Atliq Hardwares

Consumer Goods Ad-hoc Insights

Presented by **Urvashi Dhakate**

AGENDA

1 **WHY?**
Atliq Hardware Company Background, Objectives and Approach

2 **WHAT?**
Atliq Business: Markets and Details

3 **HOW?**
Data Model, Tools Used, Ad-Hoc Requests with Queried Results, Visualizations, and Insights

Atliq Hardware Company Background, Objectives and Approach

Company Background
Atliq Hardware's (imaginary company) is one of the leading computer hardware producers in India and well expanded in other countries too.

Objective
However, the management noticed that they do not get enough insights to make quick and smart data-informed decisions. They want to expand their data analytics team by adding several junior data analysts. Tony Sharma, their data analytics director wanted to hire someone who is good at both tech and soft skills. The company seeks insights for 10 ad-hoc requests.

Approach
Run a SQL query to answer these requests. Convert it into visualizations and present the insights to the top-level management.
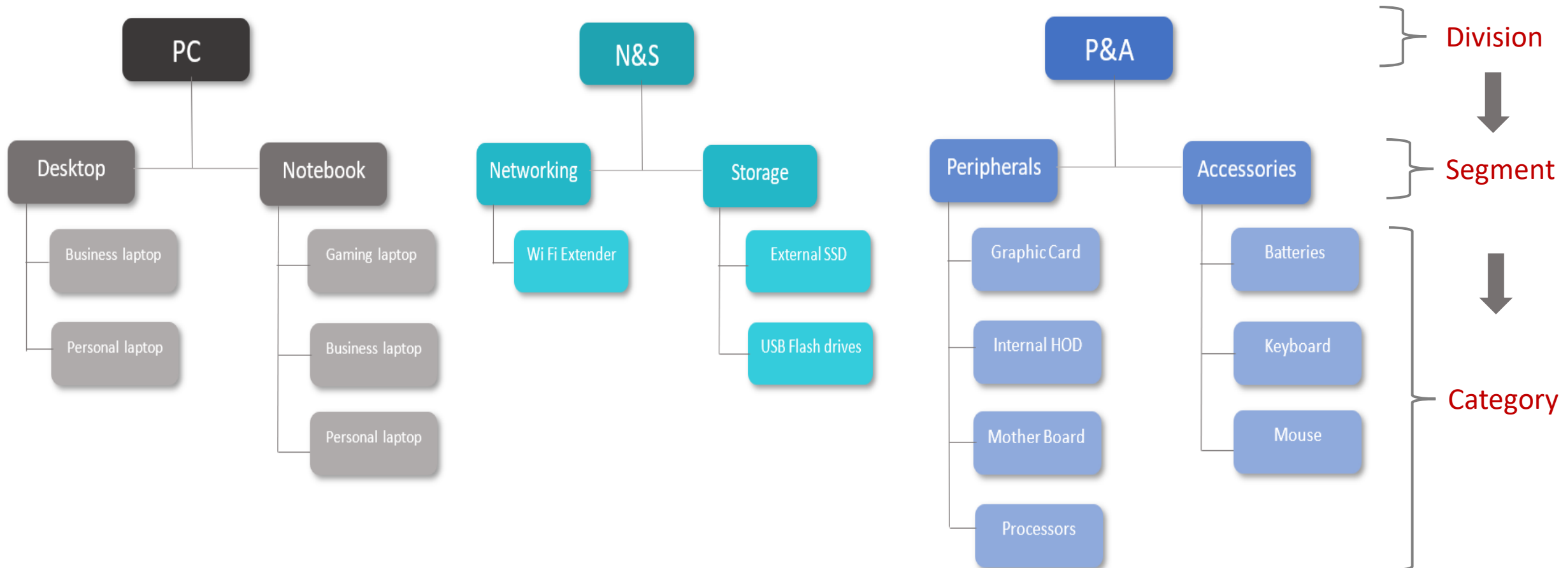
Atliq Hardware is a manufacturer of computer hardware and accessories. The company's division and segment, category distribution are represented in the following tree diagrams:

