AtliQ Hardware's
Consumer Goods
Ad Hoc Insights

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SQL Project Challenge

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Background / Context

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Company

Atliq Hardware's (fictional) - One of the leading computer hardware producers in India

Background

The management noticed that they do not get enough insights to make quick and smart data-informed decisions
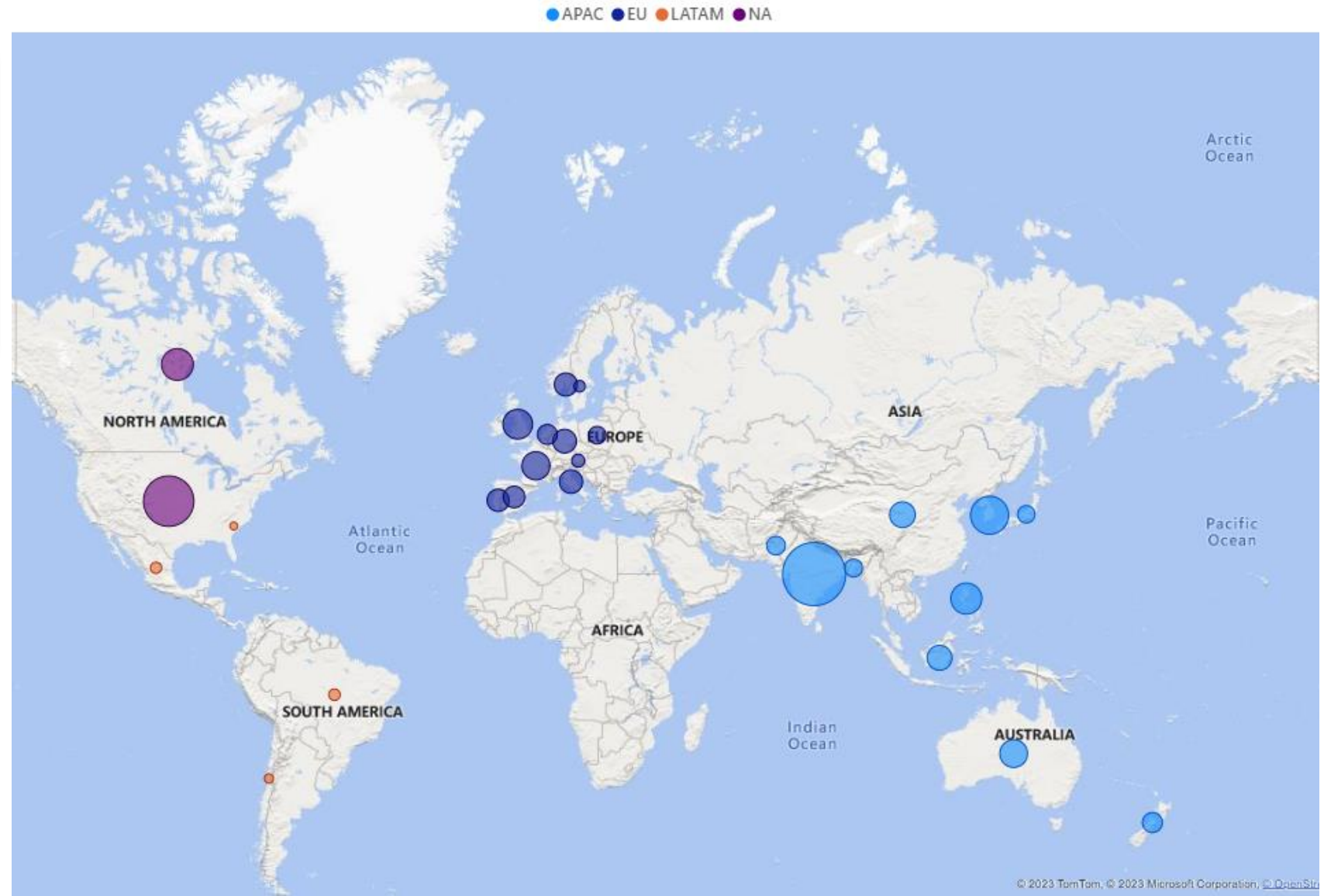
Problem

