

Ad_Hoc Insights

Consumer Goods 

CREATED BY
MANAS KUMAR SAHU

WHY?

Objectives

WHAT?

Company's detail and market

HOW?

Data, Requests, and Tools

Objectives

Tony Sharma

- **Atliq Hardware** (fictitious corporation) is one of the major computer hardware manufacturers in India, with a strong presence in other nations.
- Nevertheless, the management did note that they **do not have sufficient insights** to make prompt, wise, and data-informed judgments.
- Plan to **expand** the data analytics team by adding junior data analysts.
- To assess candidates, **Data analytics director, Tony Sharma** plans to conduct a **SQL challenge** to evaluate both tech and soft skills.
- The company seeks insights for **10 ad hoc** requests.



WHAT?

Company Details

Atliq Hardware is a computer hardware and accessory manufacturer.

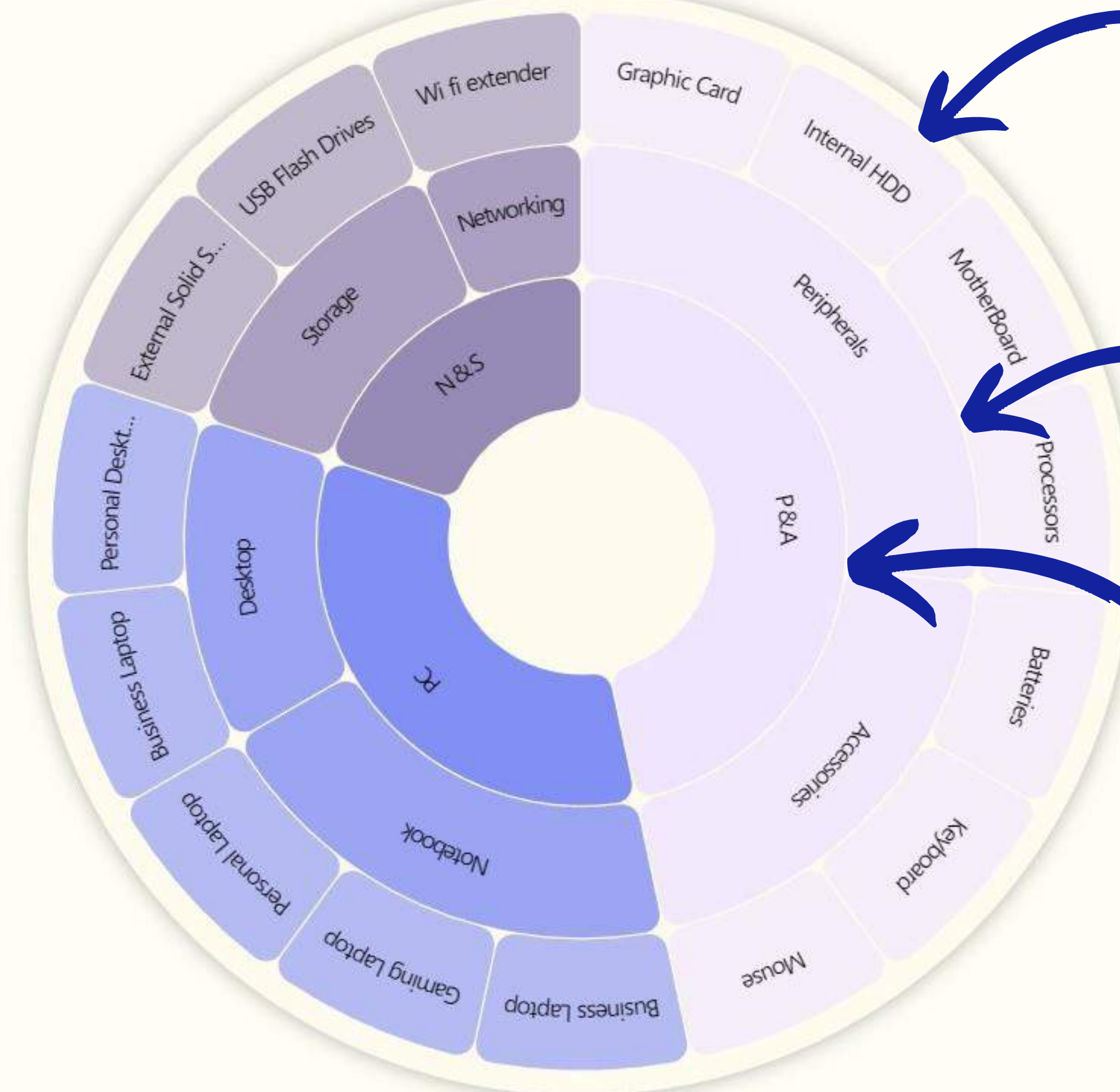
FISCAL YEAR

SEPTEMBER 2019 – AUGUST 2020

FY 2020

SEPTEMBER 2020 – AUGUST 2021

FY 2021



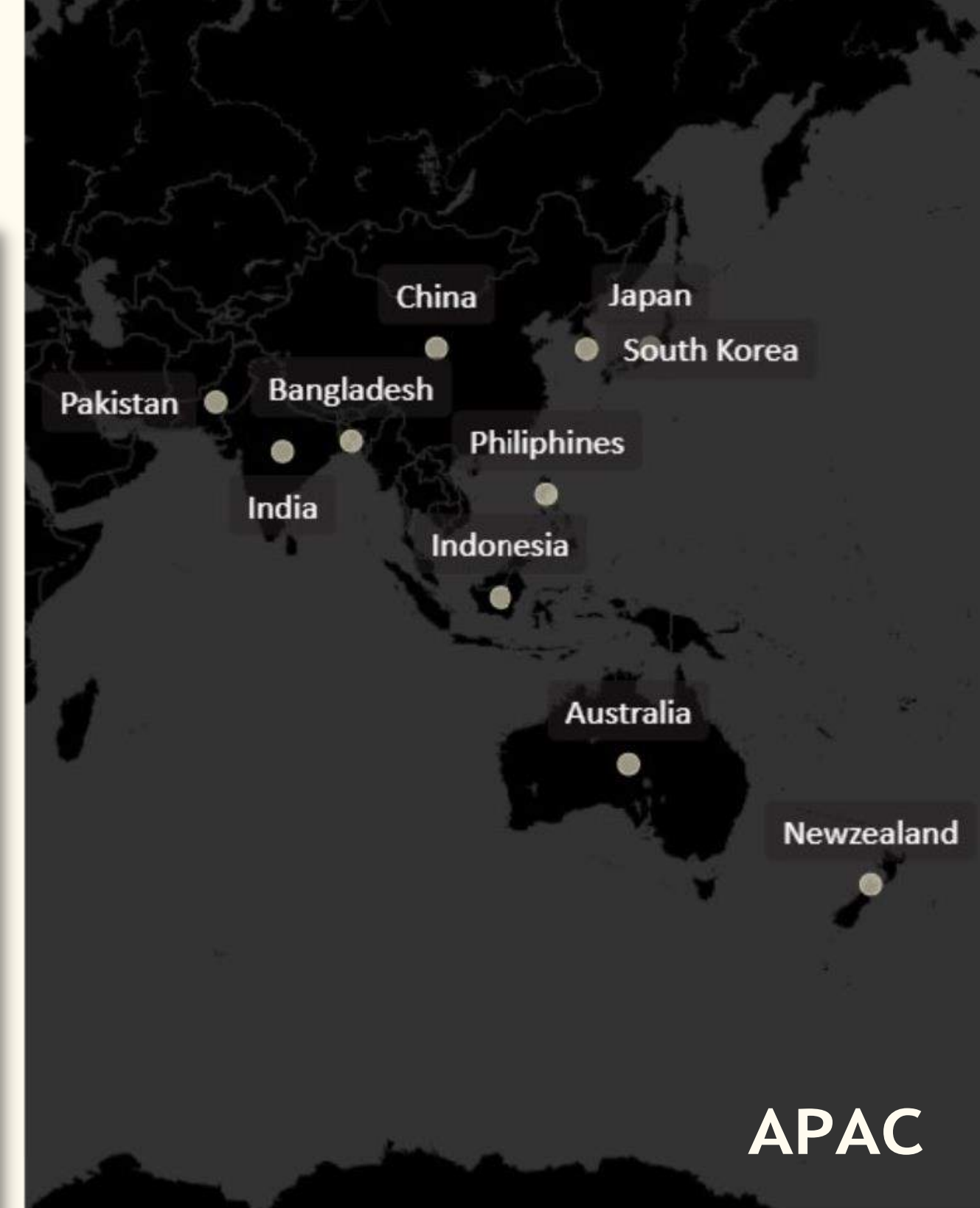
Outer Circle:
Category

Mid Circle:
Segment

Inner Circle:
Division

" DSC "

