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 cte1 as
(select count(distinct product_code) as unique_products_2020
from fact_sales_monthly
where fiscal_year=2020)
,
cte2 as
(select count(distinct product_code) as unique_products_2021
from fact_sales_monthly
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_chg
from cte1, cte2
```

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
```

4. Follow-up: Which segment had the most increase in unique products in 2021 vs 2020? The final output contains these fields,
    - segment
    - unique_products_2020

unique_products_2021
difference

```
with cte1 as
(select
p.segment,
count(distinct f.product_code)  as product_count_2020
from fact_sales_monthly f
join dim_product p
on f.product_code = p.product_code
where fiscal_year= 2020
group by p.segment),

cte2 as
(select
p.segment,
count(distinct f.product_code)  as product_count_2021
from fact_sales_monthly f
join dim_product p
on f.product_code = p.product_code
where fiscal_year= 2021
group by p.segment)

select
cte1.segment, product_count_2020,product_count_2021,
product_count_2021-product_count_2020 as difference
from cte1
join cte2
on cte1.segment = cte2.segment
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 m.product_code,
p.product,
m.manufacturing_cost
from gdb023.fact_manufacturing_cost m
join dim_product p
on m.product_code = p.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
   c.customer_code,
   c.customer,
   ROUND(AVG(f.pre_invoice_discount_pct), 4) AS average_discount_percentage
FROM fact_pre_invoice_deductions f
JOIN dim_customer c
   ON f.customer_code = c.customer_code
WHERE f.fiscal_year = 2021
  AND c.market = 'India'
GROUP BY c.customer_code, c.customer
ORDER BY average_discount_percentage 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(s.date) as Month,
        year(s.date) as Year,
        Round(Sum(sold_quantity * gross_price),2) as Gross_sales_amount
from fact_sales_monthly s
left join dim_customer
        using(customer_code)
left join fact_gross_price g
        on s.product_code = g.product_code and s.fiscal_year=g.fiscal_year
where customer = "Atliq Exclusive"
group by Year, Month
order by Gross_sales_amount desc
```

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(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 quarter,
        sum(s.sold_quantity) as total_sold_quantity
from fact_sales_monthly as s
where year(s.date) = 2020
group by quarter
order by total_sold_quantity desc
limit 1
```

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

```
select
c.channel,
round(sum(sold_quantity * gross_price)/1000000,2) as gross_price_mln,
        round(sum(sold_quantity * gross_price)*100/(SELECT SUM(s.sold_quantity *
g.gross_price)AS total_gross_sales
        FROM fact_sales_monthly s
        LEFT JOIN fact_gross_price g
                ON g.product_code = s.product_code AND g.fiscal_year = s.fiscal_year
        WHERE s.fiscal_year = 2021),2) as Percentage
from fact_sales_monthly s
left join dim_customer c
using(customer_code)
left join fact_gross_price g
on g.product_code=s.product_code and g.fiscal_year=s.fiscal_year
where s.fiscal_year= 2021
group by c.channel
order by gross_price_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 cte1 as
(select
        p.division,
        p.product_code,
        p.product,
        sum(sold_quantity) as total_sold_quantity,
   row_number() over(partition by division order by sum(sold_quantity) desc) as rnk_order
from fact_sales_monthly s
left join dim_product p
        using (product_code)
   where fiscal_year = 2021
group by division, product_code,product)

select * from cte1
where rnk_order<=3
order by division,rnk_order
```