of contribution? The final output contains these fields,
   channel
   gross_sales_mln
   percentage

10. Get the Top 3 products in each division that have a high total_sold_quantity in the fiscal_year 2021? The final output contains these fields,
    division
    product_code
    product
    total_sold_quantity
    rank_order

codebasics.io

REQUEST 1

Provide the list of markets in which customer "AtliqExclusive" operates its business in the APAC region.

```sql
SELECT market FROM gdb023.dim_customer
WHERE customer LIKE "%Atliq Exclusive%"
AND region LIKE "%APAC%"
```

market
India
Indonesia
Japan
Philipines
South Korea
Australia
Newzealand
Bangladesh
India

REQUEST 2

What is the percentage of unique product increase in 2021 vs. 2020? The final output contains these fields, unique_products_2020 unique_products_2021 percentage_chg

```
WITH cte1 AS (
    SELECT COUNT(DISTINCT product_code) AS unique_products_2020
    FROM gdb023.fact_gross_price
    WHERE fiscal_year = 2020
),
cte2 AS (
    SELECT COUNT(DISTINCT product_code) AS unique_products_2021
    FROM gdb023.fact_gross_price
    WHERE fiscal_year = 2021
)
SELECT
    cte1.unique_products_2020,
    cte2.unique_products_2021,
    ROUND((cte2.unique_products_2021 - cte1.unique_products_2020) / cte1.unique_products_2020 * 100, 2) AS percentage_change
FROM
    cte1, cte2;
```

	unique_products_2020	unique_products_2021	percentage_change
▶	245	334	36.33

REQUEST 3

Provide a report with all the unique product counts for each segment and sort them in descending order of product counts. The final output contains 2 fields,segment product_count

```sql
SELECT segment,COUNT(product_code) AS product_count
FROM dim_product
GROUP BY segment
ORDER BY product_count DESC;
```

segment	product_count
Notebook	129
Accessories	116
Peripherals	84
Desktop	32
Storage	27
Networking	9

REQUEST 4

Follow-up: Which segment had the most increase in unique products in 2021 vs 2020? The final output contains these fields, segment product_count_2020 product_count_2021 difference

```sql
WITH cte1 AS (
    SELECT p.segment, COUNT(DISTINCT p.product_code) AS product_count_2020
    FROM dim_product p
    JOIN fact_gross_price f ON p.product_code = f.product_code
    WHERE f.fiscal_year = 2020
    GROUP BY p.segment
),
cte2 AS (
    SELECT p.segment, COUNT(DISTINCT p.product_code) AS product_count_2021
    FROM dim_product p
    JOIN fact_gross_price f ON p.product_code = f.product_code
    WHERE f.fiscal_year = 2021
    GROUP BY p.segment
)
SELECT
    cte1.segment,
    cte1.product_count_2020,
    cte2.product_count_2021,
    (cte2.product_count_2021 - cte1.product_count_2020) AS difference
FROM cte1
JOIN cte2 ON cte1.segment = cte2.segment
ORDER BY difference DESC;
```

segment	product_count_2020	product_count_2021	difference
Accessories	69	103	34
Notebook	92	108	16
Peripherals	59	75	16
Desktop	7	22	15
Storage	12	17	5
Networking	6	9	3

REQUEST 5

Get the products that have the highest and lowest manufacturing costs.
The final output should contain these fields, product_code
productmanufacturing_cost

```sql
select m.product_code,p.product,m.manufacturing_cost
from dim_product p
join fact_manufacturing_cost m
using (product_code)
where manufacturing_cost=(select max(manufacturing_cost) from fact_manufacturing_cost)
or manufacturing_cost=(select min(manufacturing_cost) from fact_manufacturing_cost)
order by manufacturing_cost asc;
```

product_code	product	manufacturing_cost
A2118150101	AQ Master wired x1 Ms	0.8920
A6120110206	AQ HOME Alin1 Gen 2	240.5364

REQUEST 6

Generate a report which contains the top 5 customers who received an average highpre_invoice_discount_pct for the fiscal year 2021and in the Indianmarket.The final output contains these fields, customer_codecustomeraverage_discount_percentage

```sql
SELECT c.customer,
       c.customer_code,
       AVG(pre.pre_invoice_discount_pct * 100) AS average_discount_percentage
FROM fact_pre_invoice_deductions pre
JOIN dim_customer c
ON pre.customer_code = c.customer_code
WHERE pre.fiscal_year = 2021
  AND c.market = 'India'
GROUP BY c.customer, c.customer_code
ORDER BY average_discount_percentage DESC
LIMIT 5;
```

customer	customer_code	average_discount_percentage
Flipkart	90002009	30.83000000
Viveks	90002006	30.38000000
Ezone	90002003	30.28000000
Croma	90002002	30.25000000
Amazon	90002016	29.33000000