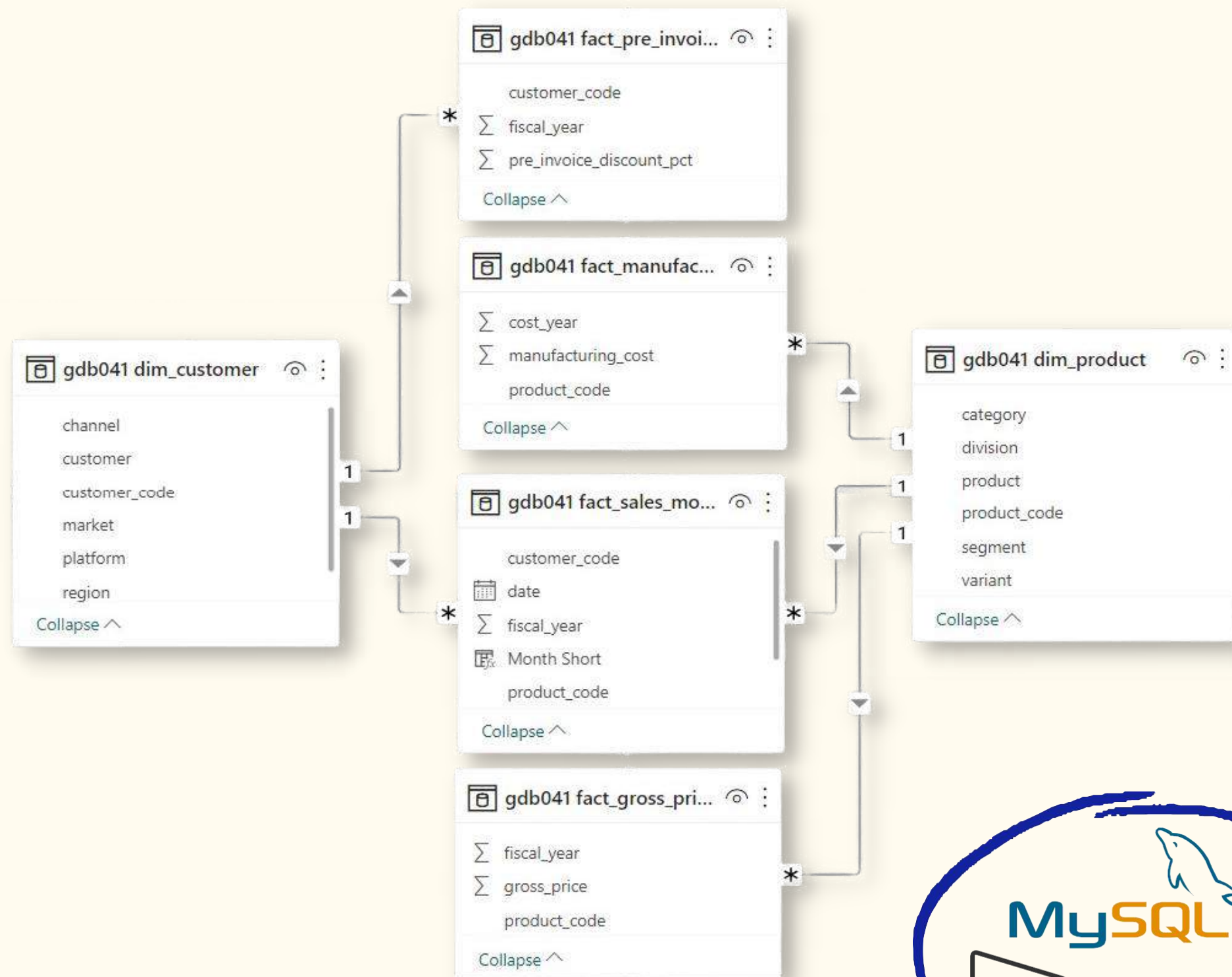
Company's Market



Atliq Hardware

HOW?

Data, Requests, and Tools



For Analysis and Visualization

Codebasics SQL Challenge

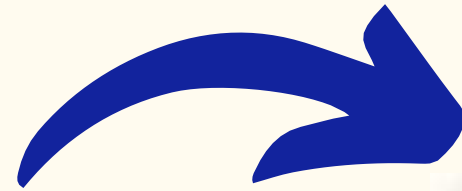
Requests:

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

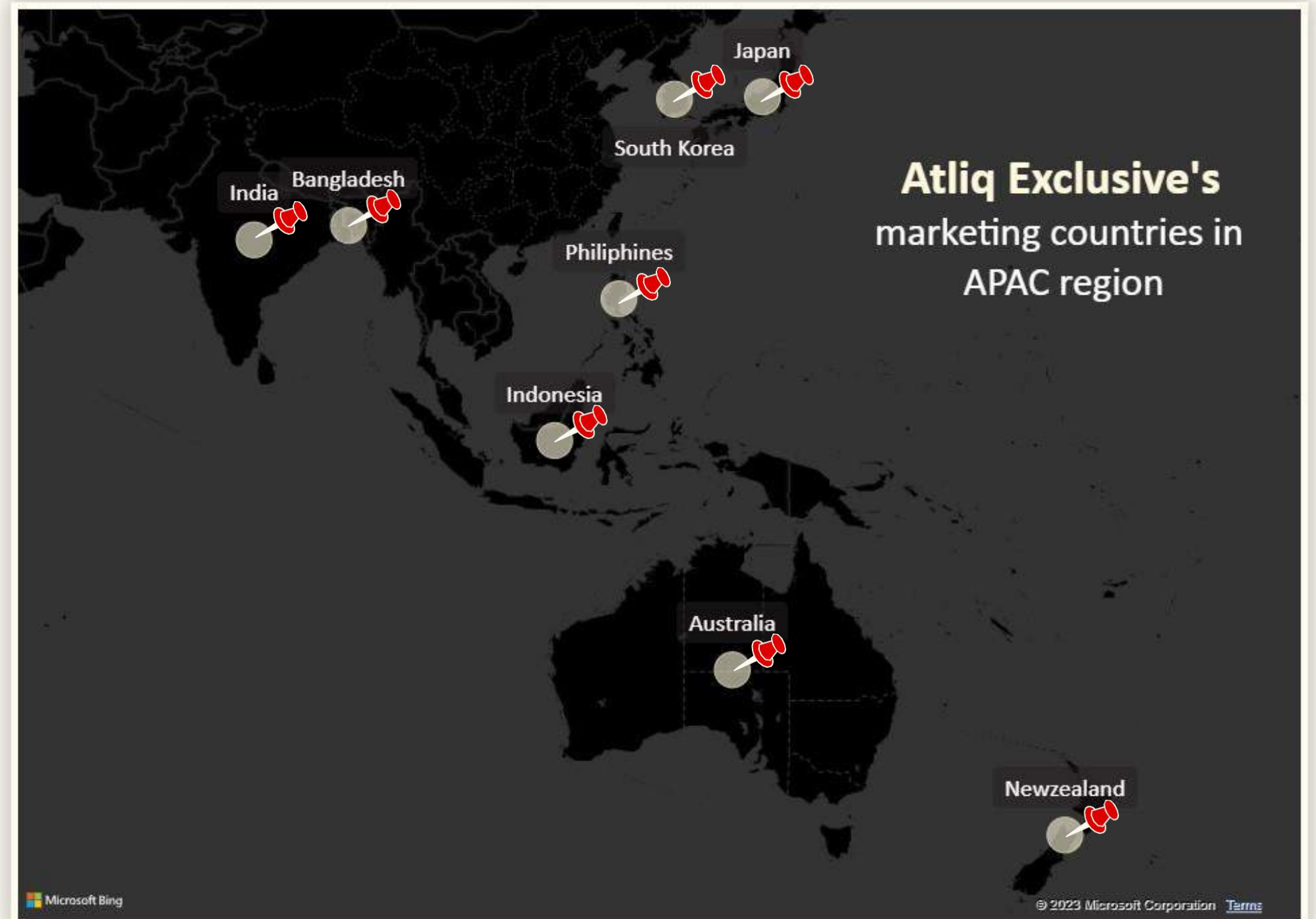
6. Generate a report which contains the top 5 customers who received an average high pre_invoice_discount_pct for the **fiscal year 2021** and in the **Indian** market. The final output contains these fields,
customer_code
customer
average_discount_percentage
7. Get the complete report of the Gross sales 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

