



# Ad\_Hoc Insights

Consumer Goods



CREATED BY  
**SIVASUNDAR**

# AGENDA

**WHY ?**

**WHAT ?**

**HOW ?**

# Objectives

- Atliq Hardwares (imaginary company) is one of the leading computer hardware producers in India and well expanded in other countries too.
- 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.
- Hence, he decided to conduct a SQL challenge which contains 10 ad hoc requests that will help him understand both the skills.

**WHAT ?**

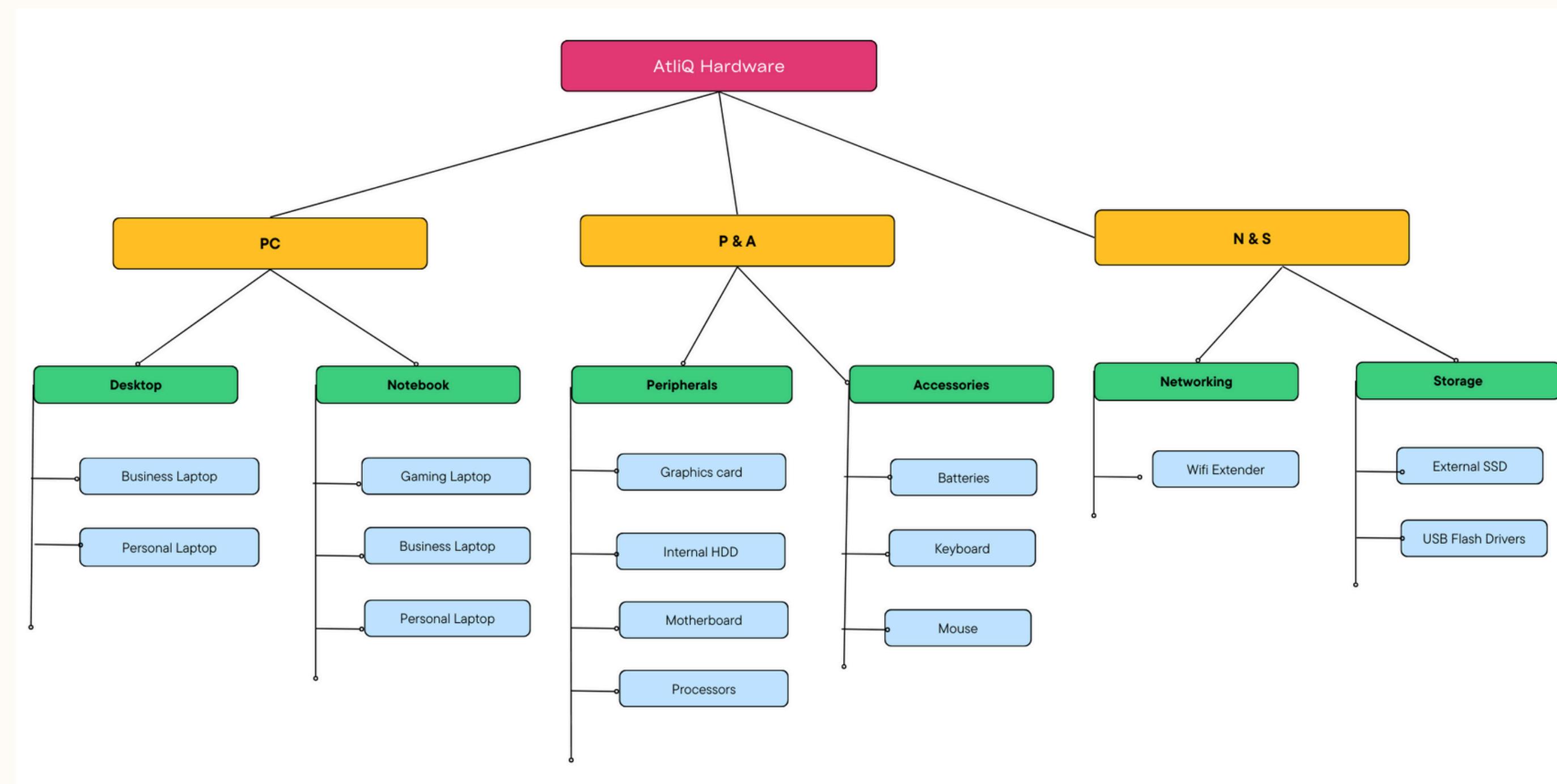
# Company Details

**FY 2020**

**September 2019 - August 2020**

**FY 2021**

**September 2020 - August 2021**



# HOW ?

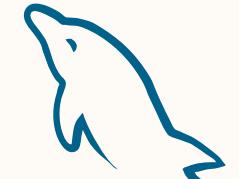
# Ad hoc requests , and Tools

**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



**MySQL®**

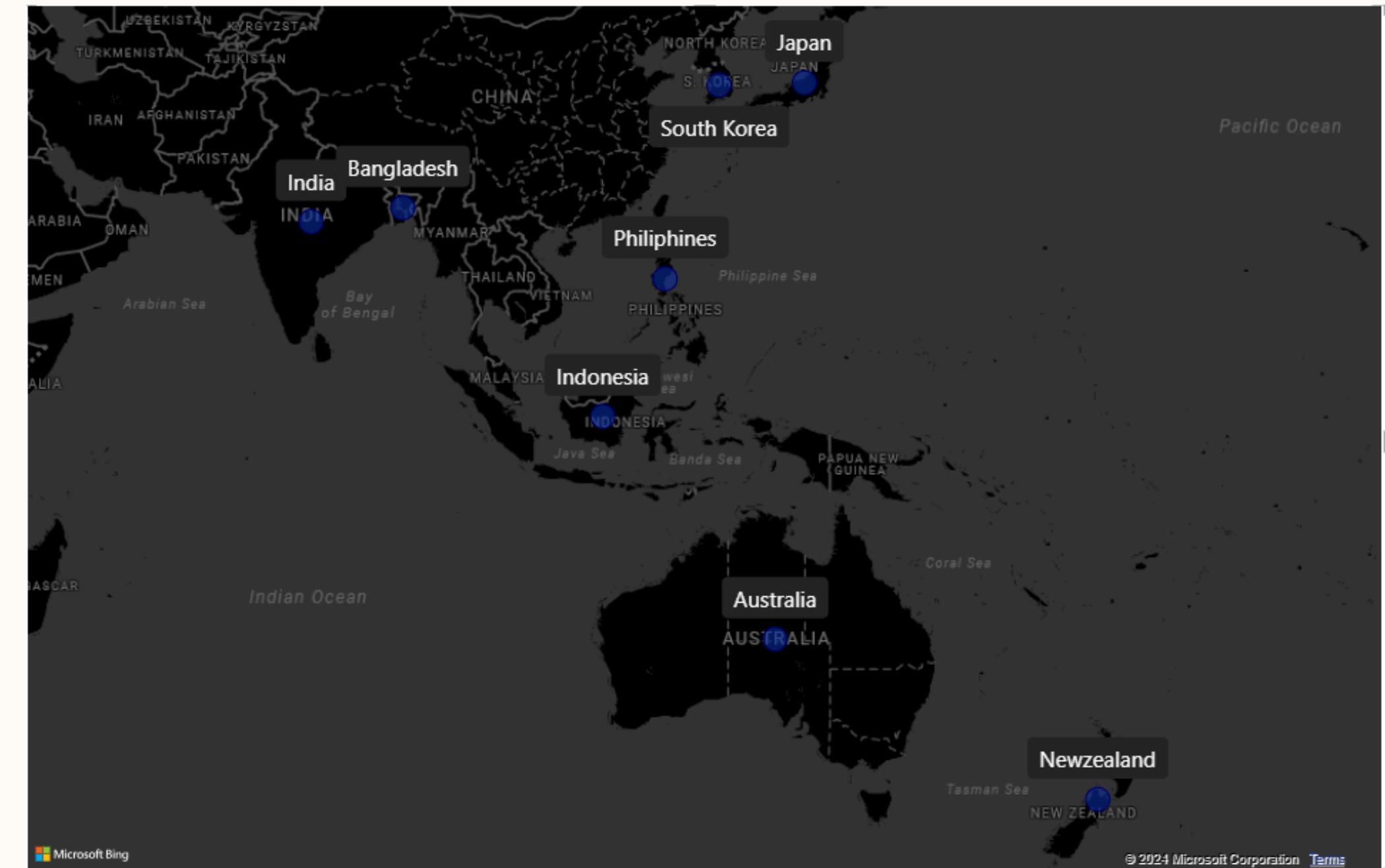
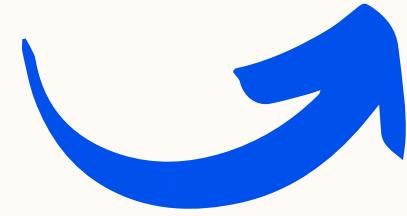
**For querying data and generate ad hoc repts**