REQUEST 7

Get the complete report of the Gross sales amount for the customer
"AtliqExclusive" for each month . This analysis helps to get an idea of low
and high-performing months and take strategic decisions.
The final report contains these columns: Month Year Gross sales Amount

```sql
SELECT
    CONCAT(MONTHNAME(s.date),'(',YEAR(s.date),')') AS month,
    g.fiscal_year,
    CONCAT(ROUND((SUM(g.gross_price * s.sold_quantity) / 1000000),2),'M') AS Total_gross_price
FROM
    fact_gross_price g
JOIN
    fact_sales_monthly s ON g.product_code = s.product_code AND g.fiscal_year = s.fiscal_year
JOIN
    dim_customer c ON s.customer_code = c.customer_code
WHERE
    c.customer = 'Atliq Exclusive'
GROUP BY
    s.date,
    s.fiscal_year
```

month	fiscal_year	Total_gross_price
September(2019)	2020	4.50M
November(2019)	2020	7.52M
December(2019)	2020	4.83M
January(2020)	2020	4.74M
March(2020)	2020	0.38M
April(2020)	2020	0.40M
May(2020)	2020	0.78M
July(2020)	2020	2.55M
August(2020)	2020	2.79M
October(2019)	2020	5.14M
February(2020)	2020	4.00M
June(2020)	2020	1.70M
September(2020)	2021	12.35M
November(2020)	2021	20.46M
December(2020)	2021	12.94M
January(2021)	2021	12.40M
March(2021)	2021	12.14M
April(2021)	2021	7.31M
May(2021)	2021	12.15M
July(2021)	2021	12.09M
August(2021)	2021	7.18M

REQUEST 8

In which quarter of 2020, got the maximum total_sold_quantity? The final output contains these fields sorted by the total_sold_quantity, Quarter,total_sold_quantity

```sql
SELECT
    CASE
        WHEN MONTH(s.date) IN (9, 10, 11) THEN 'Q1'
        WHEN MONTH(s.date) IN (12, 1, 2) THEN 'Q2'
        WHEN MONTH(s.date) IN (3, 4, 5) THEN 'Q3'
        WHEN MONTH(s.date) IN (6, 7, 8) THEN 'Q4'
    END AS Quarters,
    SUM(s.sold_quantity) AS Total_sold_quantity
FROM
    fact_sales_monthly s
WHERE
    s.fiscal_year = '2020'
GROUP BY
    Quarters
```

Quarters	Total_sold_quantity
Q1	7005619
Q2	6649642
Q3	2075087
Q4	5042541

REQUEST 9

Which channel helped to bring more gross sales in the fiscal year 2021 and the percentage of contribution? The final output contains these fields, channel,gross_sales_mln percentage

```sql
WITH Output AS
(
SELECT C.channel,
        ROUND(SUM(G.gross_price*FS.sold_quantity/1000000), 2) AS Gross_sales_mln
FROM fact_sales_monthly FS JOIN dim_customer C ON FS.customer_code = C.customer_code
                            JOIN fact_gross_price G ON FS.product_code = G.product_code
WHERE FS.fiscal_year = 2021
GROUP BY channel
)
SELECT channel, CONCAT(Gross_sales_mln,' M') AS Gross_sales_mln , CONCAT(ROUND(Gross_sales_mln*100/total , 2), ' %') AS percentage
FROM
(
(SELECT SUM(Gross_sales_mln) AS total FROM Output) A,
(SELECT * FROM Output) B
)
ORDER BY percentage DESC ;
```

channel	Gross_sales_mln	percentage
Retailer	1924. 17 M	73.22 %
Direct	406.69 M	15.48 %
Distributor	297.18 M	11.31 %

REQUEST 10

Get the Top 3 products in each division that have a high total_sold_quantity in the fiscal_year 2021? The final output contains these fields, divisionproduct_code product total_sold_quantity rank_order

```sql
WITH Output1 AS
(
SELECT P.division, FS.product_code, P.product, SUM(FS.sold_quantity) AS Total_sold_quantity
FROM dim_product P JOIN fact_sales_monthly FS
ON P.product_code = FS.product_code
WHERE FS.fiscal_year = 2021
GROUP BY  FS.product_code, division, P.product
),
Output2 AS
(
SELECT division, product_code, product, Total_sold_quantity,
        RANK() OVER(PARTITION BY division ORDER BY Total_sold_quantity DESC) AS 'Rank_Order'
FROM Output1
)
    SELECT Output1.division, Output1.product_code, Output1.product, Output2.Total_sold_quantity, Output2.Rank_Order
    FROM Output1 JOIN Output2
    ON Output1.product_code = Output2.product_code
WHERE Output2.Rank_Order IN (1,2,3)
```

division	product_code	product	Total_sold_quantity	Rank_Order
N & S	A6720160103	AQ Pen Drive 2 IN 1	701373	1
N & S	A6818160202	AQ Pen Drive DRC	688003	2
N & S	A6819160203	AQ Pen Drive DRC	676245	3
P & A	A2319150302	AQ Gamers Ms	428498	1
P & A	A2520150501	AQ Maxima Ms	419865	2
P & A	A2520150504	AQ Maxima Ms	419471	3
PC	A4218110202	AQ Digit	17434	1
PC	A4319110306	AQ Velocity	17280	2
PC	A4218110208	AQ Digit	17275	3

THANK YOU