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



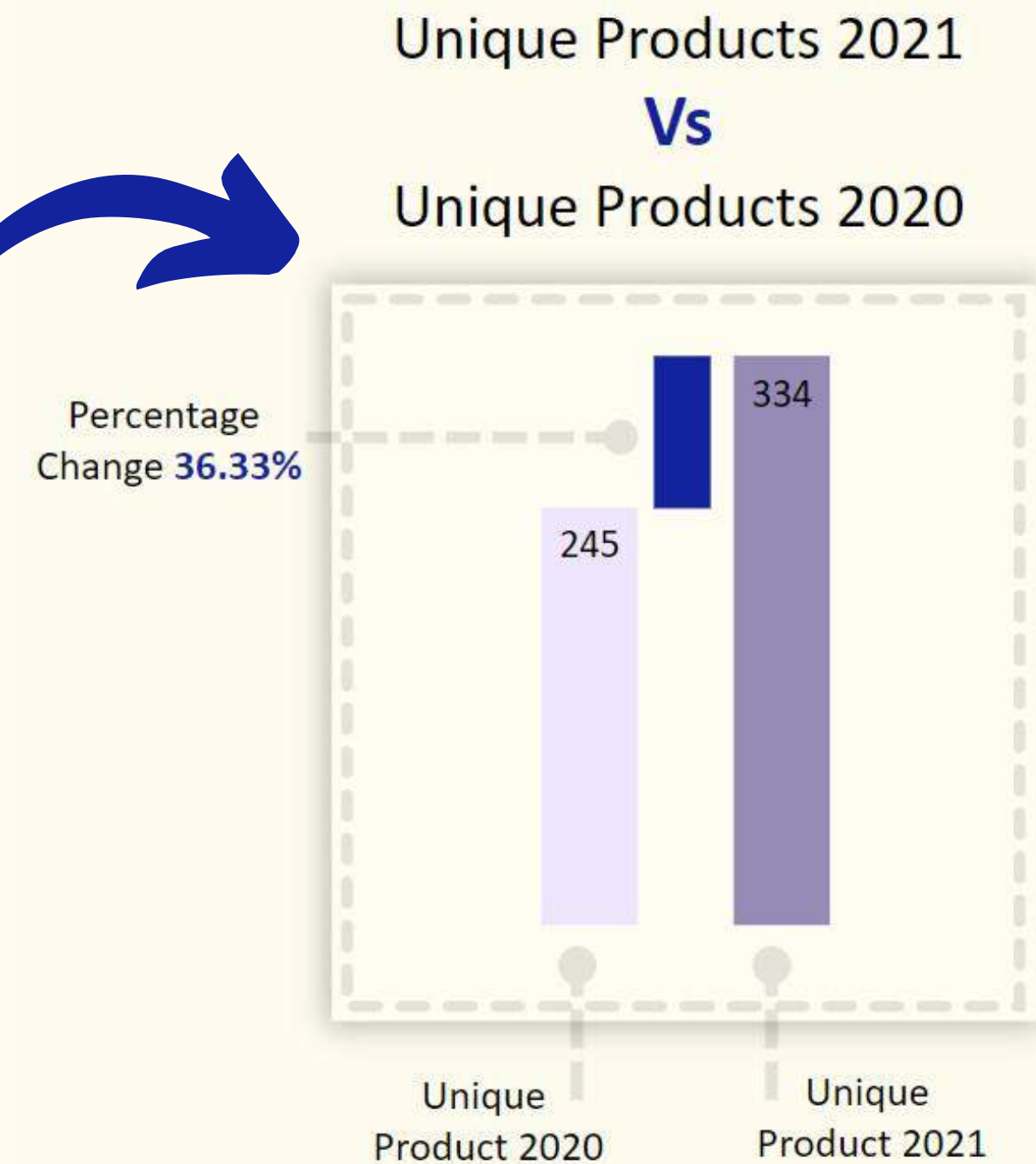
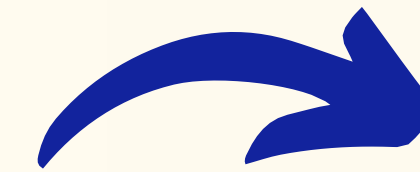
market
Australia
Bangladesh
India
Indonesia
Japan
Newzealand
Philiphines
South Korea



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_product_2020	unique_products_2021	percentage_chg
245	334	36.33



Insight:

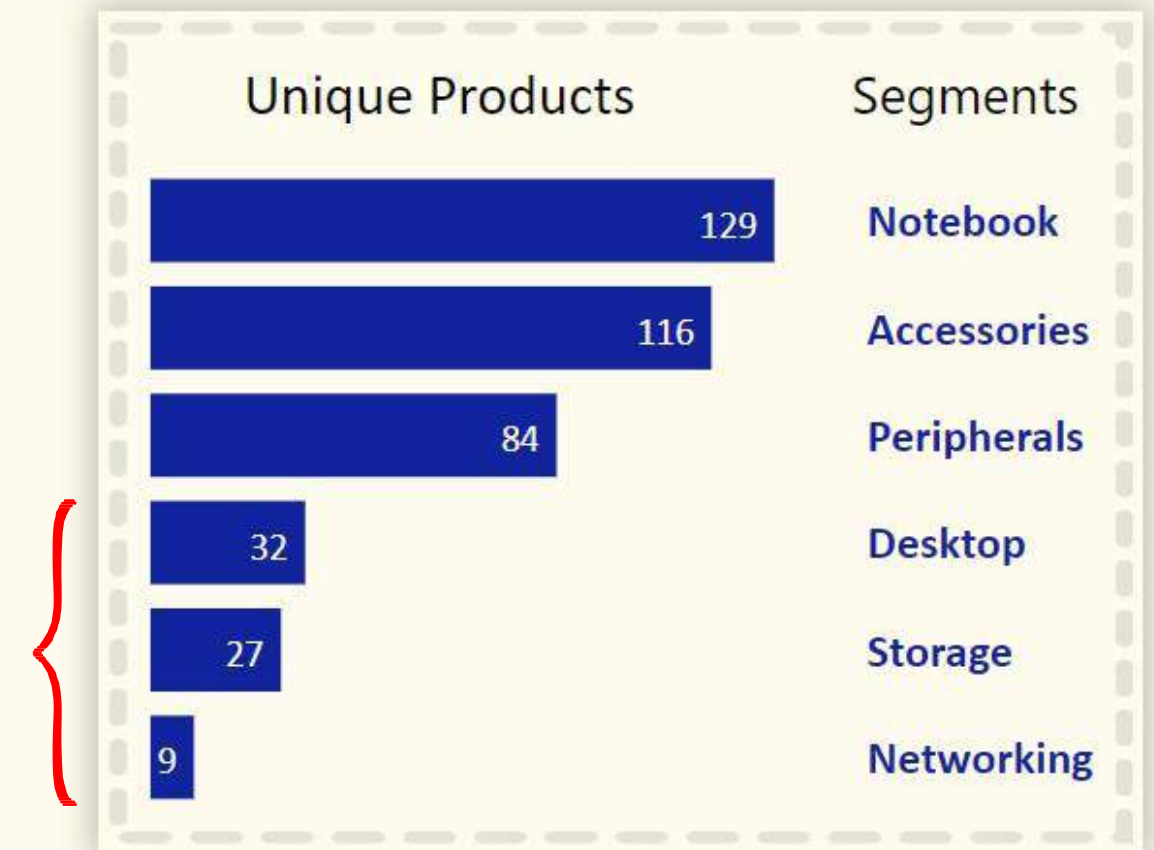
- Demand and production both increased.