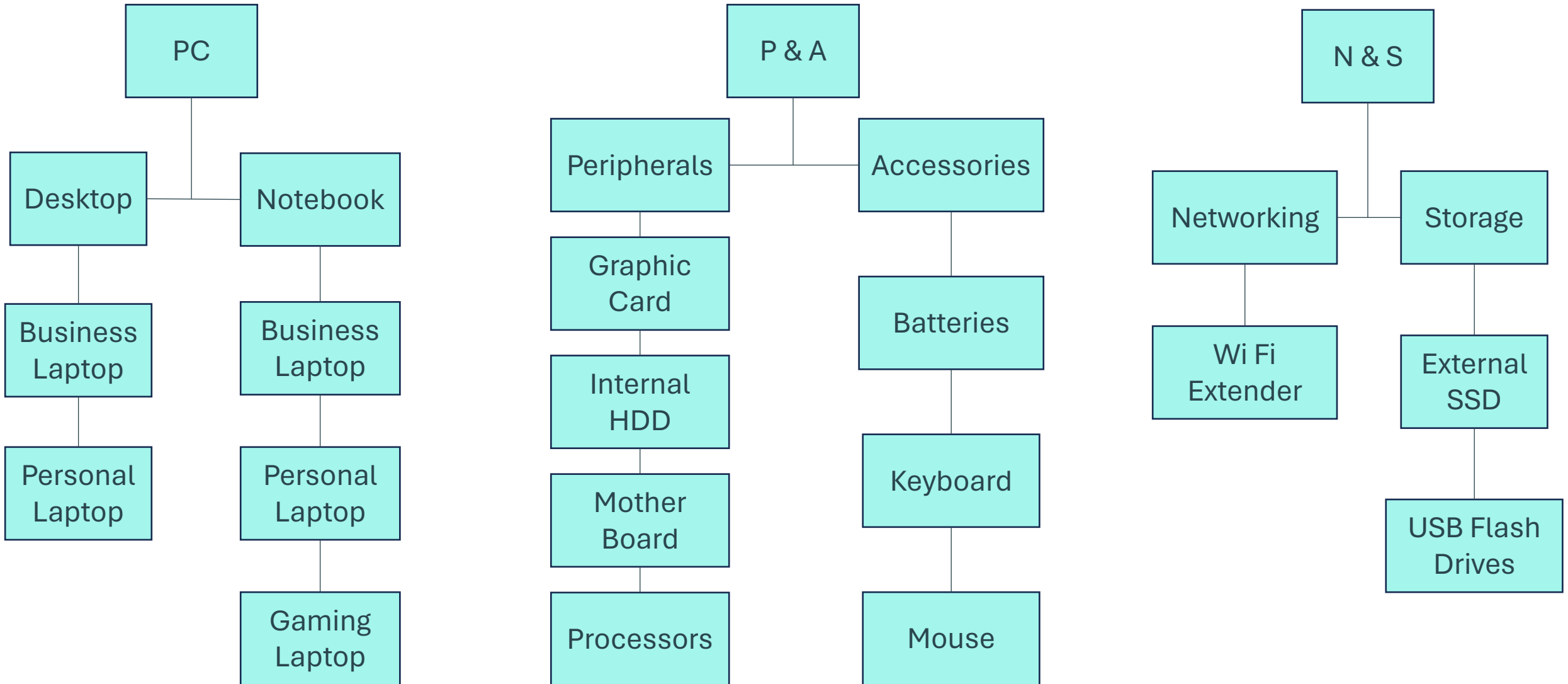There are 10 ad-hoc requests for which the company needs insights.

Approach

Run a SQL query to answer these requests. Convert it into visualizations and present the Insights to the top-level management.

Atliq's Market

Atliq's Products

PC
- Desktop
  - Business Laptop
  - Personal Laptop
- Notebook
  - Business Laptop
  - Personal Laptop
  - Gaming Laptop

P & A
- Peripherals
  - Graphic Card
  - Internal HDD
  - Mother Board
  - Processors
- Accessories
  - Batteries
  - Keyboard
  - Mouse

N & S
- Networking
  - Wi Fi Extender
- Storage
  - External SSD
  - USB Flash Drives
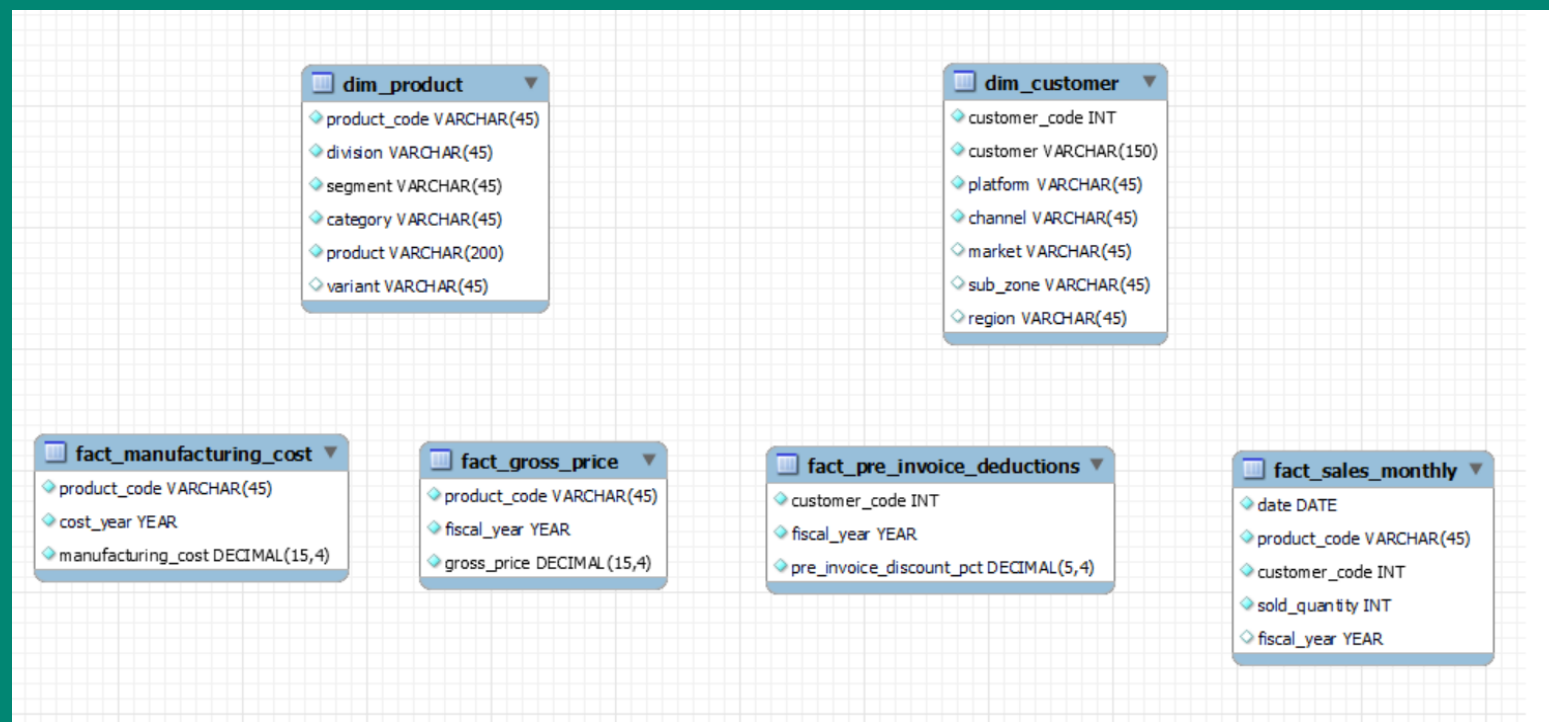
3 **Getting familiar with the dataset**