Atliq's Business Markets

APAC

EU

LATAM

NA

In the APAC region: Markets in India, Pakistan, Bangladesh, China, Japan, South Korea, Philippines, Indonesia, Australia, and New Zealand.
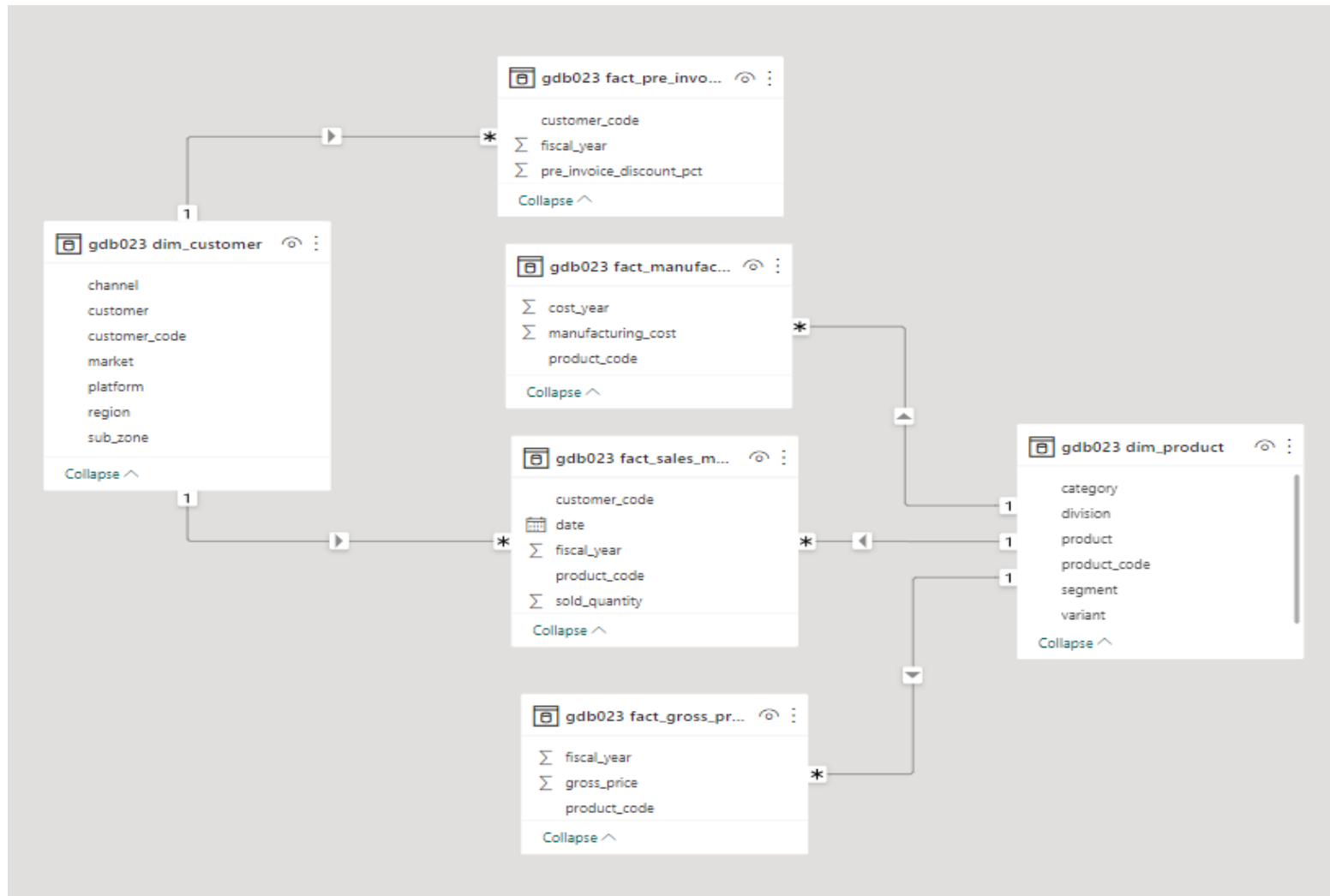
In the EU region: Markets in Portugal, Spain, Italy, France, Austria, Netherlands, Germany, Poland, United Kingdom, Sweden, and Norway.

In the LATAM region: Markets in Mexico, Colombia, Brazil, and Chile.

In the NA region: Markets in Canada and the USA.

Data Model consists of six tables:

- dim_customer
- fact_pre_invoice_deductions
- fact_manufacturing_cost
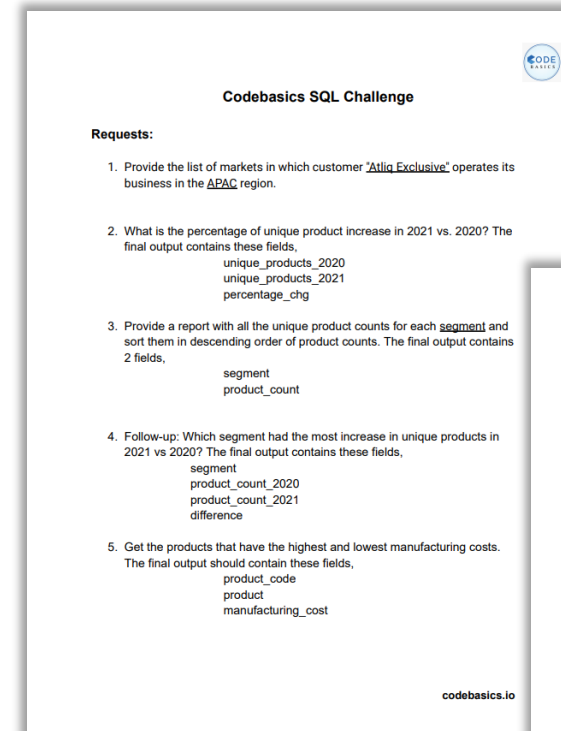- fact_sales_monthly
- fact_gross_price
- dim_product

Tools used:

"Our company has received 10 Ad-hoc requests that require valuable insights. The objective is to address these requests through the execution of SQL queries, transforming the results into visually impactful presentations. By adopting a strategic approach, our aim is to provide insightful visualizations to the top-level management, facilitating a more informed decision-making process. Moving forward, we will focus on generating insights and crafting visualizations for each of the 10 requests, ensuring a comprehensive and effective presentation to our top-level leadership."
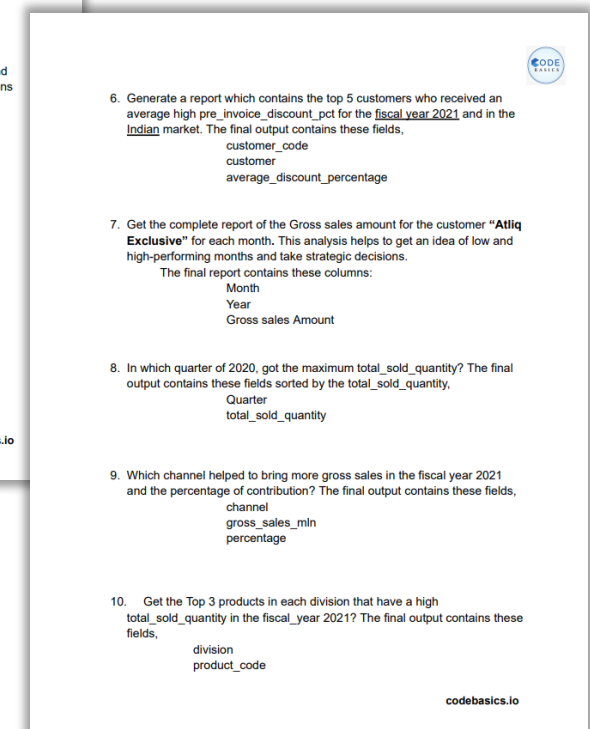
Codebasics SQL Challenge

Requests:

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

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

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

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

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

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

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

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

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

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

codebasics.io

REQUEST 1:

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

OUTPUT:

	market
▶	Australia
	Bangladesh
	India
	Indonesia
	Japan
	Newzealand
	Philiphines
	South Korea

Visualization Results and Insights

In the ACAP region, our exclusive store has established its presence in eight major markets, including India, Bangladesh, Indonesia, the Philippines, Japan, South Korea, Australia, and New Zealand.

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_chg

OUTPUT:

unique_product_2020	unique_product_2021	Percentage_Chg
245	334	36.33

Visualization Results and Insights

It's a positive sign that we are consistently innovating and introducing new products to the market.

In year 2020, we had a total of 245 products. However, in year 2021, our product count increased by 36.33% to reach 334 products.
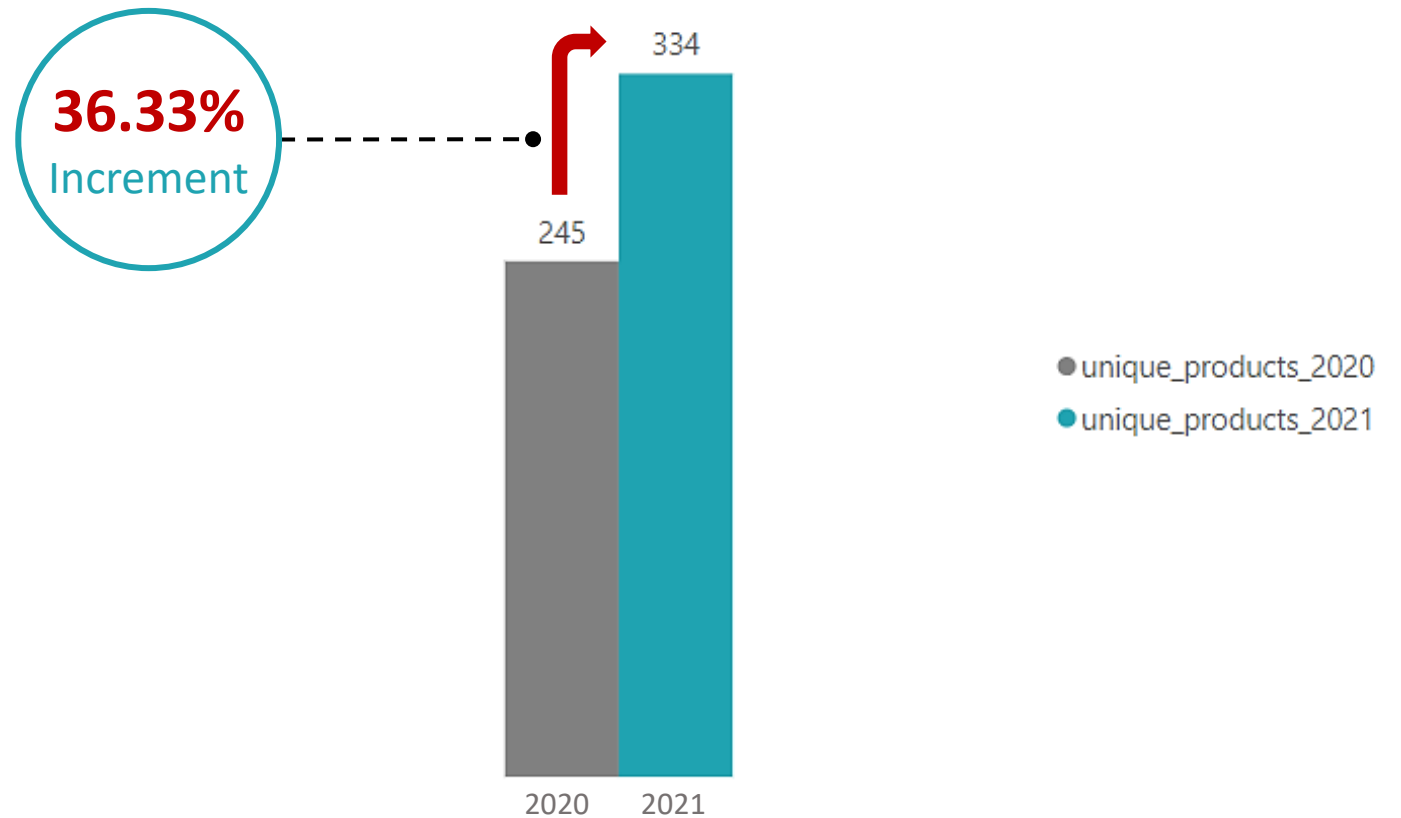
REQUEST 3:

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

OUTPUT:

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

Visualization Results and Insights

Based on the chart, it is apparent that the segment encompassing **Notebooks, accessories, and peripherals, with an average of 110 products in each segment**, is demonstrating noteworthy manufacturing growth in contrast to **desktop storage and networking, where the average stands at only 23 products per segment.**

Average 109.7

Average 22.6
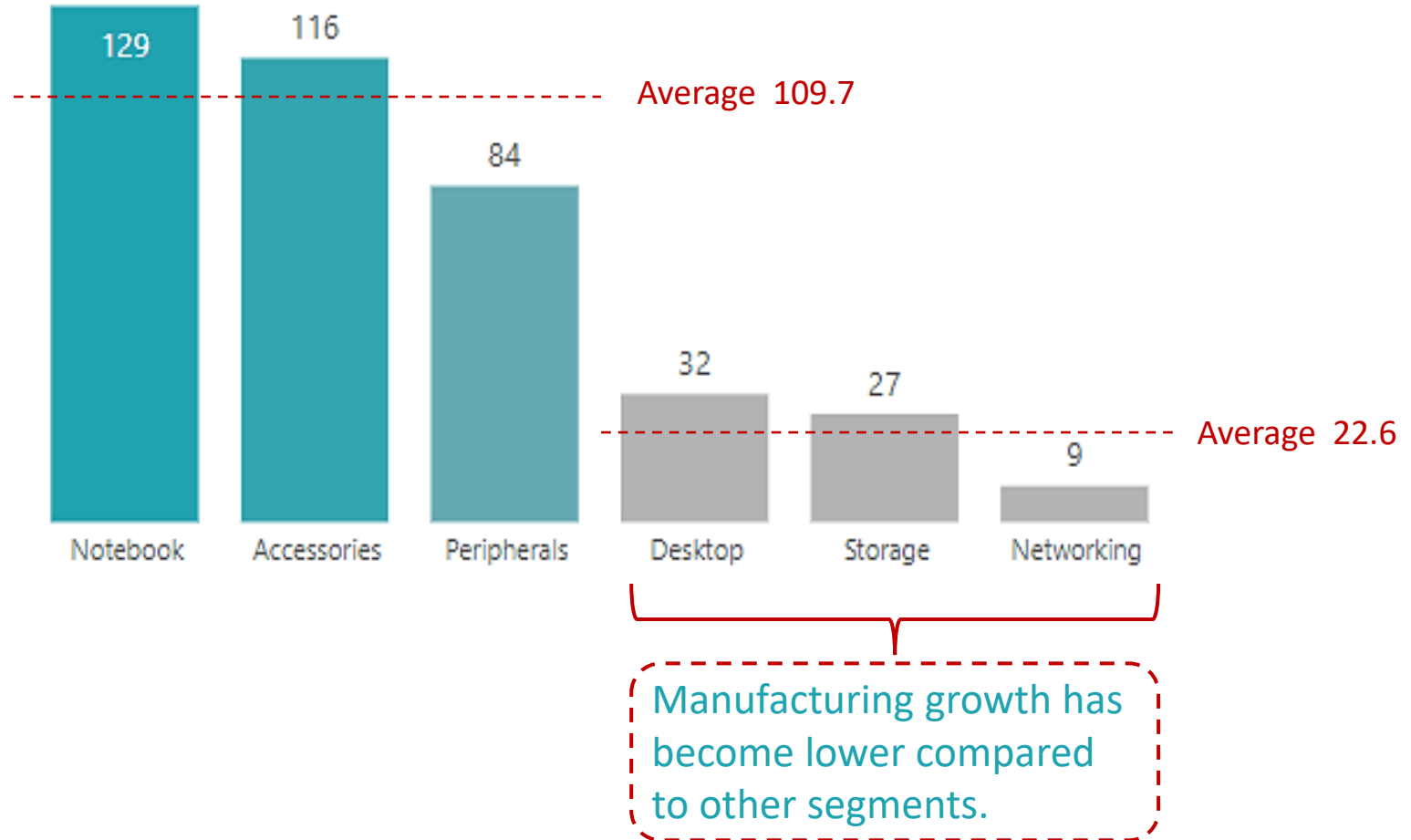
Manufacturing growth has become lower compared to other segments.

