Request 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'
GROUP BY market
ORDER BY market ;
```

Result :

	market
▶	Australia
	Bangladesh
	India
	Indonesia
	Japan
	Newzealand
	Philiphines
	South Korea

Request 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_change

```
SELECT X.A AS unique_product_2020, Y.B AS unique_products_2021, ROUND((B-A)*100/A, 2) AS percentage_chg
FROM
    (
     (SELECT COUNT(DISTINCT(product_code)) AS A FROM fact_sales_monthly
     WHERE fiscal_year = 2020) X,
     (SELECT COUNT(DISTINCT(product_code)) AS B FROM fact_sales_monthly
     WHERE fiscal_year = 2021) Y
    )
```

Result :

	unique_product_2020	unique_products_2021	percentage_chg
▶	245	334	36.33

Request 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 ;
```

Result :

	segment	product_count
▶	Notebook	129
	Accessories	116
	Peripherals	84
	Desktop	32
	Storage	27
	Networking	9

Request 4.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 CTE1 AS
    (SELECT P.segment AS A , COUNT(DISTINCT(FS.product_code)) AS B
    FROM dim_product P, fact_sales_monthly FS
    WHERE P.product_code = FS.product_code
    GROUP BY FS.fiscal_year, P.segment
    HAVING FS.fiscal_year = "2020"),
CTE2 AS
    (
    SELECT P.segment AS C , COUNT(DISTINCT(FS.product_code)) AS D
    FROM dim_product P, fact_sales_monthly FS
    WHERE P.product_code = FS.product_code
    GROUP BY FS.fiscal_year, P.segment
    HAVING FS.fiscal_year = "2021"
    )

SELECT CTE1.A AS segment, CTE1.B AS product_count_2020, CTE2.D AS product_count_2021, (CTE2.D-CTE1.B) AS difference
FROM CTE1, CTE2
WHERE CTE1.A = CTE2.C ;
```

Result :

	segment	product_count_2020	product_count_2021	difference
▶	Accessories	69	103	34
	Desktop	7	22	15
	Networking	6	9	3
	Notebook	92	108	16
	Peripherals	59	75	16
	Storage	12	17	5

Request 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 F.product_code, P.product, F.manufacturing_cost
FROM fact_manufacturing_cost F JOIN dim_product P
ON F.product_code = P.product_code
WHERE manufacturing_cost
IN (
    SELECT MAX(manufacturing_cost) FROM fact_manufacturing_cost
    UNION
    SELECT MIN(manufacturing_cost) FROM fact_manufacturing_cost
    )
ORDER BY manufacturing_cost DESC ;
```

Result :

	product_code	product	manufacturing_cost
▶	A6120110206	AQ HOME Allin1 Gen 2	240.5364
	A2118150101	AQ Master wired x1 Ms	0.8920

Request 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

```
WITH TBL1 AS
(SELECT customer_code AS A, AVG(pre_invoice_discount_pct) AS B FROM fact_pre_invoice_deductions
WHERE fiscal_year = '2021'
GROUP BY customer_code),
     TBL2 AS
(SELECT customer_code AS C, customer AS D FROM dim_customer
WHERE market = 'India')

SELECT TBL2.C AS customer_code, TBL2.D AS customer, ROUND (TBL1.B, 4) AS average_discount_percentage
FROM TBL1 JOIN TBL2
```

Result :

customer_code	customer	average_discount_percentage
90002009	Flipkart	0.3083
90002006	Viveks	0.3038
90002003	Ezone	0.3028
90002002	Croma	0.3025
90002016	Amazon	0.2933

Request 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, Fiscal Year , Gross sales Amount

```
SELECT CONCAT(MONTHNAME(FS.date), ' (', YEAR(FS.date), ')') AS 'Month', FS.fiscal_year,
       ROUND(SUM(G.gross_price*FS.sold_quantity), 2) AS Gross_sales_Amount
FROM fact_sales_monthly FS JOIN dim_customer C ON FS.customer_code = C.customer_code
                           JOIN fact_gross_price G ON FS.product_code = G.product_code
WHERE C.customer = 'Atliq Exclusive'
GROUP BY  Month, FS.fiscal_year
ORDER BY FS.fiscal_year ;
```

Result :