The dataset consists of monthly sales, manufacturing cost, gross price and pre invoice discount for the fiscal year 2020 and 2021, along with different other dimension tables like customer details, product details, etc.

dim_product ▼
- product_code VARCHAR(45)
- division VARCHAR(45)
- segment VARCHAR(45)
- category VARCHAR(45)
- product VARCHAR(200)
- variant VARCHAR(45)

dim_customer ▼
- customer_code INT
- customer VARCHAR(150)
- platform VARCHAR(45)
- channel VARCHAR(45)
- market VARCHAR(45)
- sub_zone VARCHAR(45)
- region VARCHAR(45)

fact_manufacturing_cost ▼
- product_code VARCHAR(45)
- cost_year YEAR
- manufacturing_cost DECIMAL(15,4)

fact_gross_price ▼
- product_code VARCHAR(45)
- fiscal_year YEAR
- gross_price DECIMAL(15,4)

fact_pre_invoice_deductions ▼
- customer_code INT
- fiscal_year YEAR
- pre_invoice_discount_pct DECIMAL(5,4)

fact_sales_monthly ▼
- date DATE
- product_code VARCHAR(45)
- customer_code INT
- sold_quantity INT
- fiscal_year YEAR

4

Ad hoc requests along with the queried results, visualizations and insights derived

REQUEST 1 :

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

OUTPUT

market
India
Indonesia
Japan
Philiphines
South Korea
Australia
Newzealand
Bangladesh

INSIGHTS :   AtliQ has established itself in 8 major markets within the APAC region.

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

OUTPUT

	unique_products_2020	unique_products_2021	percentage_change
▶	245	334	36.33

INSIGHTS :

In **FY 2020**, we had a total of **245** products, but in **FY 2021**, that count got raised to **334** products, an increment of **36.33%.** A great sign of growing business.
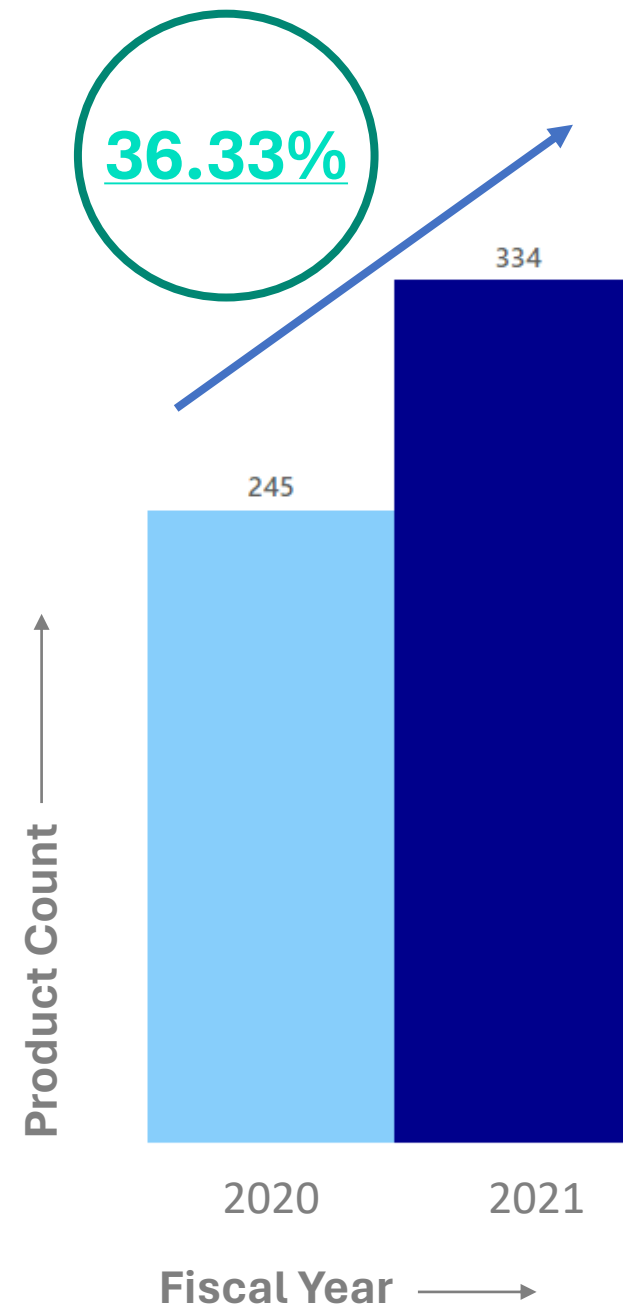
REQUEST 3 :