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

OUTPUT:

	market
▶	Australia
	Bangladesh
	India
	Indonesia
	Japan
	Newzealand
	Philiphines
	South Korea

Visualization Results and Insights

Looking at the visuals, it seems that Accessories had the biggest increase in production. On the other hand, storage and networking are growing more slowly compared to the other segments.

Segment	unique_products_2020	unique_products_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 ↑

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

OUTPUT:

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

Visualization Results and Insights

The products that have the highest manufacturing costs

The products that have the lowest manufacturing costs

240.54
MaxCost

0.89
MinCost

AQ HOME Allin 1 Gen 2 (Plus 3)
Personal Desktop
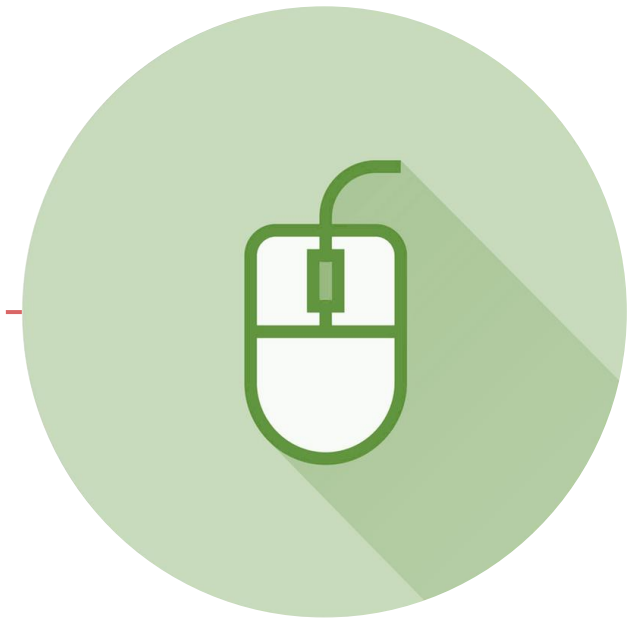
AQ Master wired x1 Ms (Standard 1)
Mouse

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
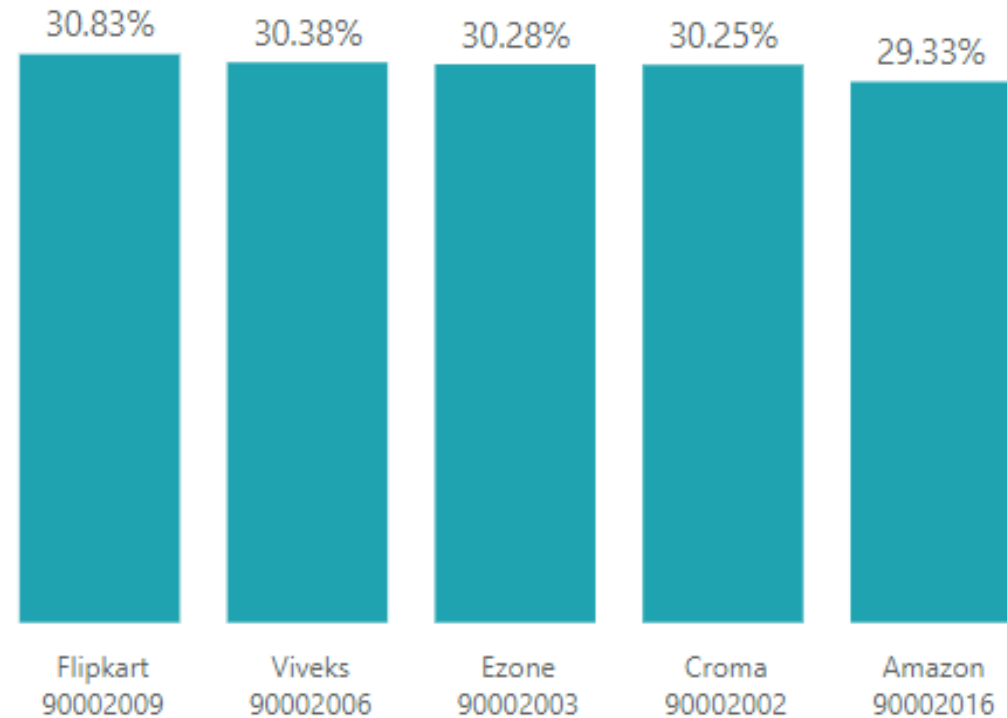
OUTPUT:

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

Visualization Results and Insights

Top 5 Indian customers with highest average discount percentage for FY 2021.

