```sql
#Requests: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";
```

```sql
# 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 cte as (
select count( distinct case when fiscal_year = 2020 then product_code else null end)
as unique_products_2020,
count( distinct case when fiscal_year = 2021 then product_code else null end)
as unique_products_2021
from fact_sales_monthly)

select * ,round(100*(unique_products_2021/unique_products_2020-1),2) as percentage_chg
from cte;
```

```sql
# 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 and product_count

 select segment,
        count(distinct product_code) as product_count
        from dim_product
        group by segment
        order by 2 desc;
```

```sql
# 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 cte as (
select p.segment,
      count( distinct case when s.fiscal_year = 2020 then s.product_code else null end)
      as unique_products_2020,
      count( distinct case when s.fiscal_year = 2021 then s.product_code else null end)
      as unique_products_2021
      from fact_sales_monthly as s
      join dim_product as p
      on s.product_code = p.product_code
      group by 1)

select *,(unique_products_2021 - unique_products_2020) as difference
from cte
order by difference desc;
```

```sql
#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 fm.product_code,
        dp.product,
        fm.manufacturing_cost as mfg_cost
        from fact_manufacturing_cost as fm
        join dim_product as dp
        on fm.product_code = dp.product_code
        order by 3 desc
        limit 1)
union
(select fm.product_code,
        dp.product,
        fm.manufacturing_cost as mfg_cost
        from fact_manufacturing_cost as fm
        join dim_product as dp
        on fm.product_code = dp.product_code
        order by 3
        limit 1);
```

```sql
# 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),5) as average_discount_percentage
       from fact_pre_invoice_deductions as p
       join dim_customer as c
       on p.customer_code = c.customer_code
       where p.fiscal_year = 2021
       and c.market = "India"
       group by 1
       order by 3 desc
       limit 5;
```

```sql
# 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 month(s.date) as month,
       year(s.date) as year,
       round(sum(s.sold_quantity*gp.gross_price),2) as Gross_sales_amount
       from fact_gross_price as gp
       join fact_sales_monthly as s
       on gp.product_code = s.product_code and gp.fiscal_year = s.fiscal_year
       join
       dim_customer as dc
       on s.customer_code = dc.customer_code
       where dc.customer = "Atliq Exclusive"
       group by 1,2
       order by 2,1 ;
```

```sql
# 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 get_fiscal_quarter(date) AS Quarters,
       sum(sold_quantity) as total_sold_quantity
       From fact_sales_monthly
       where fiscal_year = 2020
       Group by 1;
```

```sql
# 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 cte as
(select dc.channel,
        Round(sum(gp.gross_price*s.sold_quantity)/1000000,2) as Gross_sales_mln
        from fact_gross_price gp
        join fact_sales_monthly s
        on gp.product_code = s.product_code and gp.fiscal_year = s.fiscal_year
        join dim_customer dc
        on s.customer_code = dc.customer_code
        where s.fiscal_year = 2021
        group by 1
        order by 2)

 select *,
       round(100*(Gross_sales_mln/(select sum(Gross_sales_mln)from cte)),2)as percentage
       from cte
       order by percentage desc;
```

```sql
# 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 dp.division,
       dp.product_code,
       dp.product, sum(s.sold_quantity) as total_sold_quantity
       from fact_sales_monthly s
       join dim_product dp
       on s.product_code = dp.product_code
       where fiscal_year = 2021
       group by 1,2,3
  ),
  cte2 as
    (
    select *,
           dense_rank() over (partition by division order by total_sold_quantity desc  ) as rank_order
           from cte1
         )
     select *
      from cte2
            where rank_order < 4;
```