**For analysis and visualisation**

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

	market
▶	India
	Indonesia
	Japan
	Philippines
	South Korea
	Australia
	Newzealand
	Bangladesh



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

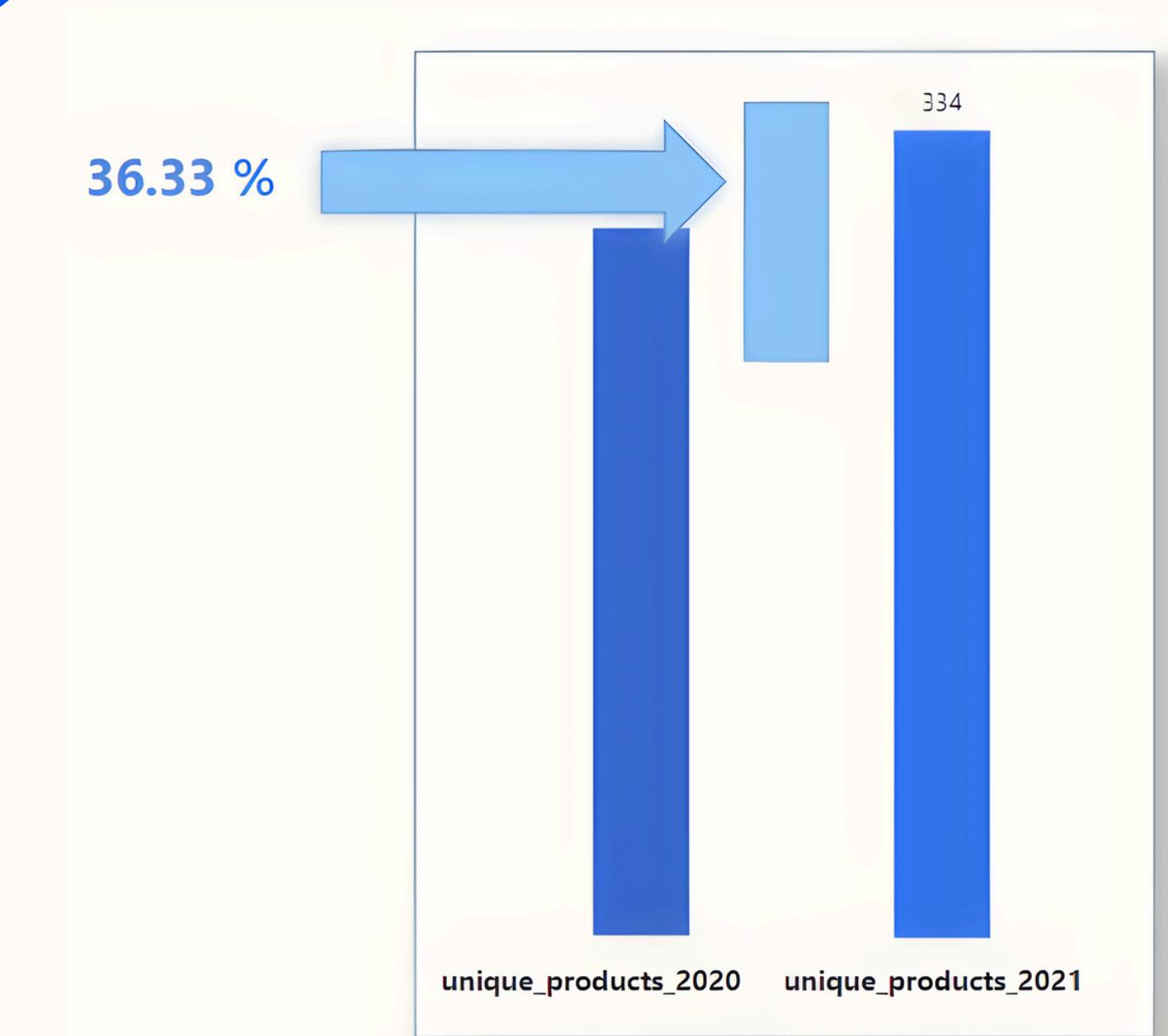
percentage\_chg



	unique_products_2020	unique_products_2021	percentage_chg
►	245	334	36.33

## Insights

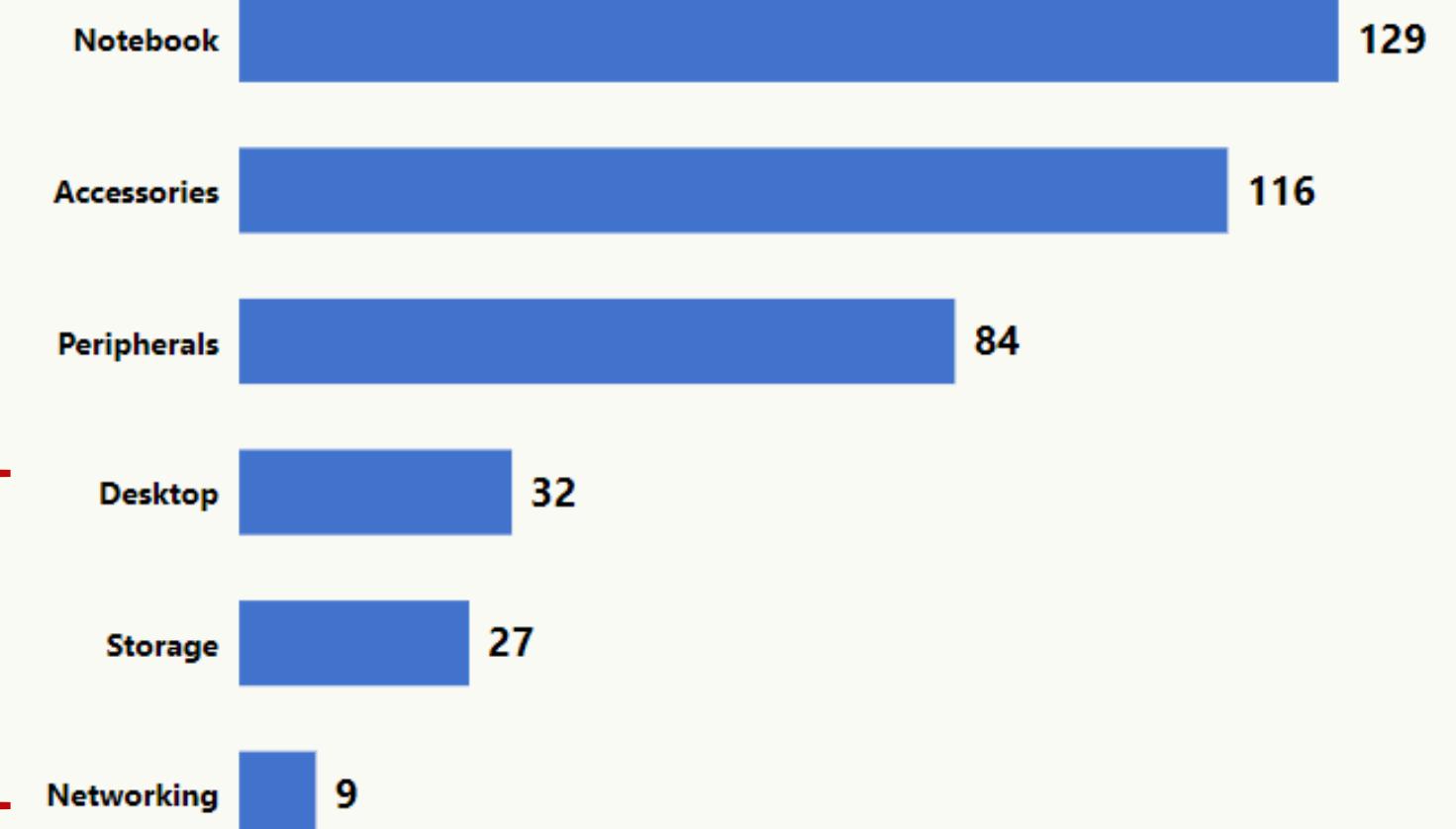
- 2021 saw a **36.33%** increase in unique products compared to 2020, which implies our product demand has **increased**



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

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



## Insights

- Networking, Storage and Desktop has **very less** unique products when compared to Notebook, Accessories and Peripherals segment.
- We need to focus on introducing **new products** in the bottom three segment.