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:
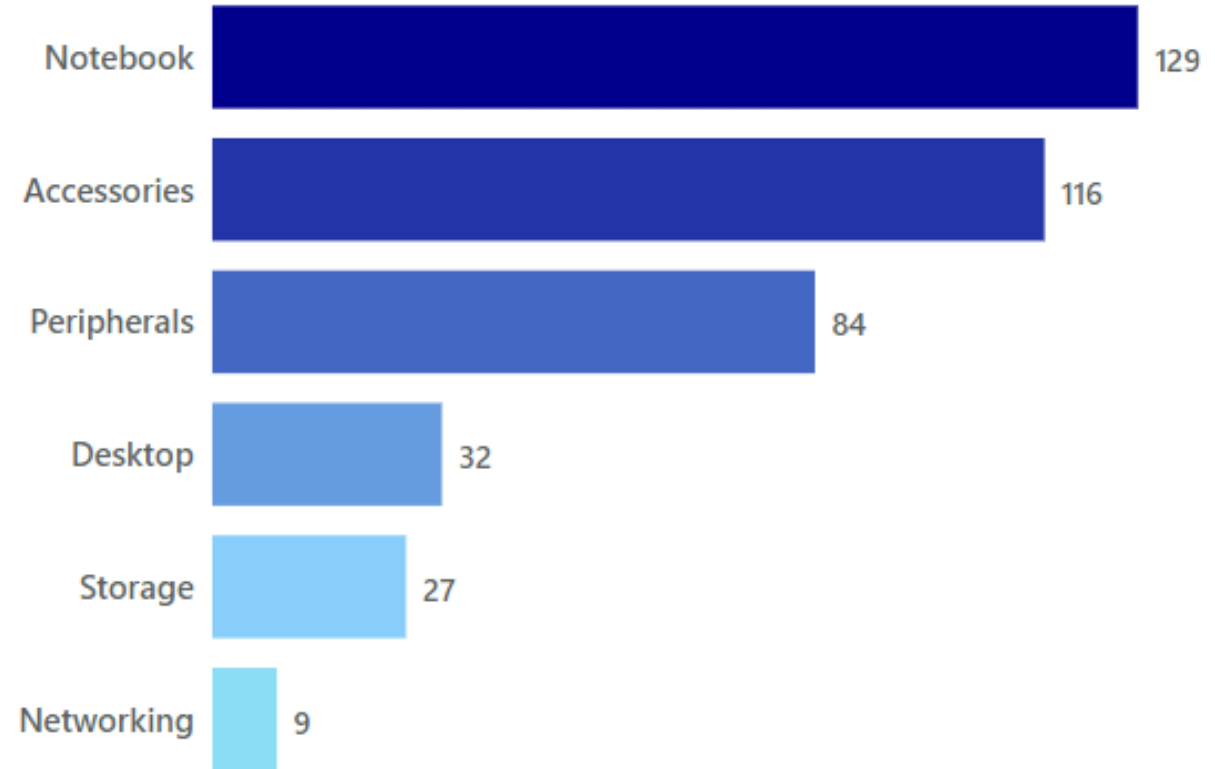
segment,
product_count

OUTPUT

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

INSIGHTS :

We need to work on our **Desktop, Storage and Networking** segments because the **number of products** in these segments is way behind compared **to Notebooks, Accessories and Peripherals.**

REQUEST 4 :