Flipkart offered the **highest** average pre-invoice discount, while **Amazon** provided the **lowest** average pre-invoice discount.

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

Customer & Customer code

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:
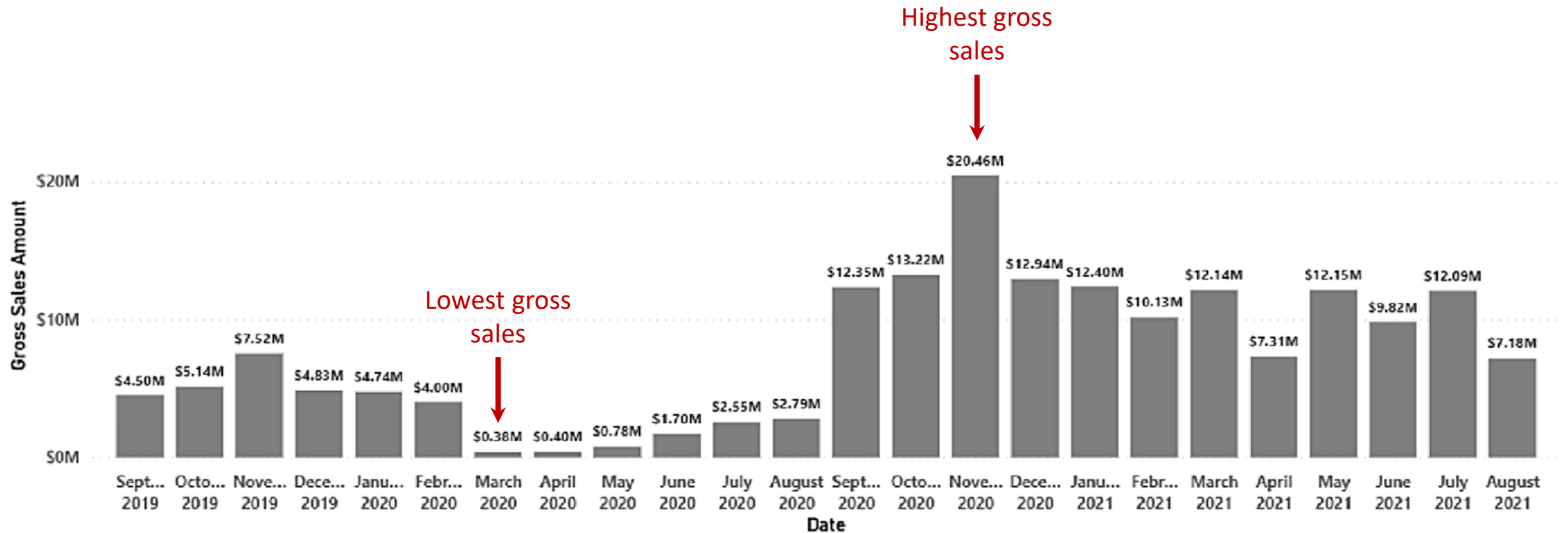
Month
Year
Gross sales Amount

OUTPUT:

month_name	year_	gross_sales_amount_millions
September	2019	$4.50
October	2019	$5.14
November	2019	$7.52
December	2019	$4.83
January	2020	$4.74
February	2020	$4.00
March	2020	$0.38
April	2020	$0.40
May	2020	$0.78
June	2020	$1.70
July	2020	$2.55
August	2020	$2.79
September	2020	$12.35
October	2020	$13.22
November	2020	$20.46
December	2020	$12.94
January	2021	$12.40
February	2021	$10.13
March	2021	$12.14
April	2021	$7.31
May	2021	$12.15
June	2021	$9.82
July	2021	$12.09
August	2021	$7.18

Visualization Results and Insights

- **The Atliq Exclusive store experienced its highest sales in November 2020, reaching an impressive $20.46 million. Conversely, the lowest sales were recorded in March 2020, totaling $0.38 million.**
- The decline in sales from March to August was attributed to the impact of the pandemic, leading to temporary store closures.
- However, sales began to rebound from September 2020 onwards, driven by the easing of lockdown restrictions and the commencement of the festive season in India and other markets.

REQUEST 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

OUTPUT:

Quarters	total_sold_quantity
1	7005619
2	6649642
4	5042541
3	2075087

Quarters	total_sold_quantity
[1] September	1764002
[1] October	2190792
[1] November	3050825
[2] December	3184205
[2] January	1762652
[2] February	1702785
[3] March	238961
[3] April	819956
[3] May	1016170
[4] June	1559773
[4] July	1692575
[4] August	1790193

Visualization Results and Insights

This statement further complements the preceding insights regarding the impact of COVID-19 on our sales. **The sold quantity notably decreased to 2.1 million in the third quarter of FY 2020, corresponding to the peak months of the pandemic, namely March, April, and May.**

However, our recovery commenced quite early, even in the persistent presence of the pandemic. This early recovery, observed during the fourth quarter, can be attributed to the heightened demand for hardware such as desktops and notebooks. The surge was driven by the substantial number of students commencing or continuing their coursework online during this period, resulting in a significant demand for computer accessories.