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



	segment	product_code_2020	product_code_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

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 ↑

## Insights

- **Accessories** segment had the **most** product increase when compared to other segments.
- **Storage and Networking** segments had seen a **low** growth rate.

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

`product_code`

`product`

`manufacturing_cost`



	<code>product_code</code>	<code>product</code>	<code>manufacturing_cost</code>
▶	A6120110206	AQ HOME Allin1 Gen 2	\$ 240.54
	A2118150101	AQ Master wired x1 Ms	\$ 0.89

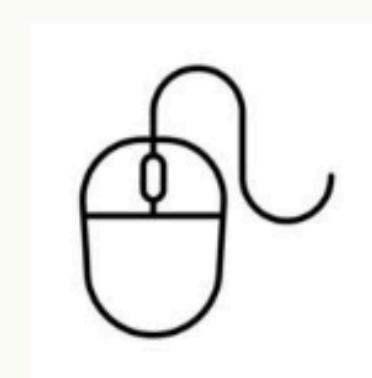
\$ 240.54

\$ 0.89



AQ HOME Allin1 Gen 2

Personal Desktop



AQ Master wired x1 Ms

Mouse

## Insights

- The lowest manufacturing cost is AQ Master wired x1 Ms ( **Standard 1** variant ) - Mouse
- The highest manufacturing cost is AQ HOME Allin1 Gen 2 ( **Plus 3** variant ) - Desktop

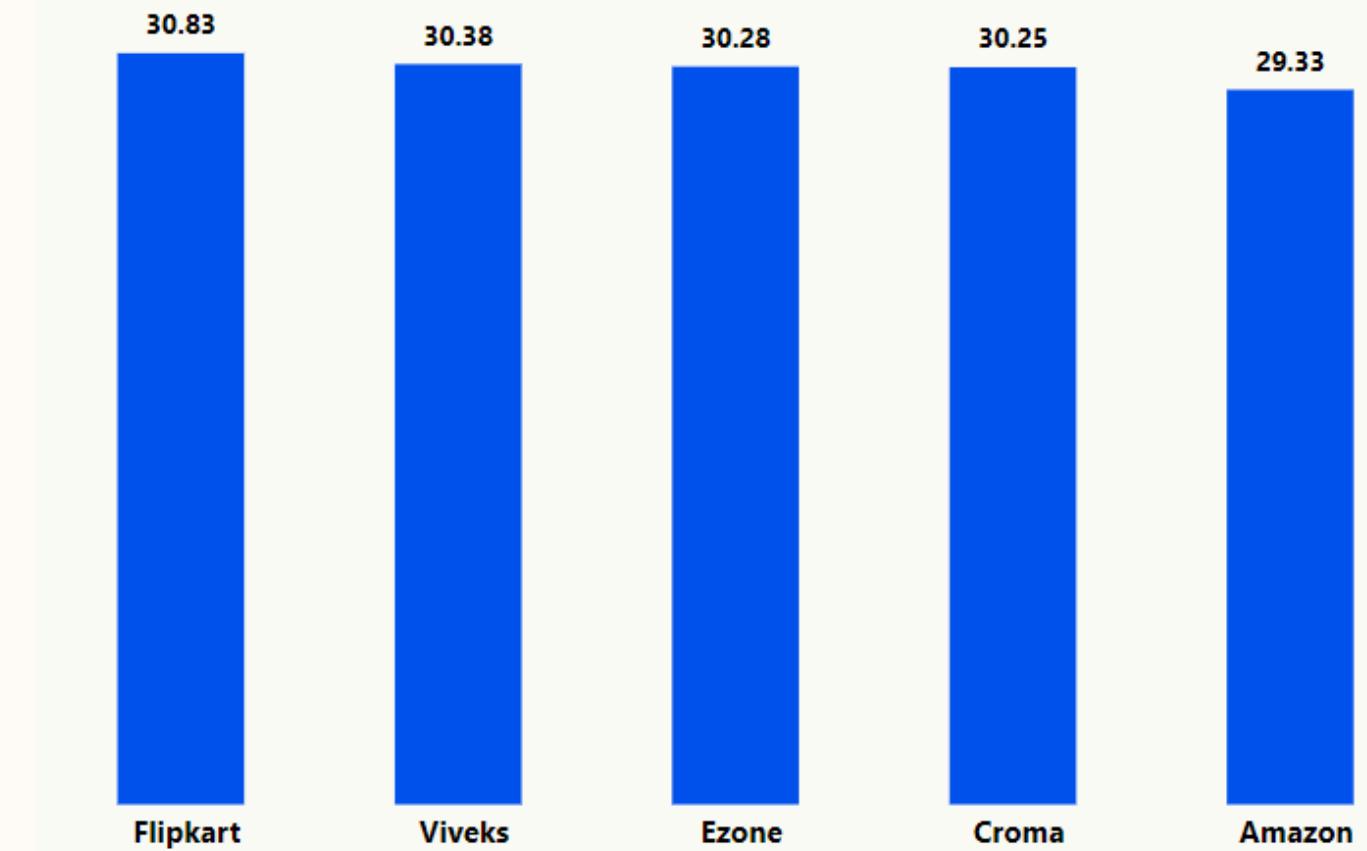
6 .Generate a report which contains the top 5 customers who received an average high pre\_invoice\_discount\_pct for the fiscal year 2021 and in the Indian market. The final output contains these fields,