Follow-up: Which segment had the most increase in unique products in 2021 vs 2020? The final output contains these fields:
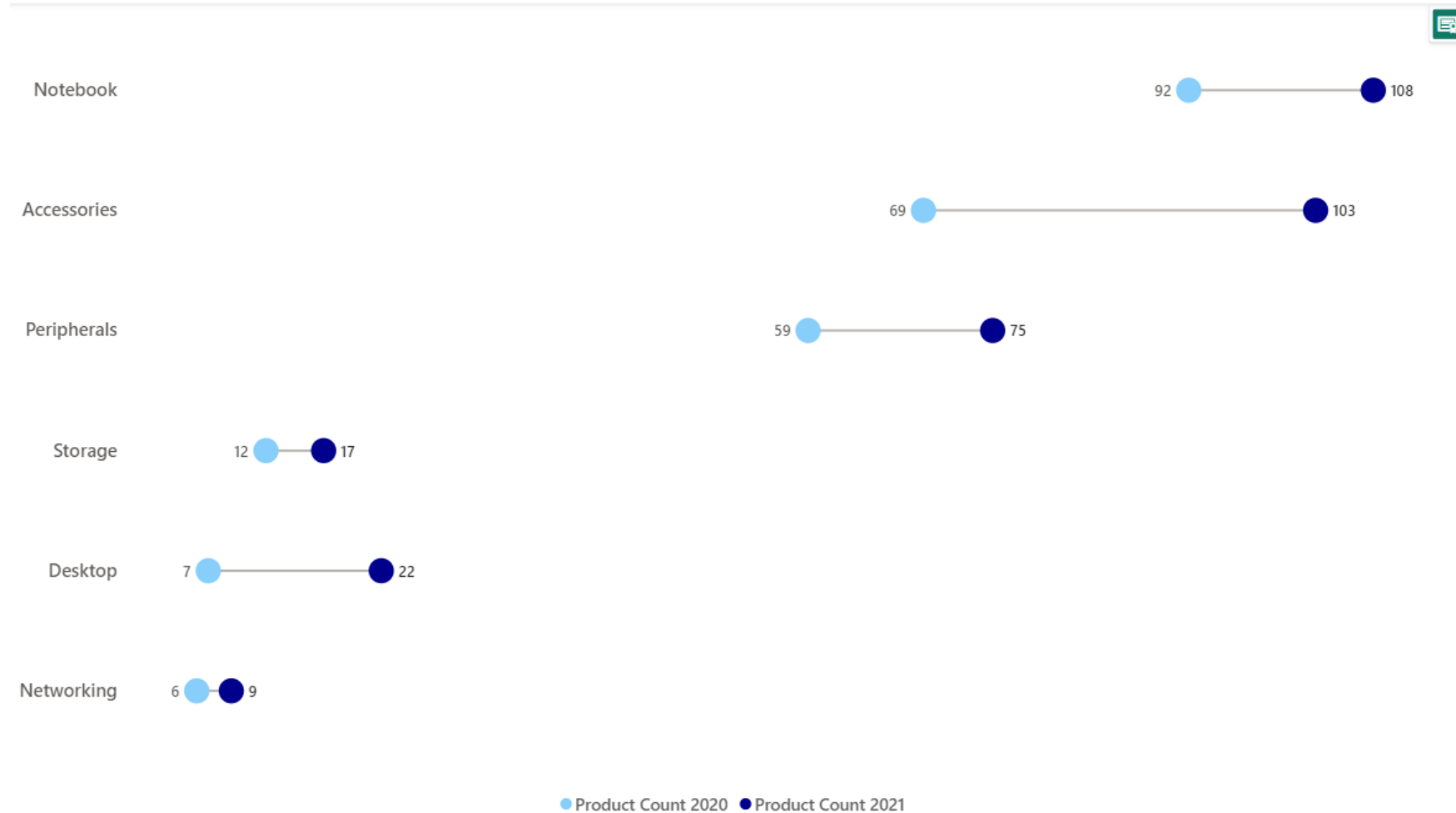
segment,
product_count_2020,
product_count_2021,
difference

OUTPUT

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

INSIGHTS :

Our **Accessories** segment had the **highest increase** (34) in the number of unique products from **FY 2020** to **FY 2021**, followed by **Notebooks** (16), **Peripherals** (16) and **Desktops** (15).

	2020	2021
Notebook	92	108
Accessories	69	103
Peripherals	59	75
Storage	12	17
Desktop	7	22
Networking	6	9

● Product Count 2020   ● Product Count 2021

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 (Plus 3)	240.5364
	A2118150101	AQ Master wired x1 Ms (Standard 1)	0.8920

INSIGHTS :

$240.54

$0.89
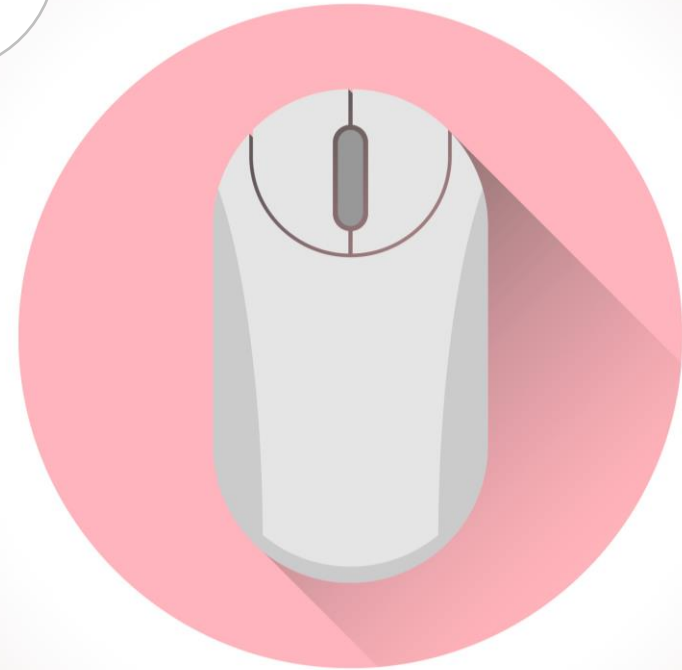
AQ HOME Allin1 Gen 2
(Plus 3)

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

INSIGHTS :

