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Company overview

Global Presence

A leading computer hardware manufacturer in India and 26 other countries worldwide.

Core Business Divisions

Specializes in three major divisions:
- Peripherals & Accessories
- Networking & Storage
- PCs

Strong Client Network

Trusted by 74 customers, including Amazon, Neptune, Digimarket, and Vijay Sales

Problem Statement

Lack of Data-Driven Insights

Management struggles to obtain quick and smart data-informed decisions.

Expansion of Analytics Team

Plans to hire multiple junior data analysts to strengthen data capabilities.

Focus on Technical and Soft Skills

The Data Analytics Director seeks candidates with strong SQL expertise and problem-solving abilities.

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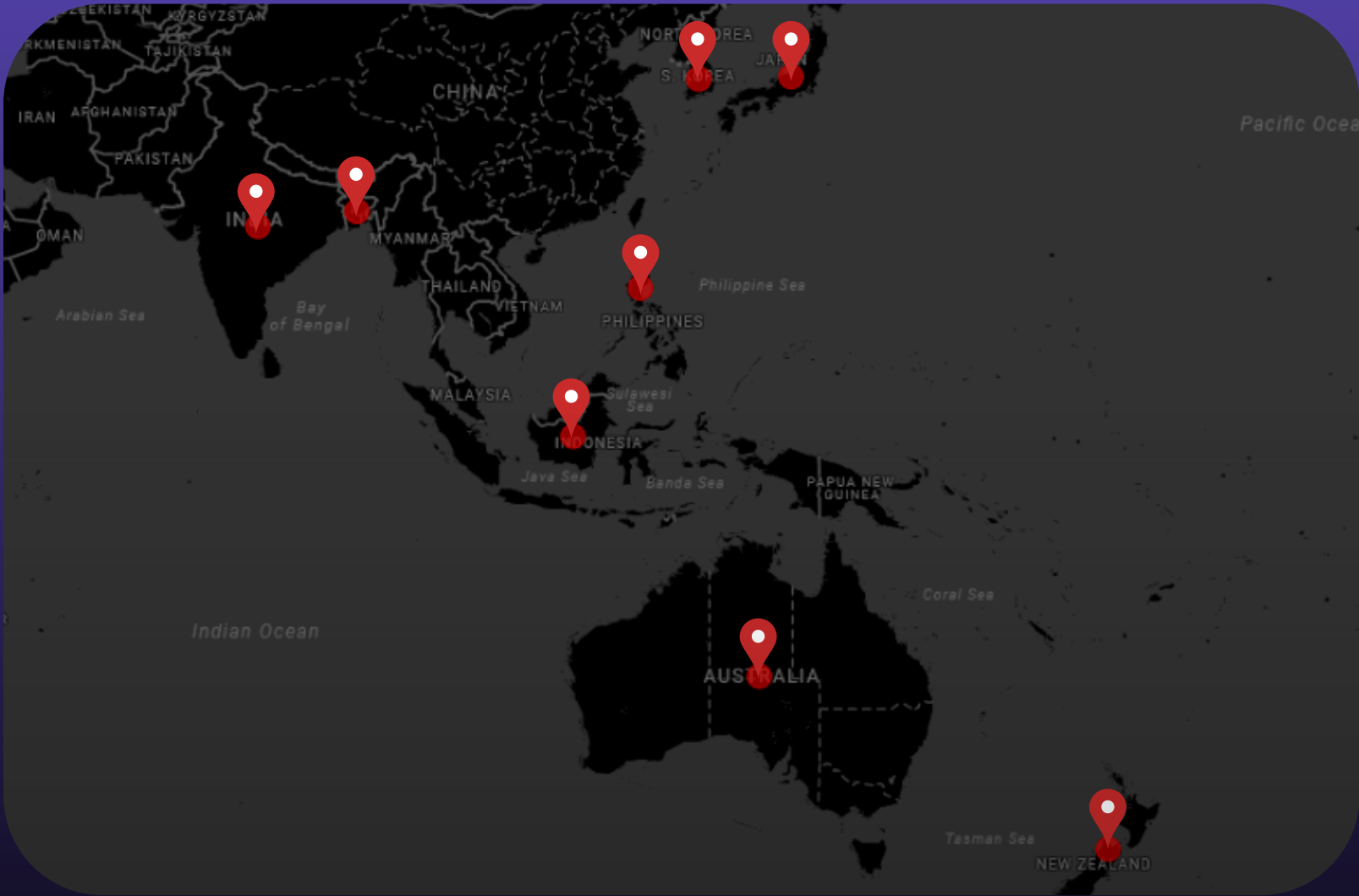
INPUT

```sql
SELECT DISTINCT market
FROM dim_customer
WHERE customer = "Atliq Exclusive"
AND region= "APAC";
```

OUTPUT

Market

Australia
Bangladesh
India
Indonesia
Japan
Newzealand
Philiphines
South Korea

Atliq exclusive operates in eight countries across APAC region, showcasing a strong presence in the regional market.