**customer\_code**

**customer**

**average\_discount\_percentage**

	<b>customer_code</b>	<b>customer</b>	<b>average_discount_pct</b>
▶	90002009	Flipkart	30.83
	90002006	Viveks	30.38
	90002003	Ezone	30.28
	90002002	Croma	30.25
	90002016	Amazon	29.33



## Insights

- The highest average pre-invoice discount was given to **Flipkart** which is **30.83** percent
- The lowest average pre-invoice discount was given to **Amazon** which is **29.33** percent

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

## Insights

- March (2020) has the **lowest** Gross sales in both fiscal years .
- November (2021 ) has the **highest** Gross sales in both fiscal years .
- There is a **182.26 %** increase in Gross sales in **FY 2021** when compared to FY 2020 .

	month_name	year	fiscal_year	Gross_sales_amount_mln
▶	September	2019	2020	9.09
	October	2019	2020	10.38
	November	2019	2020	15.23
	December	2019	2020	9.76
	January	2020	2020	9.58
	February	2020	2020	8.08
	March	2020	2020	0.77
	April	2020	2020	0.80
	May	2020	2020	1.59
	June	2020	2020	3.43
	July	2020	2020	5.15
	August	2020	2020	5.64
	September	2020	2021	19.53
	October	2020	2021	21.02
	November	2020	2021	32.25
	December	2020	2021	20.41
	January	2021	2021	19.57
	February	2021	2021	15.99
	March	2021	2021	19.15
	April	2021	2021	11.48
	May	2021	2021	19.20
	June	2021	2021	15.46
	July	2021	2021	19.04
	Augast	2021	2021	11.32

FY 2020  
79.5 M

FY 2021  
224.4 M



## Causes

- COVID-19 Pandemic
- Global Chip Shortage

Between 2020 and 2023, there was a worldwide chip shortage affecting more than 169 industries,<sup>[1]</sup> which led to major price increases, long queues, and reselling among consumers and manufacturers for automobiles, graphics cards, video game consoles, computers, household appliances, and other consumer electronics that require integrated circuits (commonly called "chips").<sup>[2][3][4]</sup>

From early 2020, the effects of and the mitigation of the COVID-19 pandemic caused disruptions in supply chains and logistics which, coupled with a 13% increase in global demand for PCs owing to some countries' shift to a stay-at-home economy,<sup>[5]</sup> impacted the availability of key chips necessary for the manufacturing of a broad swathe of electronics.<sup>[6]</sup> The pandemic's impact on the manufacture of semiconductors in South Korea and Taiwan was cited as a cause for the shortage, with constrained supply impacting industries as broad as console gaming and the automotive industry.<sup>[7][8]</sup>

8 .In which quarter of 2020,got the maximumtotal\_sold\_quantity? The final output contains these fields sorted by

