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

```
select distinct 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_product_cnt 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(((unique_products_2021-unique_products_2020)*1.0/unique_products_2020)*100,2) AS percentage_chg
FROM unique_product_cnt;
```

-- 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_code)) AS product_count
FROM dim_product
GROUP BY segment
ORDER by product_count DESC;
```

-- 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 unique_product AS
(
 SELECT
     p.segment,
     COUNT(DISTINCT CASE WHEN fiscal_year = 2020 THEN f.product_code END) AS product_count_2020,
     COUNT(DISTINCT CASE WHEN fiscal_year = 2021 THEN f.product_code END) AS product_count_2021
 FROM fact_sales_monthly AS f
 JOIN dim_product AS p
 ON f.product_code = p.product_code
 GROUP BY p.segment
)
SELECT segment, product_count_2021, product_count_2020, (product_count_2021-product_count_2020) AS difference
FROM unique_product
ORDER BY difference 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   p.product_code,
        p.product,
                    m.manufacturing_cost
FROM
dim_product AS p
INNER JOIN
fact_manufacturing_cost AS m
ON p.product_code = m.product_code
WHERE m.manufacturing_cost = (SELECT MAX(manufacturing_cost) FROM fact_manufacturing_cost)
OR    m.manufacturing_cost = (SELECT MIN(manufacturing_cost) FROM fact_manufacturing_cost)
ORDER BY m.manufacturing_cost DESC;
```

-- 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 p.customer_code ,
    c.customer,
    ROUND(AVG(pre_invoice_discount_pct)*100,2) AS avg_discount_pct
FROM fact_pre_invoice_deductions AS p
INNER JOIN
dim_customer AS c
ON p.customer_code = c.customer_code
WHERE market = 'India'
AND fiscal_year = 2021
GROUP BY customer, customer_code
ORDER BY avg_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,
    ROUND(SUM((s.sold_quantity * g.gross_price)/1000000),2) AS gross_sales_amt_mln
FROM fact_sales_monthly AS s
INNER JOIN fact_gross_price AS g
ON g.product_code = s.product_code
AND g.fiscal_year = s.fiscal_year
INNER JOIN dim_customer c
ON c.customer_code = s.customer_code
WHERE c.customer = 'Atliq Exclusive'
GROUP BY month, year
ORDER BY year;
```

-- 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.

```
SELECT
CASE
                WHEN MONTH(date) IN (9,10,11) THEN 'Q1'
                WHEN MONTH(date) IN (12,1,2) THEN 'Q2'
                WHEN MONTH(date) IN (3,4,5) THEN 'Q3'
                ELSE 'Q4'
                END AS Quarters,
        CONCAT(ROUND(SUM(sold_quantity)/1000000 ,2), " M ") AS total_sold_qty
FROM fact_sales_monthly
WHERE fiscal_year = 2020
GROUP BY Quarters
ORDER BY total_sold_qty 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
    c.channel,
    ROUND(SUM(g.gross_price*s.sold_quantity)/1000000,2) AS gross_sales_mln
 FROM fact_sales_monthly AS s
 JOIN fact_gross_price AS g
 ON g.product_code = s.product_code
 AND g.fiscal_year = s.fiscal_year
 JOIN dim_customer AS c using(customer_code)
 WHERE s.fiscal_year = 2021
 group by c.channel
)
SELECT channel, gross_sales_mln,
ROUND((gross_sales_mln/(select sum(gross_sales_mln) from gross_sales))*100,2) AS percentage
FROM gross_sales
ORDER BY gross_sales_mln DESC;
```

-- 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.

```
WITH top_sold_products AS (
    SELECT
        p.division,
        p.product_code,
        p.product,
        SUM(f.sold_quantity) AS total_sold_quantity,
        RANK() OVER (PARTITION BY p.division ORDER BY SUM(f.sold_quantity) DESC) AS rank_order
    FROM fact_sales_monthly f
    JOIN dim_product p ON f.product_code = p.product_code
    WHERE f.fiscal_year = 2021
    GROUP BY p.division, p.product_code, p.product
)
SELECT
    division,
    product_code,
    product,
    total_sold_quantity,
    rank_order
FROM top_sold_products
WHERE rank_order <= 3
ORDER BY division, rank_order;
```