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

Unique **product counts** for each **segment**



Insights:

- Segments: notebooks, accessories, and peripherals are showing significant manufacturing growth as compared to desktops, storage, and networking.
- Notebooks, accessories, and peripherals constitute **83%** of the total manufactured product.

32

Desktop

27

Storage

9

Networking

- Wifi extender
- USB Flash Drives
- External Solid State Drives
- Personal Desktop
- Business Laptop

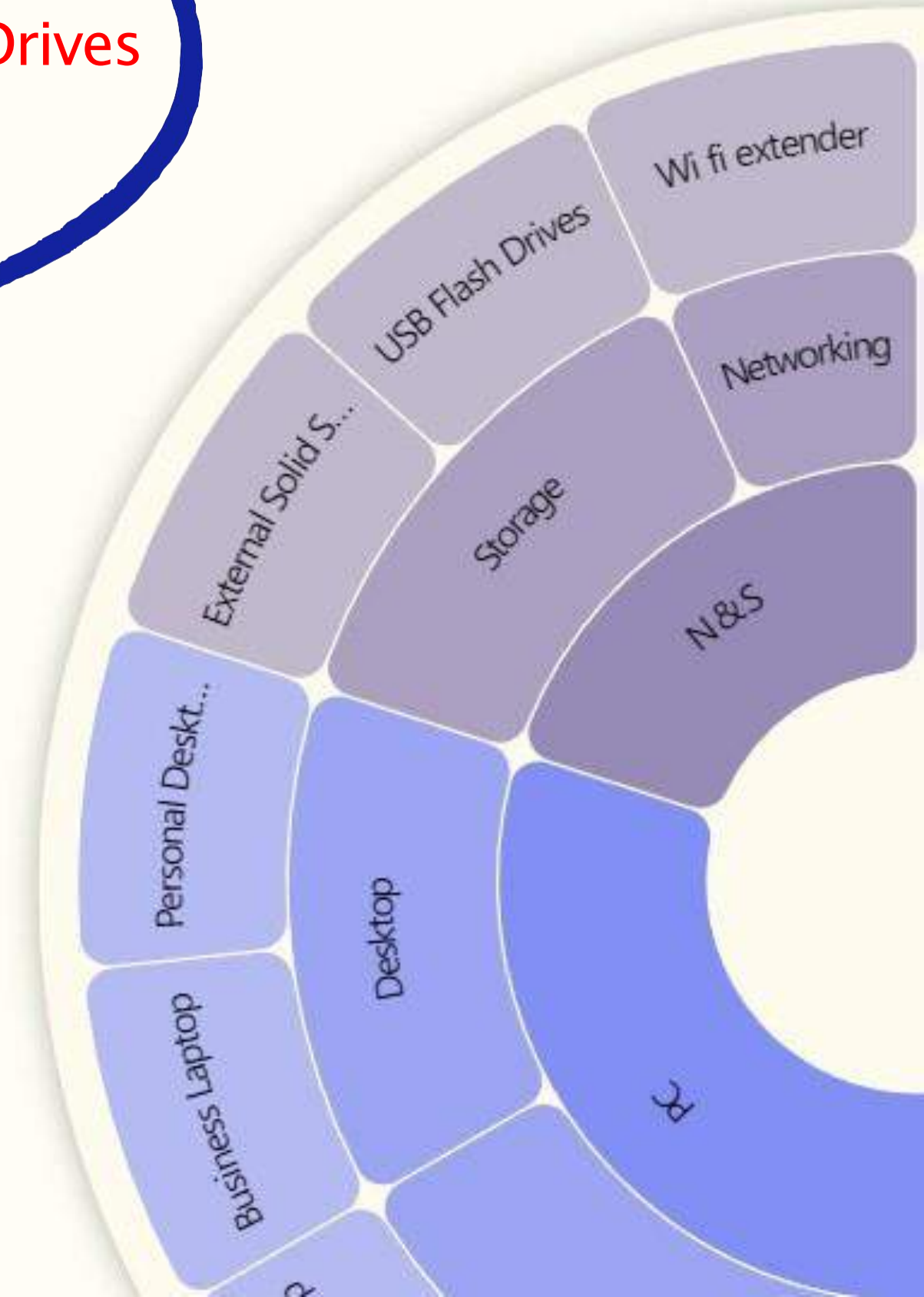
Segment	AVG MC	AVG GS	Gross Margin
Peripherals	\$540.92	\$1,814.41	70.19%
Accessories	\$543.74	\$1,816.42	70.07%
Notebook	\$674.68	\$2,255.44	70.09%
Desktop	\$767.44	\$2,553.72	69.95%
Storage	\$897.70	\$2,986.82	69.94%
Networking	\$1,473.32	\$4,953.04	70.25%