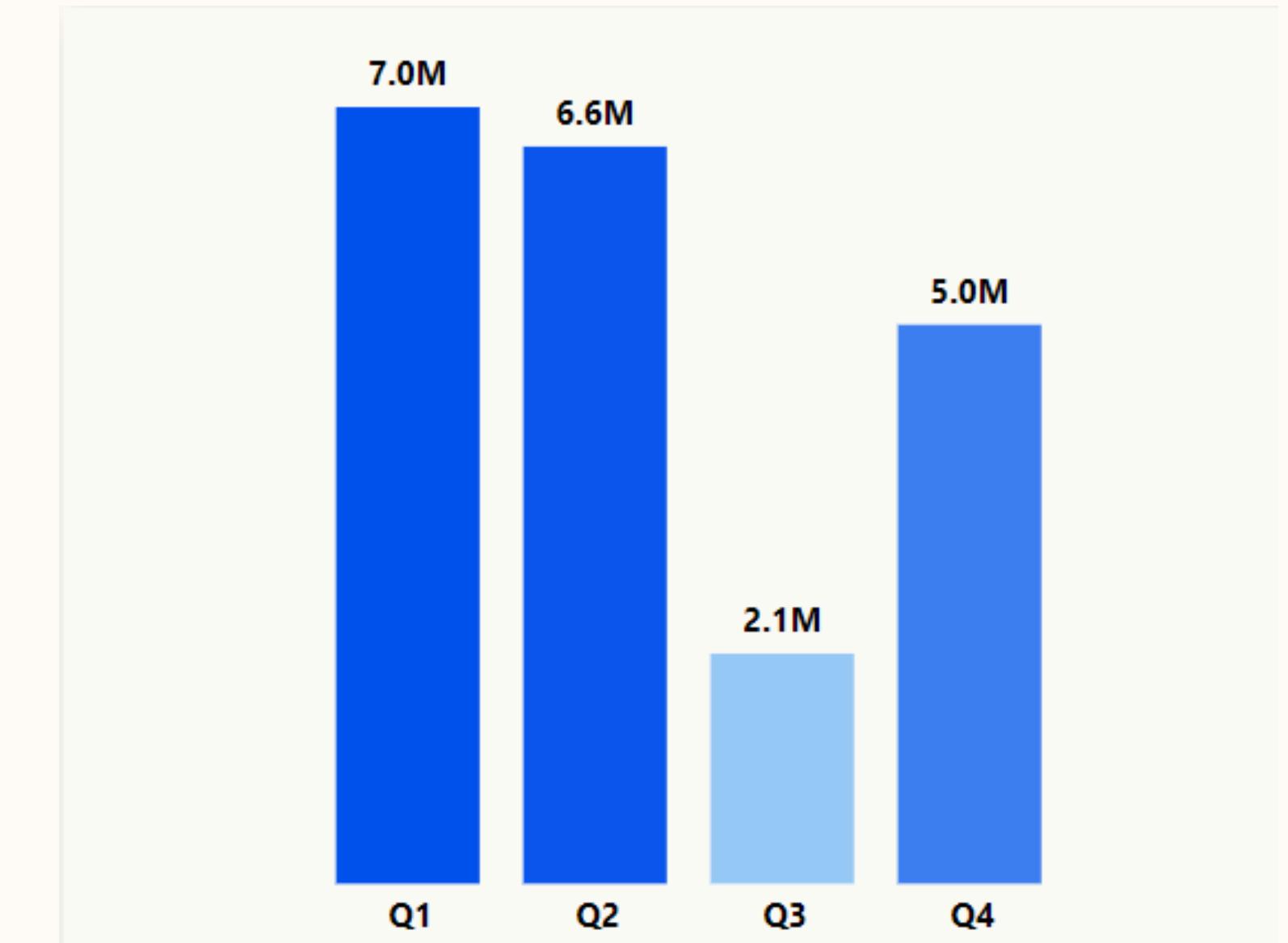
Quarter

total\_sold\_quantity

	Quarter	total_sold_quantity
►	Q1	7005619
	Q2	6649642
	Q3	2075087
	Q4	5042541

## Insights

- In FY 2020 ,**Quarter 1** has the highest total sold quantity, while **Quarter 3** has the lowest total sold quantity