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

INPUT

```
WITH fy_2020 AS
  (SELECT count(DISTINCT product_code) AS unique_products_2020
   FROM fact_sales_monthly
   WHERE fiscal_year = 2020),
     fy_2021 AS
  (SELECT count(DISTINCT product_code) AS unique_products_2021
   FROM fact_sales_monthly
   WHERE fiscal_year = 2021)
SELECT unique_products_2020,
       unique_products_2021,
       ((unique_products_2021-
unique_products_2020)*100/unique_products_2020) AS percentage_chg
FROM fy_2020
JOIN fy_2021;
```

OUTPUT

unique_products_2020	unique_products_2021	percentage_chg
245	334	36.33
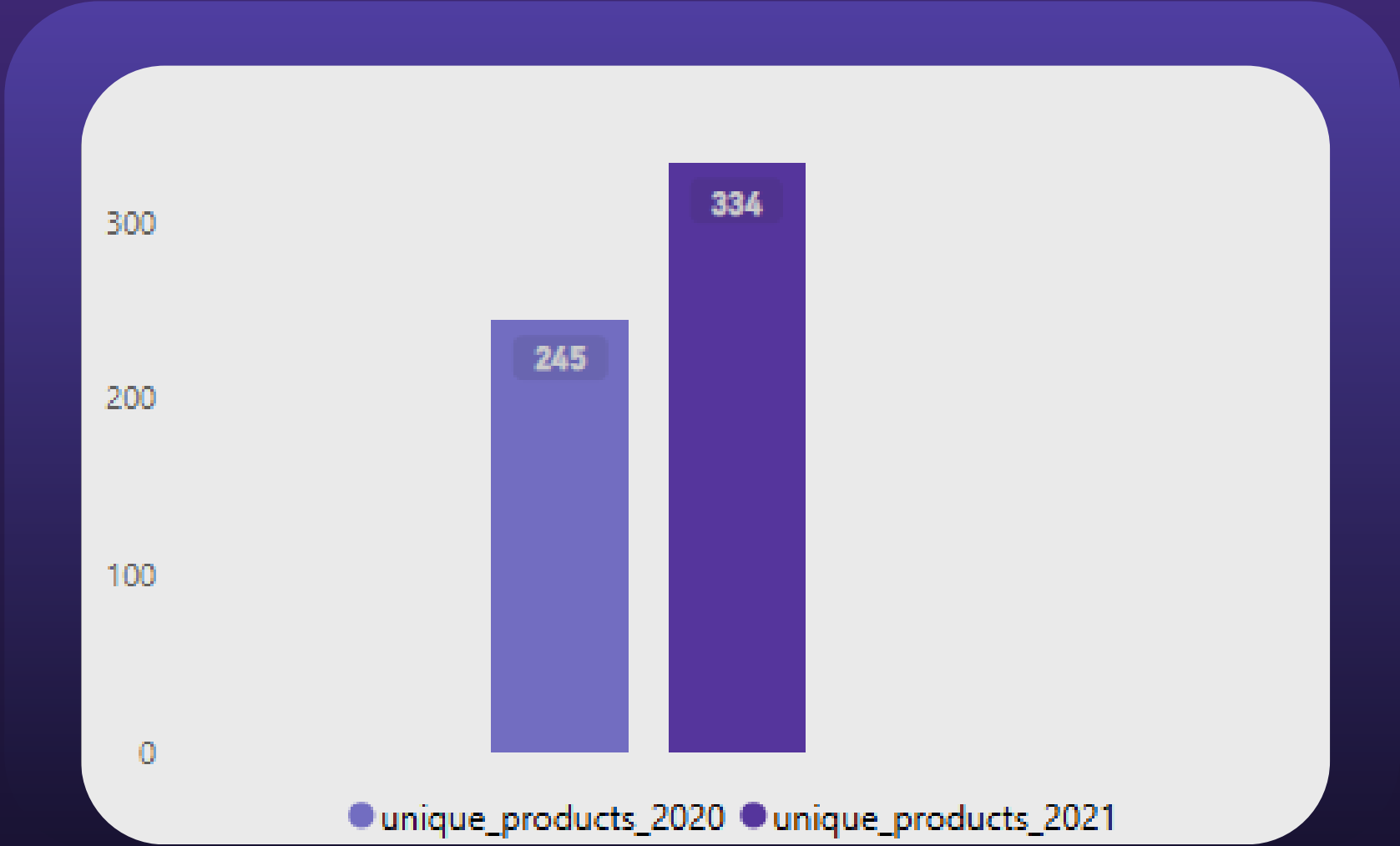
With 36.33% growth, Atliq hardware's unique products increased from 245 (in 2020) to 334(in 2021)

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

INPUT

```sql
SELECT SEGMENT,
       count(DISTINCT product_code) AS product_counts
FROM dim_product
GROUP BY SEGMENT
ORDER BY product_counts DESC;
```

OUTPUT

Unique Products

segment	Sum of product_counts
Notebook	129
Accessories	116
Peripherals	84
Desktop	32
Storage	27
Networking	9