In **FY 2021**, we offered almost an equal share of pre-invoice discount percentage to each of our top 5 customers in the **Indian** market, with **Flipkart** being marginally the most discounted customer at **30.83%.**
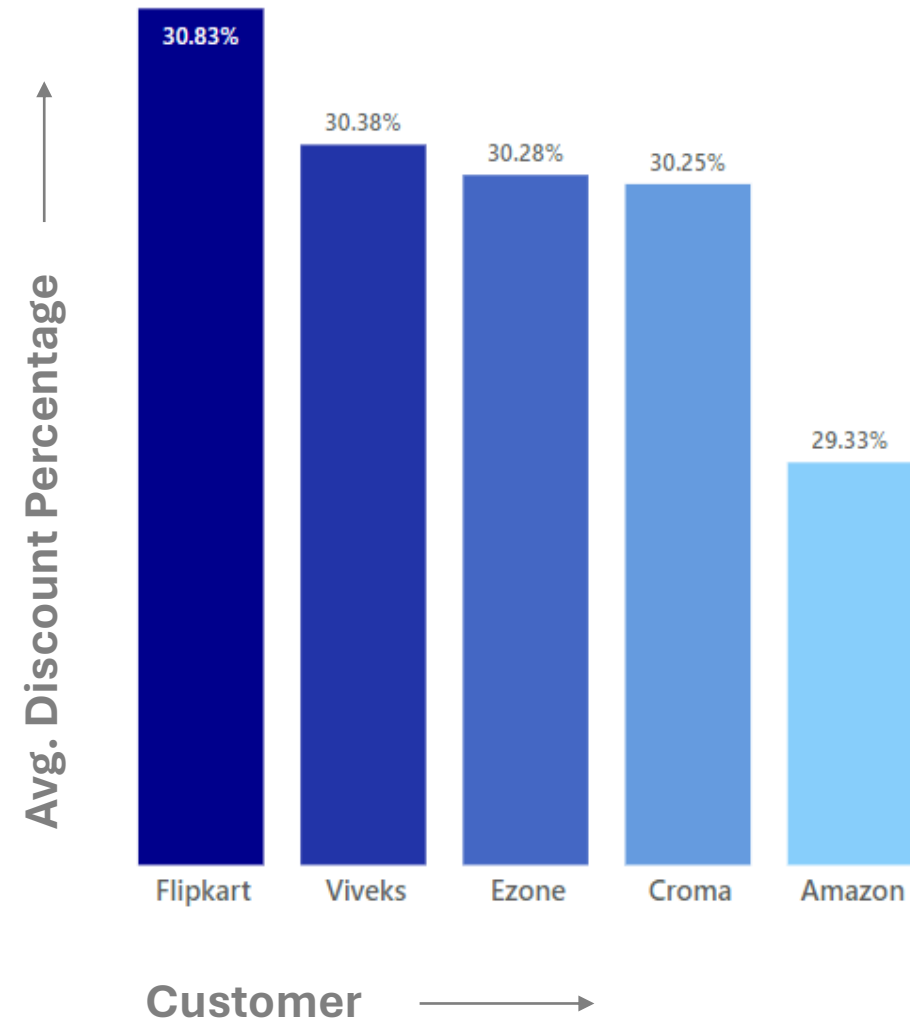
REQUEST 7 :

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
September	2019	9.09
October	2019	10.38
November	2019	15.23
December	2019	9.76

month_name	year	gross_sales
January	2020	9.58
February	2020	8.08
March	2020	0.77
April	2020	0.80
May	2020	1.59
June	2020	3.43
July	2020	5.15
August	2020	5.64
September	2020	19.53
October	2020	21.02
November	2020	32.25
December	2020	20.41

month_name	year	gross_sales
January	2021	19.57
February	2021	15.99
March	2021	19.15
April	2021	11.48
May	2021	19.20
June	2021	15.46
July	2021	19.04
August	2021	11.32

INSIGHTS :

November 2020 marked the **highest** sales, and **March 2020** marked the **lowest** gross sales.
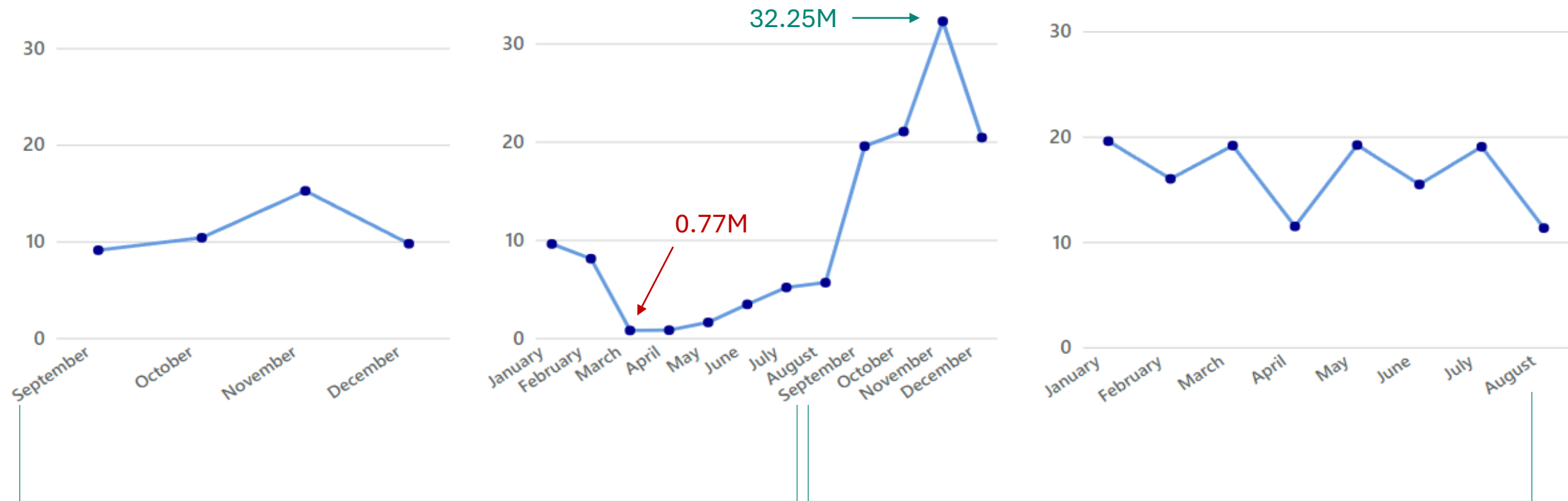
FY 2020