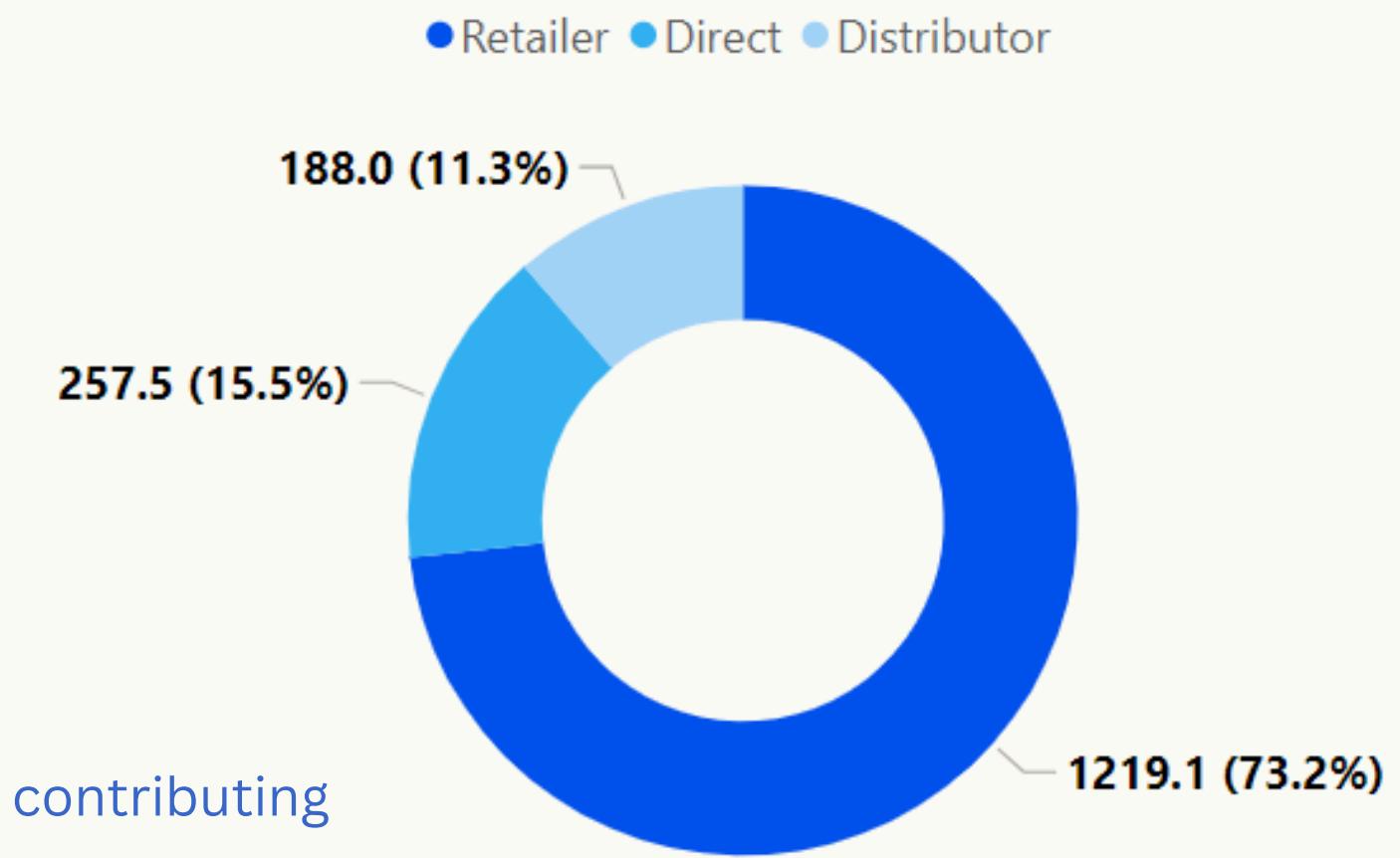
9 .Which channel helped to bring more gross sales in the fiscal year 2021 and the percentage of contribution?  
The final output contains these fields,

channel  
gross\_sales\_mln  
percentage

	channel	Gross_sales_mln	percentage
►	Retailer	1219.08	73.23
	Direct	257.53	15.47
	Distributor	188.03	11.30

## Insights

- Channel **Retailer** brings **more** revenue to the company by contributing about **73.2 %** in Gross sales
- Channel **Distributor** brings **less** revenue to the company by contributing about **11.3 %** in Gross sales



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

	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	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	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

## Insights

- Each Product occurs in different variants, and there are 26 variants in total.

Division ● N & S



Division ● P & A



Division ● PC



THANK YOU!!