Unique Products

Segment	Value
Notebook	129
Accessories	116
Peripherals	84
Desktop	32
Storage	27
Networking	9
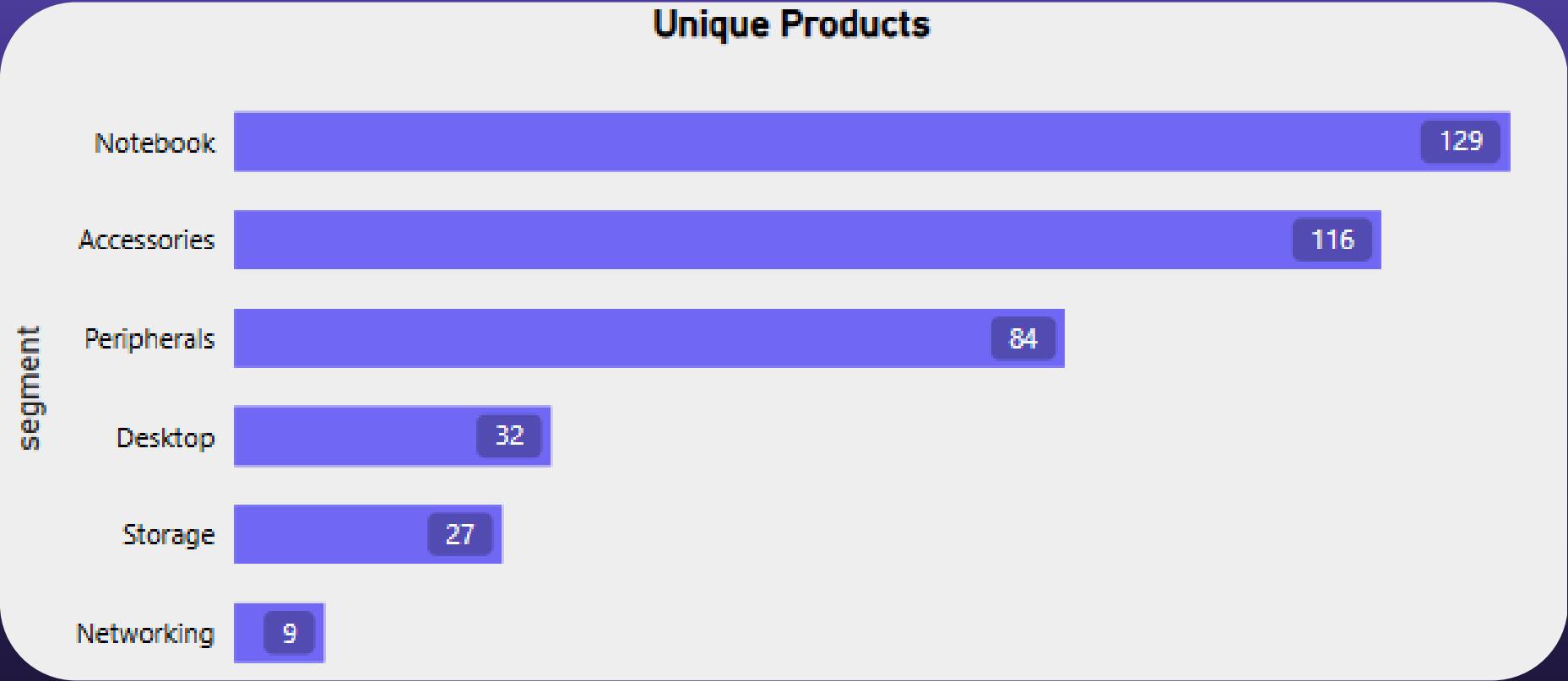
INSIGHTS

Atliq hardware has a wide range of products under segment like Notebook, Accessories & Peripherals with 82.87% product range.

Desktop, Storage, Networking are lagging with less proportion 17.13%.

Product development team needs to evaluate the products as per current market trends

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

INPUT

```
WITH p_count_20 AS
  (SELECT SEGMENT,
        count(DISTINCT product_code) AS product_count_2020
  FROM dim_product p
  JOIN fact_sales_monthly s USING(product_code)
  WHERE s.fiscal_year=2020GROUP BY SEGMENT
  ORDER BY product_count_2020 DESC),
    p_count_21 AS
  (SELECT SEGMENT,
        count(DISTINCT product_code) AS product_count_2021
  FROM dim_product p
  JOIN fact_sales_monthly s USING(product_code)
  WHERE s.fiscal_year=2021GROUP BY SEGMENT
  ORDER BY product_count_2021 DESC)
SELECT p_count_20.segment,
    product_count_2020,
    product_count_2021,
    product_count_2021-product_count_2020 AS difference
FROM p_count_20
JOIN p_count_21 USING(SEGMENT)
GROUP BY SEGMENT
ORDER BY difference DESC;
```