FY 2021

In **FY 2020**, we have a total sales amount of **79.50M**

In **FY 2021**, we have a total sales amount of **224.42M**

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:
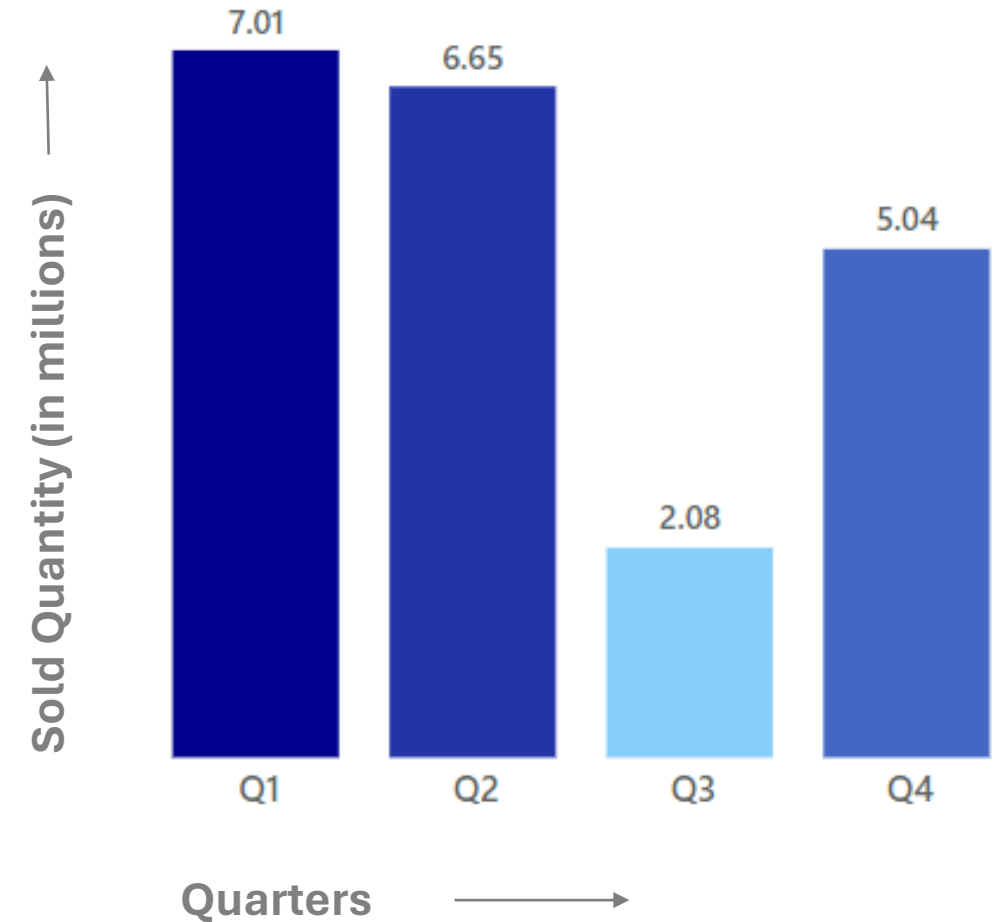
quarter,
total_sold_quantity

OUTPUT

quarter	sold_quantity
Q1	7.01M
Q2	6.65M
Q4	5.04M
Q3	2.08M

INSIGHTS :

In **FY 2020**, **Quarter 1** had the highest total quantity of products sold. However, in **Quarter 3** the quantity of products sold decreased to **2.1 million.**

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:
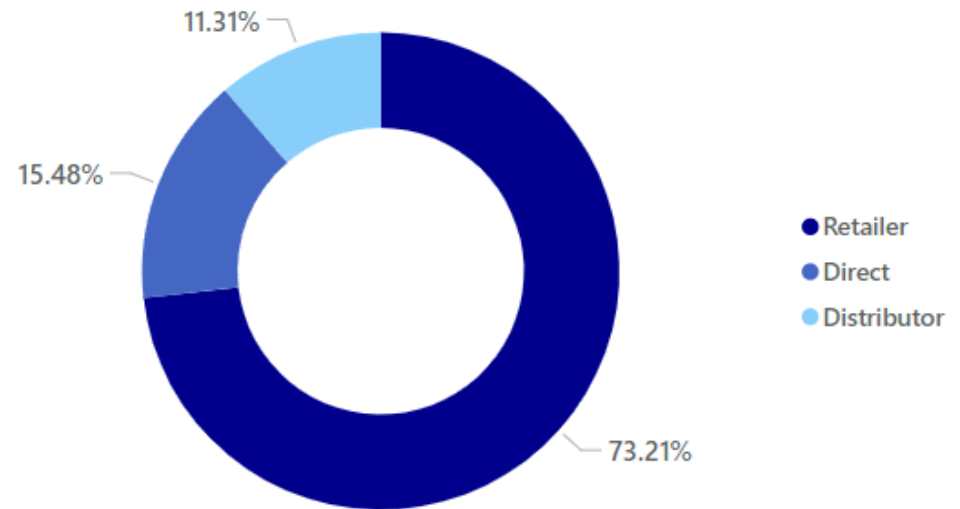
channel,
gross_sales,
percentage

OUTPUT

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

INSIGHTS :

Most of our sales, about **73.22%**, happened through **retailers**. The rest, about **27.78%**, were divided between selling **directly** to customers (**15.47%**) and using **distributors** (**11.31%**).