AVG MC: Average Manufacturing Cost

AVG GS: Average Gross Sales

Suggestions :

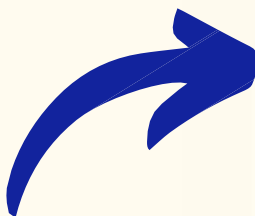
- Package Deal
- Customer Services
- Free Vouchers
- Student Discount
- Cash Back
- Gift cards
- Memberships



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

Unique product difference per
segment from 2020 to 2021



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

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 ↑

Insights:

- **Accessories** had the **largest** increase in production.
- **Storage and networking** are experiencing slower production growth than other segments.

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

product_code
product
manufacturing_cost

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




Products having the
highest and **lowest**
manufacturing costs

\$240.54



A6120110206
AQ HOME Allin1 Gen 2
Personal Desktop

\$0.89



A2118150101
AQ Master wired x1 Ms
Mouse

Product code & Product

Insights:

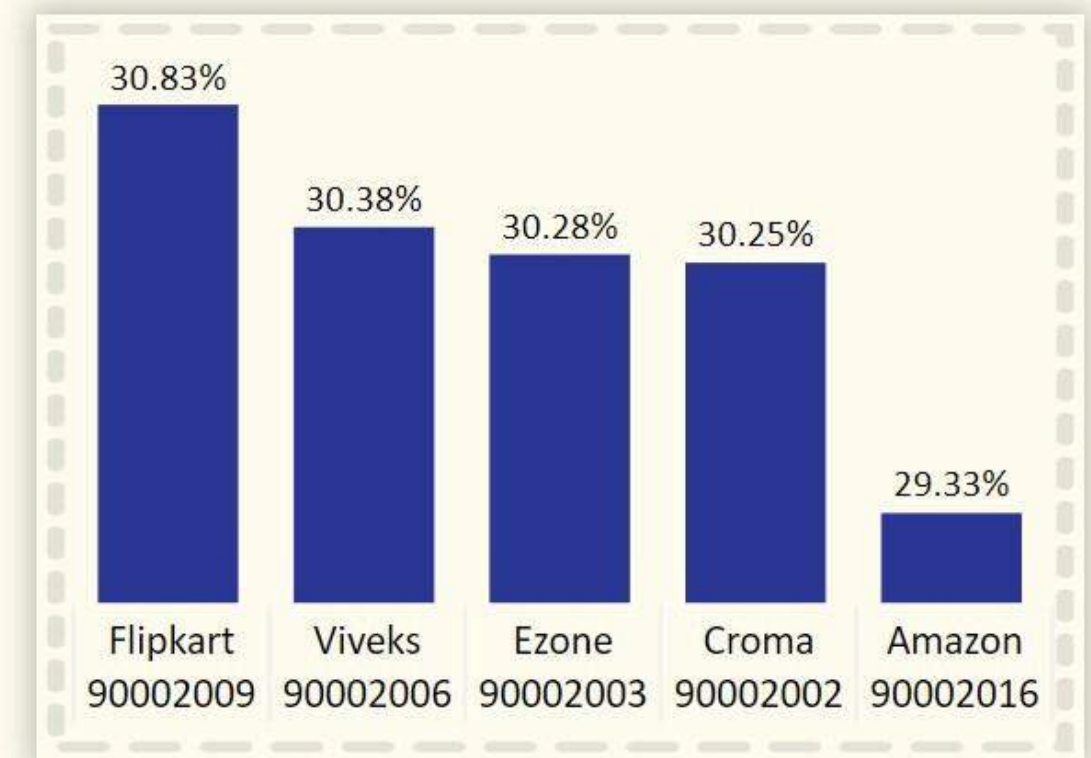
- Mouse: AQ Master wired x1 Ms (**Variant: Standard 1**) has the lowest manufacturing cost.
- Personal Desktop: AQ Home Allin1 Gen2 (**Variant: Plus 3**) has the highest manufacturing cost.

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

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

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



Customer & Customer code

Insights:

- The **largest** average pre-invoice discount was given to **Flipkart**.
- The **least** average pre-invoice discount was given to **Amazon**.