OUTPUT

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

● 2020 ● 2021 ● Difference

Notebook — 92 — 108 — 16
Accessories — 69 — 103 — 34
Peripherals — 59 — 75 — 16
Storage — 12 — 17
Desktop — 7 — 22 — 15
Networking — 6 — 9
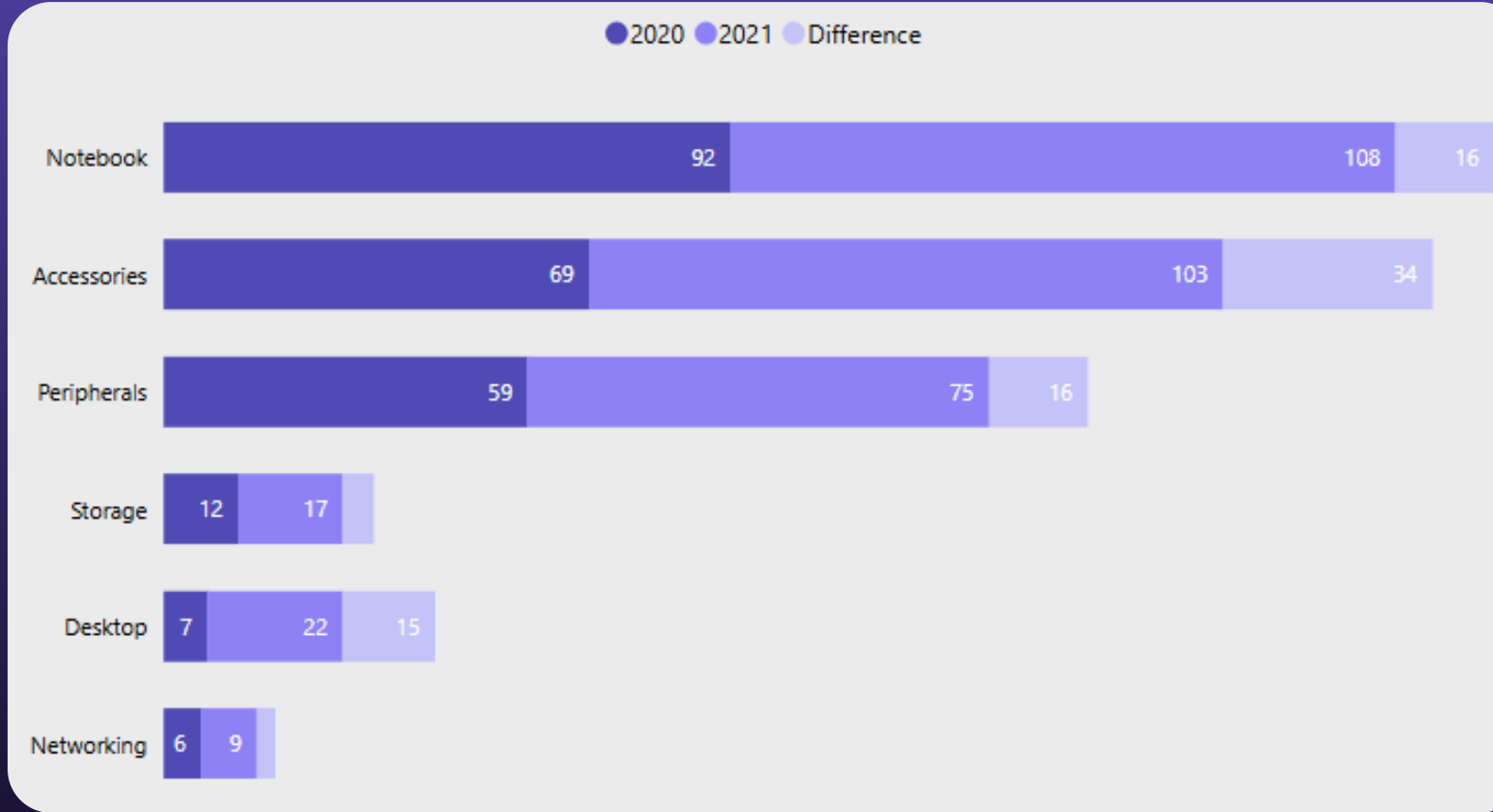
INSIGHTS

Accessories has the most increased in unique products from 2020 to 2021 by adding 34 new products.

Product development team has done good work in Desktop segment by increasing unique products 7 to 22 .

There is a need of improvement in Networking segment.

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

INPUT

```
SELECT p.product_code,
       p.product,
       manufacturing_cost
FROM dim_product p
JOIN fact_manufacturing_cost m USING(product_code)
WHERE manufacturing_cost =
    (SELECT MAX(manufacturing_cost)
     FROM fact_manufacturing_cost)
  OR
manufacturing_cost=
    (SELECT min(manufacturing_cost)
     FROM fact_manufacturing_cost);
```

OUTPUT

product_code	product	Manufacturing_cost
A2118150101	AQ Master wired x1 Ms	0.89
A6120110206	AQ HOME Allin1 Gen 2	240.54

Highest and Lowest Manufacturing Cost Products

0.89
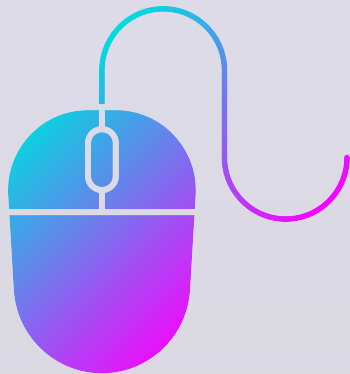
Mouse

A2118150101
'AQ Master wired x1 Ms'

240.54

Personal Desktop

A6120110206
'AQ HOME Allin1 Gen 2'

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

INPUT

```
WITH top5 AS
  (SELECT *FROM dim_customer c
   JOIN fact_pre_invoice_deductions d USING(customer_code)
   WHERE c.market ="India"
    AND fiscal_year=2021)
SELECT customer_code,
     customer,
     concat(round(avg(pre_invoice_discount_pct *100), 2), "%") AS avg_discount
FROM top5
GROUP BY customer_code,
     customer
ORDER BY avg(pre_invoice_discount_pct *100) DESC
LIMIT 5;
```