11.31%

15.48%

73.21%

- ● 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:
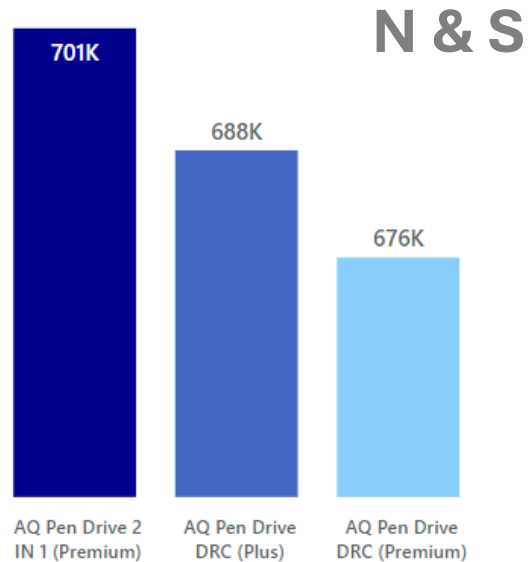
division,
product_code,
product,
total_sold_quantity,
rank_order

OUTPUT

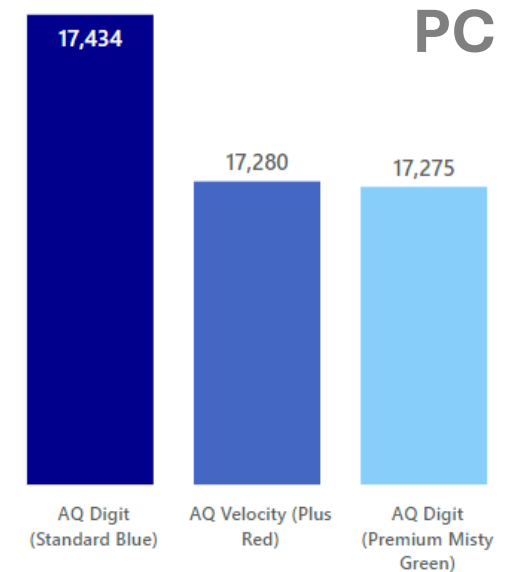|	division	product_code	product	quantity_sold	ranking
▶	N & S	A6720160103	AQ Pen Drive 2 IN 1	701373	1
	N & S	A6818160202	AQ Pen Drive DRC	688003	2
	N & S	A6819160203	AQ Pen Drive DRC	676245	3
	P & A	A2319150302	AQ Gamers Ms	428498	1
	P & A	A2520150501	AQ Maxima Ms	419865	2
	P & A	A2520150504	AQ Maxima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

INSIGHTS :

The **Top 3** selling products in **N&S** division were different **variants** of **Pen Drives**, around **7 lakh** in quantity in total.

The **best-selling** products in the **P&A** division were different types of **Mouse**, and we sold over **4 lakh** of them.
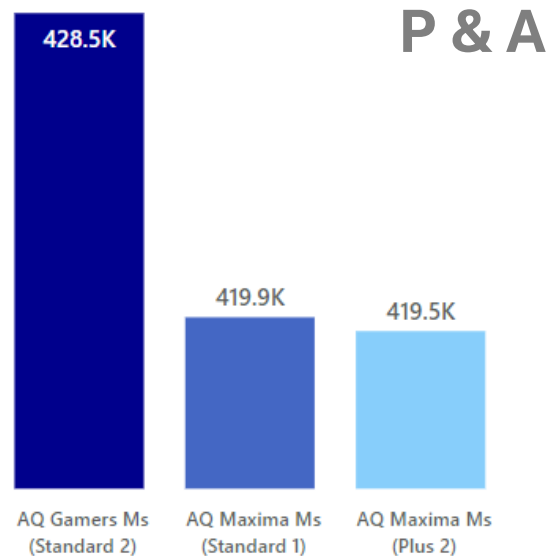
The **three most popular** products in the **PC** division were **various** types of **personal laptops**, and we sold a total of **17,000** of them.

N & S

701K		
	688K	
		676K
AQ Pen Drive 2 IN 1 (Premium)	AQ Pen Drive DRC (Plus)	AQ Pen Drive DRC (Premium)

P & A

428.5K		
	419.9K	419.5K
AQ Gamers Ms (Standard 2)	AQ Maxima Ms (Standard 1)	AQ Maxima Ms (Plus 2)

PC

17,434		
	17,280	17,275
AQ Digit (Standard Blue)	AQ Velocity (Plus Red)	AQ Digit (Premium Misty Green)

END

THANK YOU!