Quarter 1 has a maximum total sold quantity

7.0M

6.6M

5.0M

2.1M

6M

4M

2M

0M

Q1

Q2

Q4

Q3
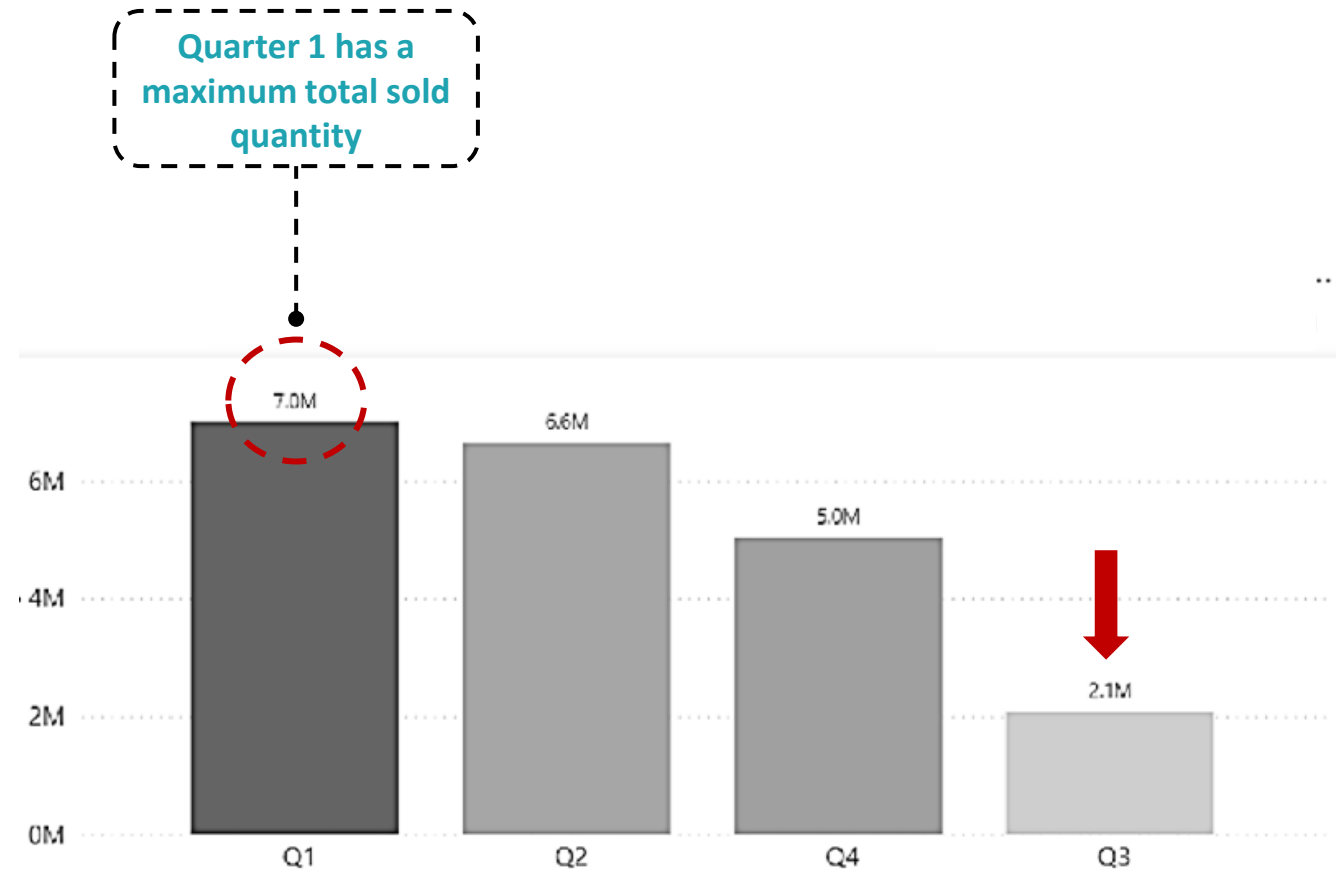
REQUEST 9:

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_mln percentage

OUTPUT:

channel	gross_sales_in_millions	percentage
Retailer	1924.17	73.22
Direct	406.69	15.47
Distributor	297.18	11.31

Visualization Results and Insights

In The majority of our sales took place via retailers, which is 75% of the total sales. Only a very small percentage of our sales happened through direct and distributor channels.