OUTPUT

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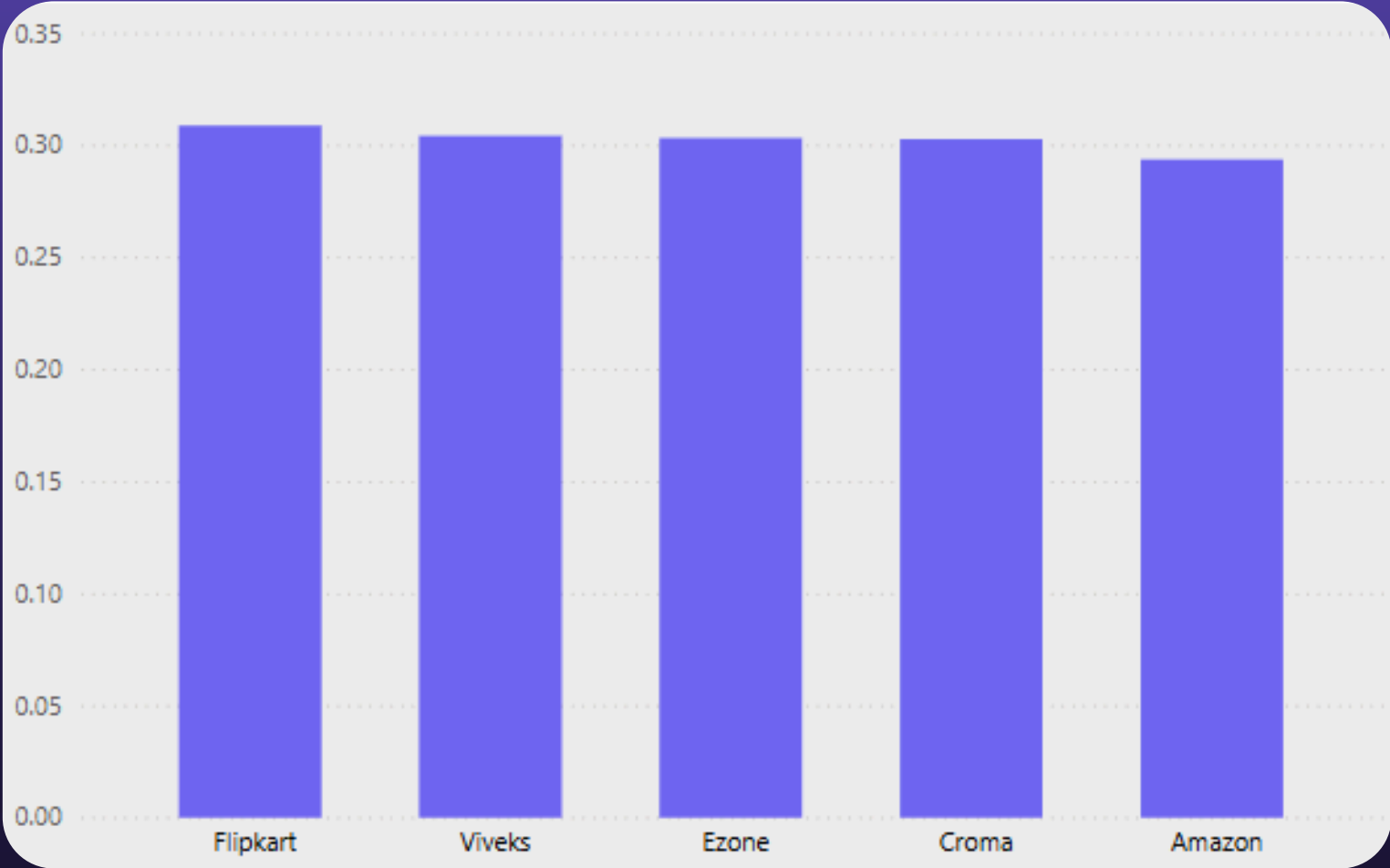
INSIGHTS

Flipkart received the highest pre invoice discount percentage i.e 30.83%.
Top 5 customers have a collective average discount around 30.21%.

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

INPUT

```sql
SELECT month(s.date) AS MONTH,
       s.fiscal_year AS YEAR,
       sum(g.gross_price * s.sold_quantity) AS Gross_sales_monthly
FROM fact_sales_monthly s
JOIN dim_customer c ON c.customer_code=s.customer_code
JOIN fact_gross_price g ON g.product_code = s.product_code
WHERE customer= "AtliQ Exclusive"
GROUP BY MONTH,
         YEAR
ORDER BY YEAR ;
```

OUTPUT

month	year	Gross_sales_monthly
9	2020	9092670.3392
10	2020	10378637.5961
11	2020	15231894.9669
12	2020	9755795.0577
1	2020	9584951.9393
2	2020	8083995.5479
3	2020	766976.4531
4	2020	800071.9543
5	2020	1586964.4768
6	2020	3429736.5712
7	2020	5151815.4020
8	2020	5638281.8287
9	2021	19530271.3028
10	2021	21016218.2095
11	2021	32247289.7946
12	2021	20409063.1769
1	2021	19570701.7102
2	2021	15986603.8883
3	2021	19149624.9239
4	2021	11483530.3032
5	2021	19204309.4095
6	2021	15457579.6626
7	2021	19044968.8164
8	2021	11324548.3409

