AD-HOC-INSIGHTS

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

```
SELECT market
FROM dim_custome  WHERE customer="Atliq Exclusive"   AND region="APAC";
```

market
India
Indonesia
Japan
Philiphines
South Korea
Australia
Newzealand
Bangladesh
India

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 x AS(
            SELECT COUNT(DISTINCT product_code) AS procount_2021
             FROM  fact_sales_monthly
            WHERE fiscal_year=2021),
y AS(
            SELECT COUNT(DISTINCT product_code)AS procount_2020
            FROM fact_sales_monthly
            WHERE fiscal_year=2020)

SELECT x.procount_2021 AS unique_products_2021,
y.procount_2020 AS unique_products_2020,
ROUND((x.procount_2021-y.procount_2020)*100/x.procount_2021,2)
AS percentage_chg FROM  x,y
```

unique_products_2021	unique_products_2020	percentage_chg
334	245	26.65

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;
```

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

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 x AS (
            SELECT segment,COUNT(DISTINCT  f.product_code) AS procount_2020
            FROM fact_sales_monthly f
            JOIN dim_product p ON p.product_code=f.product_code
             WHERE fiscal_year=2020 GROUP BY segment),
y AS (
            SELECT segment,COUNT(DISTINCT s.product_code) AS procount_2021
             FROM fact_sales_monthly s
            JOIN dim_product pro ON pro.product_code=s.product_code
            WHERE fiscal_year=2021 GROUP BY segment)

SELECT   x.segment,y.procount_2021 AS products_count_2021,
x.procount_2020 AS products_count_2020,
(y.procount_2021-x.procount_2020) AS difference
FROM x JOIN y ON x.segment=y.segment
ORDER BY difference DESC;
```

segment	products_count_2021	products_count_2020	difference
Accessories	103	69	34
Notebook	108	92	16
Peripherals	75	59	16
Desktop	22	7	15
Storage	17	12	5
Networking	9	6	3

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 p
JOIN fact_manufacturing_cost m
ON m.product_code=p.product_code
WHERE manufacturing_cost IN (
                (SELECT MAX(manufacturing_cost) AS
                  highest_manufacturing_cost FROM fact_manufacturing_cost),
                (SELECT  MIN(manufacturing_cost) AS lowest_manufacturing_cost
                 FROM fact_manufacturing_cost))
GROUP BY p.product_code ORDER BY m.manufacturing_cost DESC;
```

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

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(pre.pre_invoice_discount_pct)*100,2) AS average_discount_percentage
FROM dim_customer c
JOIN fact_pre_invoice_deductions pre
ON pre.customer_code=c.customer_code
WHERE c.market="India" and pre.fiscal_year=2021
GROUP BY c.customer_code ORDER BY average_discount_percentage DESC
LIMIT 5;
```

customer_code	customer	average_discount_percentage
90002009	Flipkart	30.83
90002006	Viveks	30.38
90002003	Ezone	30.28
90002002	Croma	30.25
90002016	Amazon	29.33

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

```
WITH x AS (
            SELECT s.date,s.fiscal_year,c.customer,s.sold_quantity,g.gross_price,
            (g.gross_price*s.sold_quantity) AS gross_sales_amount
            FROM fact_sales_monthly s
           JOIN  fact_gross_price g
           ON g.product_code=s.product_code
           AND g.fiscal_year=s.fiscal_year
           JOIN dim_customer c
           ON c.customer_code=s.customer_code
           WHERE c.customer="Atliq Exclusive"
)

SELECT MONTH(x.date) AS month,YEAR(x.date) AS year,
ROUND(sum(x.gross_sales_amount)/1000000,2) AS gross_sales_amount_mln
FROM x GROUP BY month,year;
```

month	year	gross_sales_amount_mln
9	2019	4.50
10	2019	5.14
11	2019	7.52
12	2019	4.83
1	2020	4.74
2	2020	4.00
3	2020	0.38
4	2020	0.40
5	2020	0.78
6	2020	1.70
7	2020	2.55
8	2020	2.79
9	2020	12.35
10	2020	13.22
11	2020	20.46
12	2020	12.94
1	2021	12.40
2	2021	10.13
3	2021	12.14
4	2021	7.31
5	2021	12.15
6	2021	9.82
7	2021	12.09
8	2021	7.18

8. In which quarter of 2020, got the maximum total_sold_quantity? The final output contains these fields sorted by total_sold_quantity,

Quarter,
total_sold_quantity

```
WITH x AS (
SELECT  sold_quantity,
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"
           WHEN MONTH (date) in (6,7,8)  THEN "Q4"
END AS quarter
FROM fact_sales_monthly
WHERE fiscal_year=2020
)
SELECT quarter,SUM(sold_quantity)  AS total_sold_quantity
FROM x  GROUP BY quarter
ORDER BY total_sold_quantity DESC;
```

quarter	total_sold_quantity
Q1	7005619
Q2	6649642
Q4	5042541
Q3	2075087

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 x AS (
            SELECT s.customer_code,s.sold_quantity,g.gross_price,
             (s.sold_quantity*g.gross_price)  AS gross_sales
            FROM fact_sales_monthly s
            JOIN fact_gross_price g
           ON  g.product_code=s.product_code  AND s.fiscal_year=g.fiscal_year
          WHERE  s.fiscal_year=2021),
Y AS (
      SELECT c.channel,round(sum(x.gross_sales)/1000000,2) AS  gross_sales_mln
      FROM  x
      JOIN  dim_customer c
      ON c.customer_code=x.customer_code group by channel
)
SELECT *,ROUND(y.gross_sales_mln*100/(SELECT SUM(gross_sales_mln)  AS sum FROM y),2)  AS
percentage_difference
FROM y  ORDER BY percentage_difference DESC;
```

channel	gross_sales_mln	percentage_difference
Retailer	1219.08	73.23
Direct	257.53	15.47
Distributor	188.03	11.30

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 x AS(
            SELECT  p.division,p.product_code,p.product,s.sold_quantity,
           s.fiscal_year,sum(s.sold_quantity) AS total_sold_quantity
           FROM dim_product p
```

```
            JOIN fact_sales_monthly s
            ON s.product_code=p.product_code
            WHERE s.fiscal_year=2021
             GROUP BY  p.division,p.product_code,p.product
),
y AS (
          SELECT x.division,x.product_code,x.product,
          x.total_sold_quantity,dense_rank()  OVER(partition by x.division
         ORDER BY x.total_sold_quantity desc) AS rank_order  FROM x
)

SELECT *  FROM y  WHERE rank_order<=3;
```

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