Month	fiscal_year	Gross_sales_Amount
September (2019)	2020	9092670.34
October (2019)	2020	10378637.60
November (2019)	2020	15231894.97
December (2019)	2020	9755795.06
January (2020)	2020	9584951.94
February (2020)	2020	8083995.55
March (2020)	2020	766976.45
April (2020)	2020	800071.95
May (2020)	2020	1586964.48
June (2020)	2020	3429736.57
July (2020)	2020	5151815.40
August (2020)	2020	5638281.83
September (2020)	2021	19530271.30

Month	fiscal_year	Gross_sales_Amount
October (2020)	2021	21016218.21
November (2020)	2021	32247289.79
December (2020)	2021	20409063.18
January (2021)	2021	19570701.71
February (2021)	2021	15986603.89
March (2021)	2021	19149624.92
April (2021)	2021	11483530.30
May (2021)	2021	19204309.41
June (2021)	2021	15457579.66
July (2021)	2021	19044968.82
August (2021)	2021	11324548.34

Request 8. In which quarter of 2020, got the maximum total_sold_quantity? The final output contains these fields - Quarter, ,total_sold_quantity

```
SELECT
CASE
    WHEN date BETWEEN '2019-09-01' AND '2019-11-01' then 1
    WHEN date BETWEEN '2019-12-01' AND '2020-02-01' then 2
    WHEN date BETWEEN '2020-03-01' AND '2020-05-01' then 3
    WHEN date BETWEEN '2020-06-01' AND '2020-08-01' then 4
    END AS Quarters,
    SUM(sold_quantity) AS total_sold_quantity
FROM fact_sales_monthly
WHERE fiscal_year = 2020
GROUP BY Quarters
ORDER BY total_sold_quantity DESC
```

Result :

	Quarters	total_sold_quantity
▶	1	7005619
	2	6649642
	4	5042541
	3	2075087

Request 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_in_million ,percentage

```
WITH Output AS
(
SELECT C.channel,
       ROUND(SUM(G.gross_price*FS.sold_quantity/1000000), 2) AS Gross_sales_mln
FROM fact_sales_monthly FS JOIN dim_customer C ON FS.customer_code = C.customer_code
                           JOIN fact_gross_price G ON FS.product_code = G.product_code
WHERE FS.fiscal_year = 2021
GROUP BY channel
)
SELECT channel, CONCAT(Gross_sales_mln,' M') AS Gross_sales_mln , CONCAT(ROUND(Gross_sales_mln*100/total , 2), ' %') AS percentage
FROM
(
(SELECT SUM(Gross_sales_mln) AS total FROM Output) A,
(SELECT * FROM Output) B
)
ORDER BY percentage DESC
```

Result :

channel	Gross_sales_mln	percentage
Retailer	1924.17 M	73.22 %
Direct	406.69 M	15.48 %
Distributor	297.18 M	11.31 %

Request 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 Output1 AS
(
SELECT P.division, FS.product_code, P.product, SUM(FS.sold_quantity) AS Total_sold_quantity
FROM dim_product P JOIN fact_sales_monthly FS
ON P.product_code = FS.product_code
WHERE FS.fiscal_year = 2021
GROUP BY  FS.product_code, division, P.product
),
Output2 AS
(
SELECT division, product_code, product, Total_sold_quantity,
        RANK() OVER(PARTITION BY division ORDER BY Total_sold_quantity DESC) AS 'Rank_Order'
FROM Output1
)
 SELECT Output1.division, Output1.product_code, Output1.product, Output2.Total_sold_quantity, Output2.Rank_Order
 FROM Output1 JOIN Output2
 ON Output1.product_code = Output2.product_code
WHERE Output2.Rank_Order IN (1,2,3)
```

Result :

division	product_code	product	Total_sold_quantity	Rank_Order
N & S	A6720160103	AQ Pen Drive 2 IN 1	701373	1
N & S	A6818160202	AQ Pen Drive DRC	688003	2
N & S	A6819160203	AQ Pen Drive DRC	676245	3
P & A	A2319150302	AQ Gamers Ms	428498	1
P & A	A2520150501	AQ Maxima Ms	419865	2
P & A	A2520150504	AQ Maxima Ms	419471	3
PC	A4218110202	AQ Digit	17434	1
PC	A4319110306	AQ Velocity	17280	2
PC	A4218110208	AQ Digit	17275	3