INSIGHTS
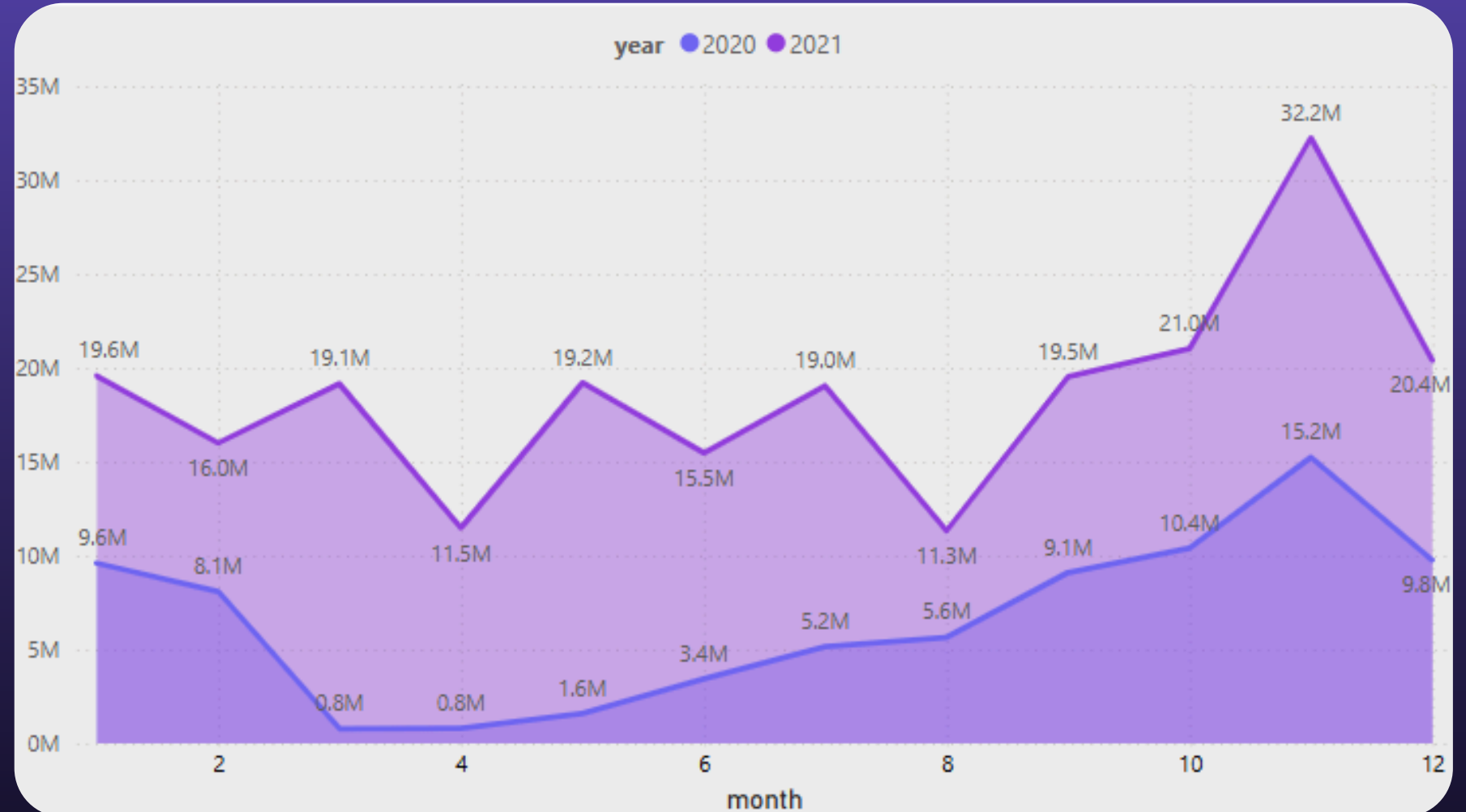
Sales were decreased in March(2020) due to COVID 19 pandemic but started recovering after June & highest sales of 2020 occurred in November .

Sales grew outstandingly in 2021 compared to 2020.

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
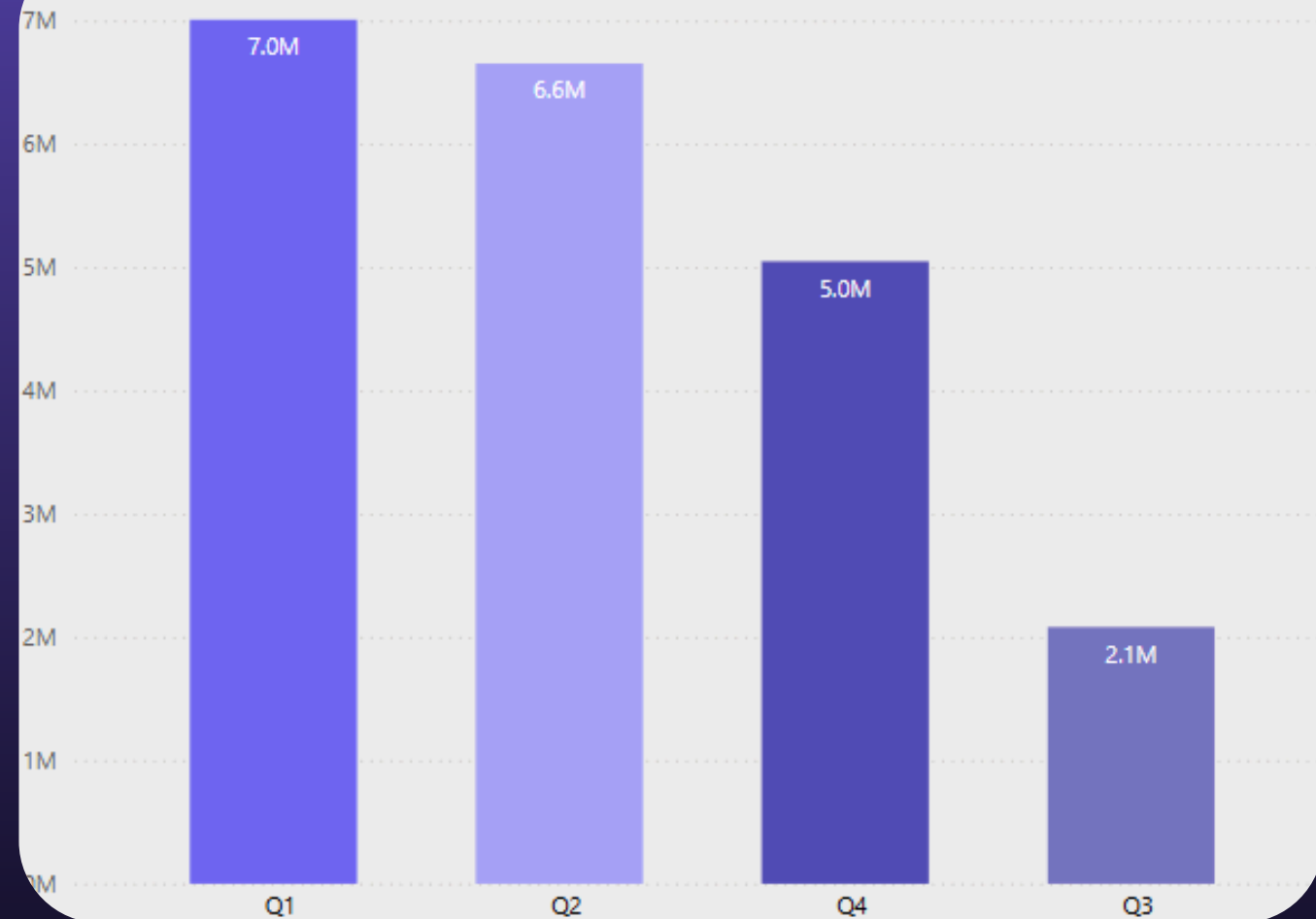
INPUT

```
select 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, sum(sold_quantity) as total_sum_qty
from fact_sales_monthly
where fiscal_year=2020
group by Quarter
order by total_sum_qty desc;
```

