Q1 Provide the list of markets in which customer "Atliq Exclusive" operates its business in the APAC region.

```
SELECT
  DISTINCT MARKET
FROM
  gdb023.dim_customer
WHERE
  REGION = 'APAC'
  AND CUSTOMER = "Atliq Exclusive";
```

Q2 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 a.fiscal_year = 2020 then a.product_code end
    ) as UNIQUE_PRODUCTS_2020,
    count(
      distinct case when a.fiscal_year = 2021 then a.product_code end
    ) as UNIQUE_PRODUCTS_2021
  from
    gdb023.fact_sales_monthly a
)
SELECT
  UNIQUE_PRODUCTS_2020,
  UNIQUE_PRODUCTS_2021,
  round(
    (
      UNIQUE_PRODUCTS_2021 - UNIQUE_PRODUCTS_2020
    ) / UNIQUE_PRODUCTS_2020 * 100,
    2
  ) as prcntChange
FROM
  CTE;
SELECT
  prcntChange
FROM
  CTE
```

Q3 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
  gdb023.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 up_2020 AS (
  SELECT
    p.segment,
    COUNT(DISTINCT y.product_code) AS product_count_2020
  FROM
    gdb023.fact_sales_monthly as y
    JOIN gdb023.dim_product AS p ON y.product_code = p.product_code
  WHERE
    fiscal_year = 2020
  GROUP BY
    p.segment
),
up_2021 AS (
  SELECT
    p.segment,
    COUNT(DISTINCT y.product_code) AS product_count_2021
  FROM
    gdb023.fact_sales_monthly as y
    JOIN gdb023.dim_product AS p ON y.product_code = p.product_code
  WHERE
    fiscal_year = 2021
  GROUP BY
    p.segment
)
SELECT
  up_2020.segment AS segment,
  product_count_2020,
  product_count_2021,
  product_count_2021 - product_count_2020 AS difference
FROM
  up_2020
  JOIN up_2021 ON up_2020.segment = up_2021.segment
ORDER BY
  difference DESC
```

Q5 Get the products that have the highest and lowest manufacturing costs. The final output should contain these fields, product_code product manufacturing_cost

```sql
select
  a.product_code,
  b.product,
  a.manufacturing_cost
from
  gdb023.fact_manufacturing_cost a
  join gdb023.dim_product b on a.product_code = b.product_code
where
  manufacturing_cost = (
    select
      min(manufacturing_cost)
    from
      fact_manufacturing_cost
  )
  or manufacturing_cost = (
    select
      max(manufacturing_cost)
    from
      fact_manufacturing_cost
  );
```

Q6 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

```sql
SELECT
  c.customer_code,
  c.customer,
  ROUND(
    i.pre_invoice_discount_pct * 100,
    3
  ) AS 'average_discount_percentage'
FROM
  gdb023.dim_customer AS c
  JOIN gdb023.fact_pre_invoice_deductions AS i ON c.customer_code =
i.customer_code
WHERE
  i.fiscal_year = 2021
  AND c.market = "India"
ORDER BY
  average_discount_percentage DESC
LIMIT
  5;
```

Q7 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.

```sql
SELECT
  MONTH(s.date) AS month,
  YEAR(s.date) AS year,
  ROUND(
    SUM(s.sold_quantity * g.gross_price),
    3
  ) AS gross_sales_amount
FROM
  gdb023.fact_sales_monthly AS s
  JOIN gdb023.fact_gross_price AS g ON s.product_code = g.product_code
  JOIN gdb023.dim_customer AS c ON s.customer_code = c.customer_code
WHERE
  customer = 'Atliq Exclusive'
GROUP BY
  month,
  year
ORDER BY
  year DESC,
  month DESC;
```

Q8 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(a.date) in (9, 10, 11) then '1st Quarter'
when month(a.date) in (12, 1, 2) then '2nd Quarter'
when month(a.date) in (3, 4, 5) then '3rd Quarter'
when month(a.date) in (6, 7, 8) then '4th Quarter' end as Quarter,
  sum(a.sold_quantity) as Total_Sold_Quantity
FROM
  gdb023.fact_sales_monthly a
where
  a.fiscal_year = 2020
group by
  Quarter
order by
  Total_Sold_Quantity DESC;
```

Q9 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
    channel,
    round(
      sum(b.gross_price * c.sold_quantity)/ 1000000,
      3
    ) as Gross_Sales_mln
  from
    gdb023.dim_customer a
    join gdb023.fact_sales_monthly c on a.customer_code =
c.customer_code
    join gdb023.fact_gross_price b on b.product_code = c.product_code
  where
    c.fiscal_year = 2021
  group by
    channel
)
select
  *,
  (Gross_Sales_mln * 100)/ sum(Gross_Sales_mln) over() as Percentage
from
  CTE
Order by
  Percentage DESC;
```

Q10 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 sold_qty as (
  select
    p.division,
    p.product_code,
    p.product,
    sum(sold_quantity) as total_qty
  from
    dim_product p
    join fact_sales_monthly a on p.product_code = a.product_code
  where
    a.fiscal_year = 2021
  group by
    1,
    2,
    3
),
rankr as (
  select
    *,
    dense_rank() over (
      partition by division
      order by
        total_qty desc
    ) as rank_order
  from
    sold_qty
)
select
  division,
  product_code,
  product,
  total_qty,
  rank_order
from
  rankr
where
  rank_order <= 3
order by
  division;
```