channel
- Retailer
- Direct
- Distributor
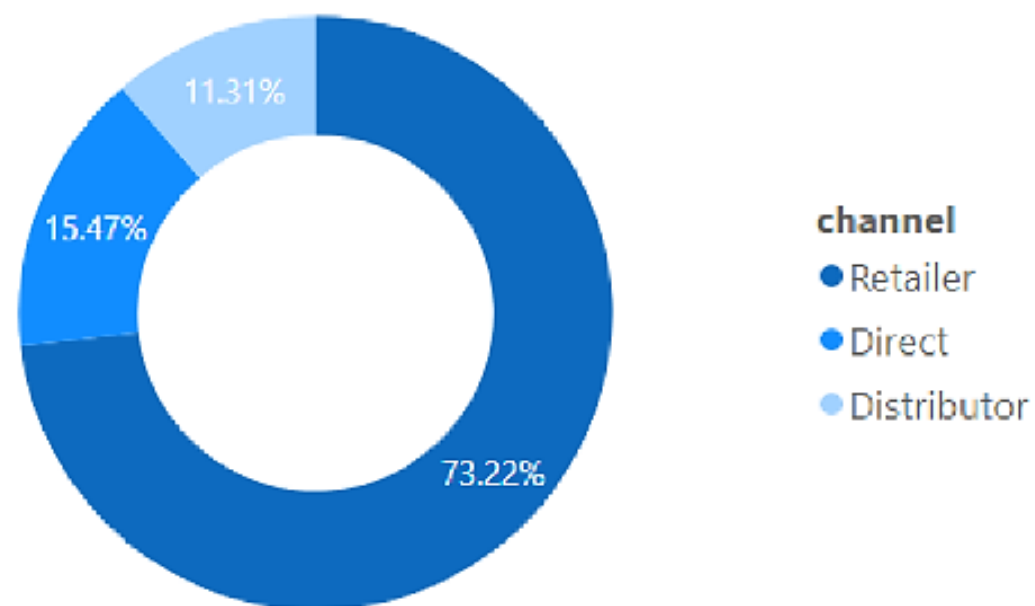
REQUEST 10:

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,
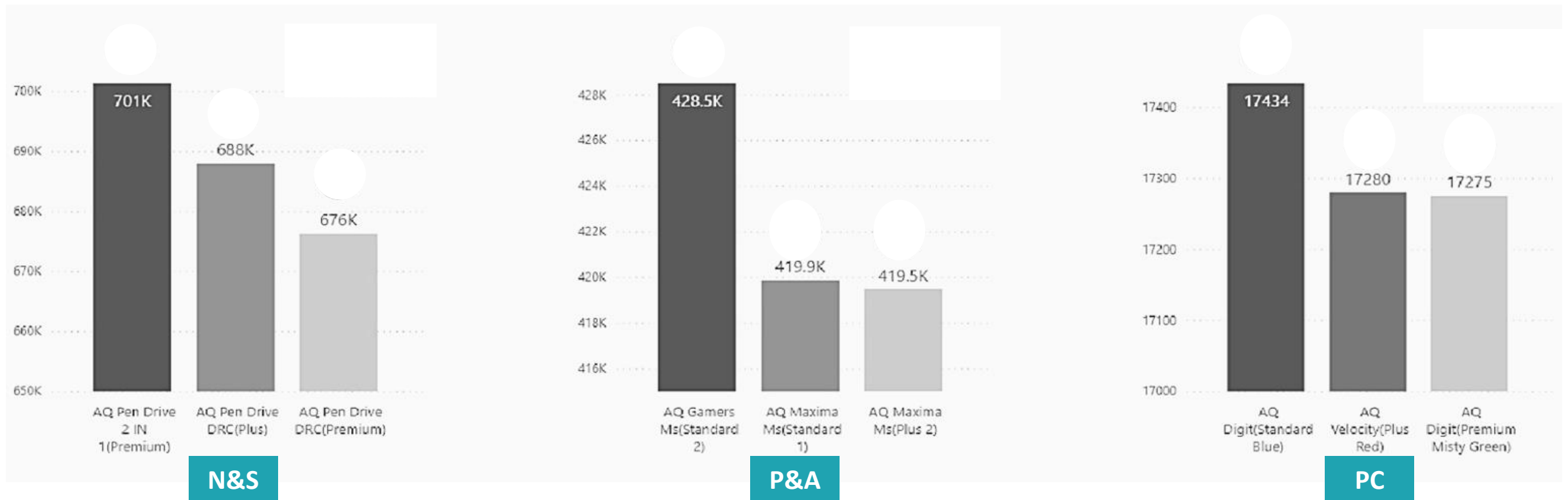
division
product_code
product
total_sold_quantity
rank_order

OUTPUT:

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

Visualization Results and Insights

- In **N&S**, the top-selling products were pen drives, with a total quantity sold of around **7 lakh** units.

- In **P&A**, the top-selling products were mouse, with a total quantity sold of around **4 lakh** units.

- In **PC**, the top-selling products were personal laptops, with a total quantity sold of around **17 thousand** units.

N&S — Bar chart: AQ Pen Drive 2 IN 1(Premium) 701K; AQ Pen Drive DRC(Plus) 688K; AQ Pen Drive DRC(Premium) 676K.

P&A — Bar chart: AQ Gamers Ms(Standard 2) 428.5K; AQ Maxima Ms(Standard 1) 419.9K; AQ Maxima Ms(Plus 2) 419.5K.

PC — Bar chart: AQ Digit(Standard Blue) 17434; AQ Velocity(Plus Red) 17280; AQ Digit(Premium Misty Green) 17275.

THANK YOU
For Your Attention