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
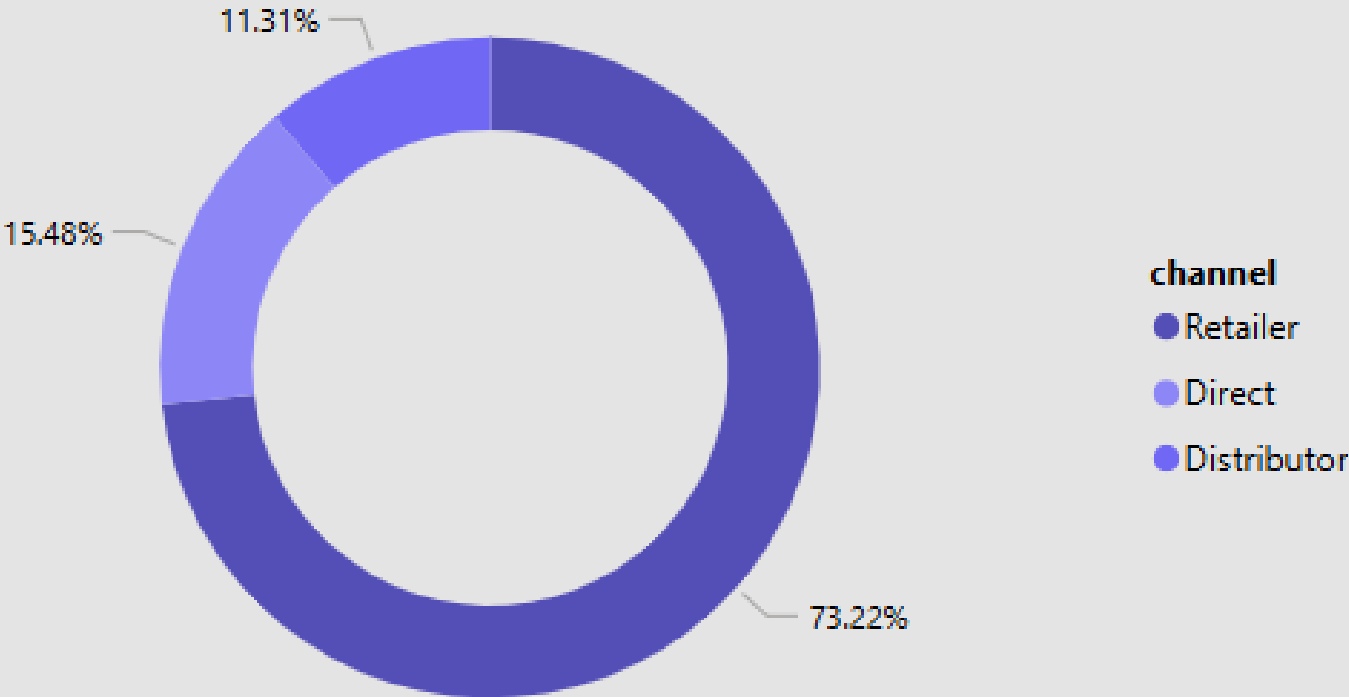
INPUT

```
SELECT c.channel,
       round(sum((gross_price*sold_quantity)/ 1000000), 2) AS gross_sales_mlm,
       (SUM(gross_price * sold_quantity) / SUM(SUM(gross_price * sold_quantity)) OVER()) * 100
        AS percentage
FROM dim_customer c
JOIN fact_sales_monthly s USING(customer_code)
JOIN fact_gross_price g ON g.product_code =s.product_code
WHERE s.fiscal_year ="2021"
GROUP BY c.channel;
```

