CONSUMER GOODS INSIGHTS SOLUTIONS

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

```
SELECT
    market
FROM
    dim_customer
WHERE
    customer = 'Atliq Exclusive'
        AND region = 'APAC';
```

---

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 unique_products AS (
SELECT
    COUNT(DISTINCT CASE WHEN fiscal_year=2020 THEN product_code END) AS
unique_products_2020,
      COUNT(DISTINCT CASE WHEN fiscal_year=2021 THEN product_code END) AS
unique_products_2021
FROM
    fact_sales_monthly
    )
SELECT
            unique_products_2020,
        unique_products_2021,
            ROUND(100*(unique_products_2021-
unique_products_2020)/unique_products_2020,2) as percentage_chg
FROM unique_products
```

---

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

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

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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.

```
WITH product_count AS (
SELECT
    segment,
    COUNT(DISTINCT CASE WHEN fiscal_year = 2020 THEN product END ) AS
product_count_2020,
    COUNT(DISTINCT CASE WHEN fiscal_year = 2021 THEN product END) AS
product_count_2021
FROM
    dim_product
        JOIN
    fact_sales_monthly USING (product_code)
GROUP BY segment
)
SELECT
      segment,
    product_count_2020,
    product_count_2021,
    product_count_2021-product_count_2020 as difference
FROM product_count
ORDER BY product_count_2021 DESC;
```

---

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

```
(
SELECT
    product_code, product, manufacturing_cost
FROM
    dim_product
        JOIN
    fact_manufacturing_cost USING (product_code)
ORDER BY manufacturing_cost DESC
LIMIT 1
)
UNION
(
SELECT
    product_code, product, manufacturing_cost
FROM
    dim_product
        JOIN
    fact_manufacturing_cost USING (product_code)
ORDER BY manufacturing_cost ASC
LIMIT 1
);
```

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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.

```
SELECT
    customer_code,
    customer,
    pre_invoice_discount_pct AS average_discount_percentage
FROM
    fact_pre_invoice_deductions
        JOIN
    dim_customer USING (customer_code)
WHERE
    fiscal_year = 2021
        AND
      pre_invoice_discount_pct > (
                                                    SELECT

      AVG(pre_invoice_discount_pct)
                                                    FROM

      fact_pre_invoice_deductions
                                                    WHERE
                                                          fiscal_year = 2021
                                )
        AND
      market = 'India'
ORDER BY pre_invoice_discount_pct DESC
LIMIT 5;
```

---

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

```
SELECT
    MONTHNAME(date) AS Month,
    YEAR(date) AS Year,
    CONCAT(
                        ROUND(SUM(sold_quantity * gross_price) / 1000000,2),
                        ' M'
            ) AS gross_sales_amount
FROM
    fact_sales_monthly
        JOIN
    fact_gross_price USING (product_code , fiscal_year)
        JOIN
    dim_customer USING (customer_code)
WHERE
    customer = 'Atliq Exclusive'
GROUP BY MONTHNAME(date) , YEAR(date);
```

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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

```
WITH sales_per_quarter AS (
SELECT
    CASE
        WHEN MONTH(date) = 9 OR MONTH(date) = 10 OR MONTH(date) = 11 THEN 'Q1'
        WHEN MONTH(date) = 12 OR MONTH(date) = 01 OR MONTH(date) = 02 THEN 'Q2'
        WHEN MONTH(date) = 03 OR MONTH(date) = 04 OR MONTH(date) = 05 THEN 'Q3'
        ELSE 'Q4'
    END AS Quarter,
    SUM(sold_quantity) AS sold_quantity
FROM
    fact_sales_monthly
WHERE
    year(date) = 2020
GROUP BY date
)

SELECT
    Quarter,
    ROUND(SUM(sold_quantity) / 1000000,
                        2) AS total_sold_quantity
FROM
    sales_per_quarter
GROUP BY Quarter
ORDER BY total_sold_quantity DESC;
```

---

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

```
WITH gross_sales AS (
SELECT
      channel,
      ROUND(SUM(sold_quantity * gross_price) / 1000000,
                  2) AS gross_sales_mln
FROM
      dim_customer
            JOIN
      fact_sales_monthly USING (customer_code)
            JOIN
      fact_gross_price USING (product_code , fiscal_year)
WHERE
      fiscal_year = 2021
GROUP BY channel
)
SELECT
      channel,
    gross_sales_mln,
    CONCAT(
                  ROUND (100*gross_sales_mln/SUM(gross_sales_mln) over(), 2),
            ' %'
          ) AS percentage
```

```
FROM
    gross_sales;
```

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

```
WITH sold_qty_rank AS (
SELECT
    division,
    product_code,
    SUM(sold_quantity) AS total_sold_qty,
    ROW_NUMBER() OVER (PARTITION BY division ORDER BY SUM(sold_quantity) DESC) AS
rn
FROM
    dim_product
        JOIN
    fact_sales_monthly USING (product_code)
WHERE
    fiscal_year = 2021
GROUP BY division , product_code
)

SELECT
      division,
    product_code
FROM
      sold_qty_rank
WHERE rn<=3;
```