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

INPUT

```
WITH top3 AS
  (SELECT division,
        s.product_code,
        p.product,
        sum(sold_quantity) AS total_sold_quantity,
        dense_rank() over(PARTITION BY division
                ORDER BY sum(sold_quantity) DESC) AS d_rank
  FROM fact_sales_monthly s
  JOIN dim_product p ON s.product_code=p.product_code
  WHERE fiscal_year=2021
  GROUP BY division,
        p.product_code)
SELECT *
FROM top3
WHERE d_rank<=3;
```

OUTPUT

division	product_code	product	total_sold_quantity	d_rank
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
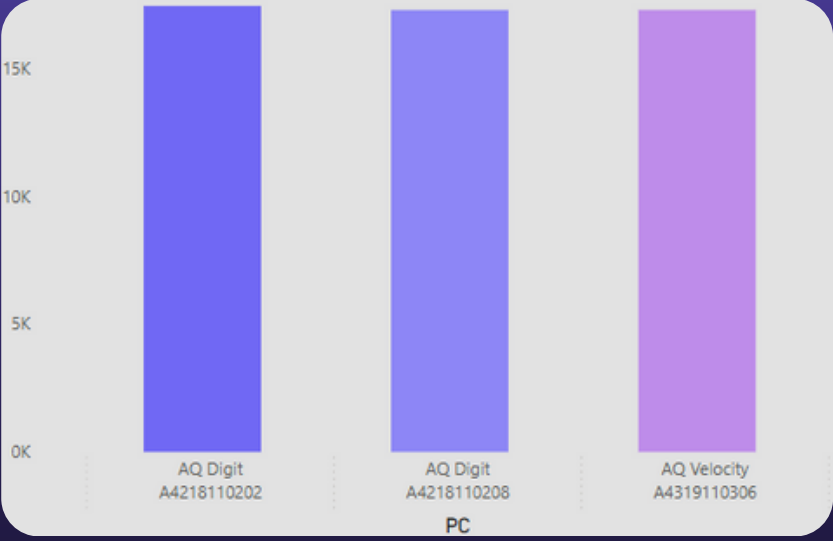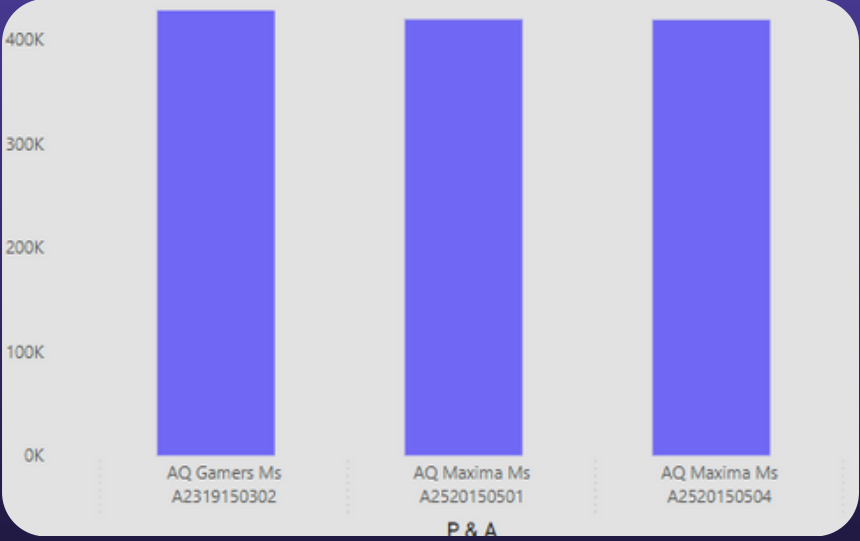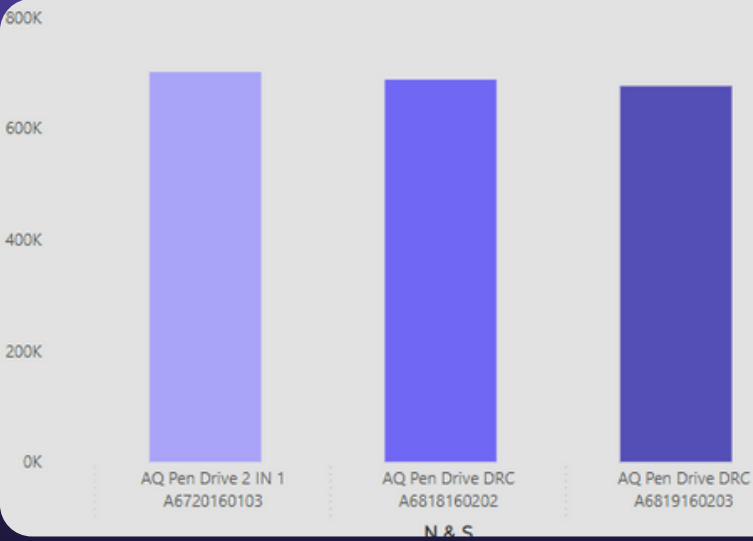
INSIGHTS

In N & S division, pen drives dominates the top three spots.
The P & A division's top three products are all mice.
The company should take some strategic decisions to improve sales in PC division.

Recommendations

Enhance Product Development

Focus on desktop, storage, and networking segments to meet evolving market demands.

Strengthen Multi-Channel Marketing

Leverage diverse marketing strategies to expand reach and engagement.

Optimize Pricing Strategies

Implement attractive promotions and discounts to drive sales and competitiveness.

Adapt to Market Trends

Make constant improvement as per current market situation & customer demand.

Invest in Sales Training

Upskill the sales team to boost performance and achieve business objectives.