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

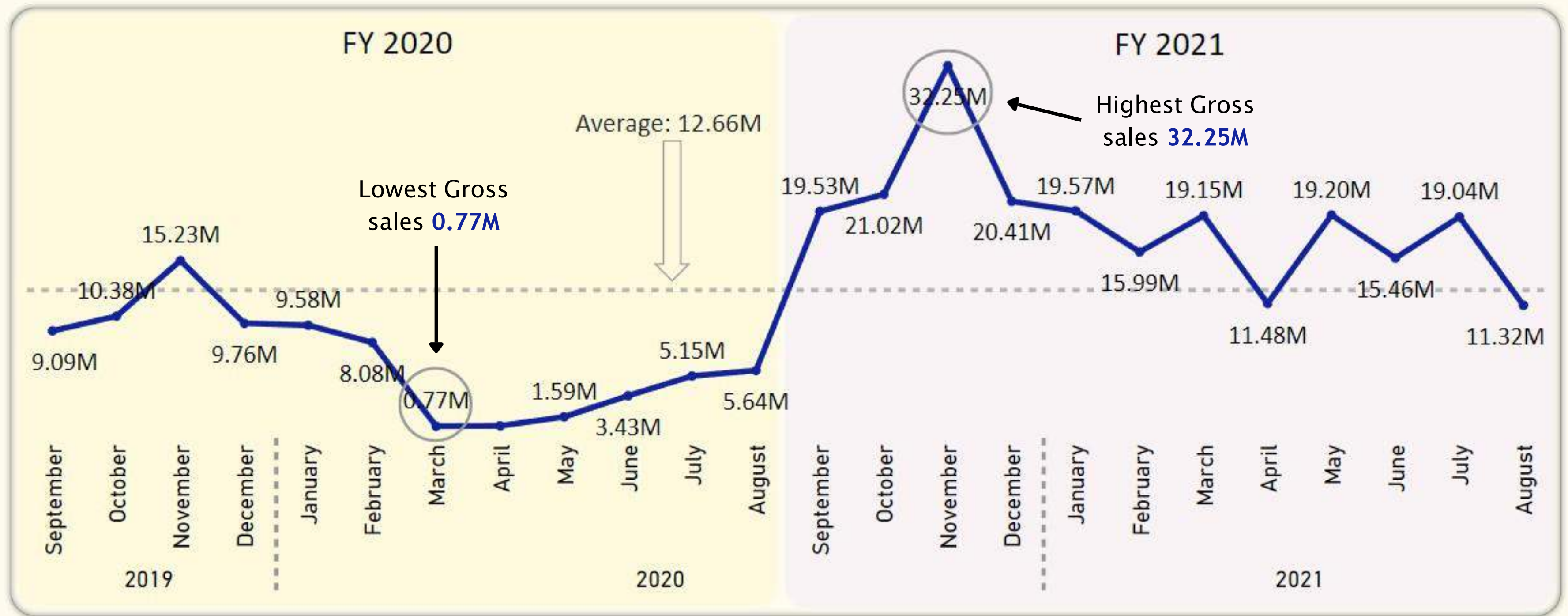
Insights:

- The **lowest** Gross sales total for both fiscal years is in **March (2020)**.
- The **highest** Gross sales total for both fiscal years is in **November (2020)**.
- **73.8%** of the total Gross sales figure is in **FY 2021**.

Month	fiscal_year	Gross_sales_Amount
September (2019)	2020	9092670.34
October (2019)	2020	10378637.60
November (2019)	2020	15231894.97
December (2019)	2020	9755795.06
January (2020)	2020	9584951.94
February (2020)	2020	8083995.55
March (2020)	2020	766976.45
April (2020)	2020	800071.95
May (2020)	2020	1586964.48
June (2020)	2020	3429736.57
July (2020)	2020	5151815.40
August (2020)	2020	5638281.83
September (2020)	2021	19530271.30
October (2020)	2021	21016218.21
November (2020)	2021	32247289.79
December (2020)	2021	20409063.18
January (2021)	2021	19570701.71
February (2021)	2021	15986603.89
March (2021)	2021	19149624.92
April (2021)	2021	11483530.30
May (2021)	2021	19204309.41
June (2021)	2021	15457579.66
July (2021)	2021	19044968.82
August (2021)	2021	11324548.34

FY 2020
79.5 M

FY2021
224.4 M



Reasons:

- COVID-19
- Global Chip shortage

When did the silicon chip shortage start?

From **early 2020**, when 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, impacted the availability of key chips necessary for the manufacturing ...

https://en.wikipedia.org/wiki/2020-present_global_chip_shortage

2020–present global chip shortage - Wikipedia

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

Quarters	total_sold_quantity
1	7005619
2	6649642
4	5042541
3	2075087

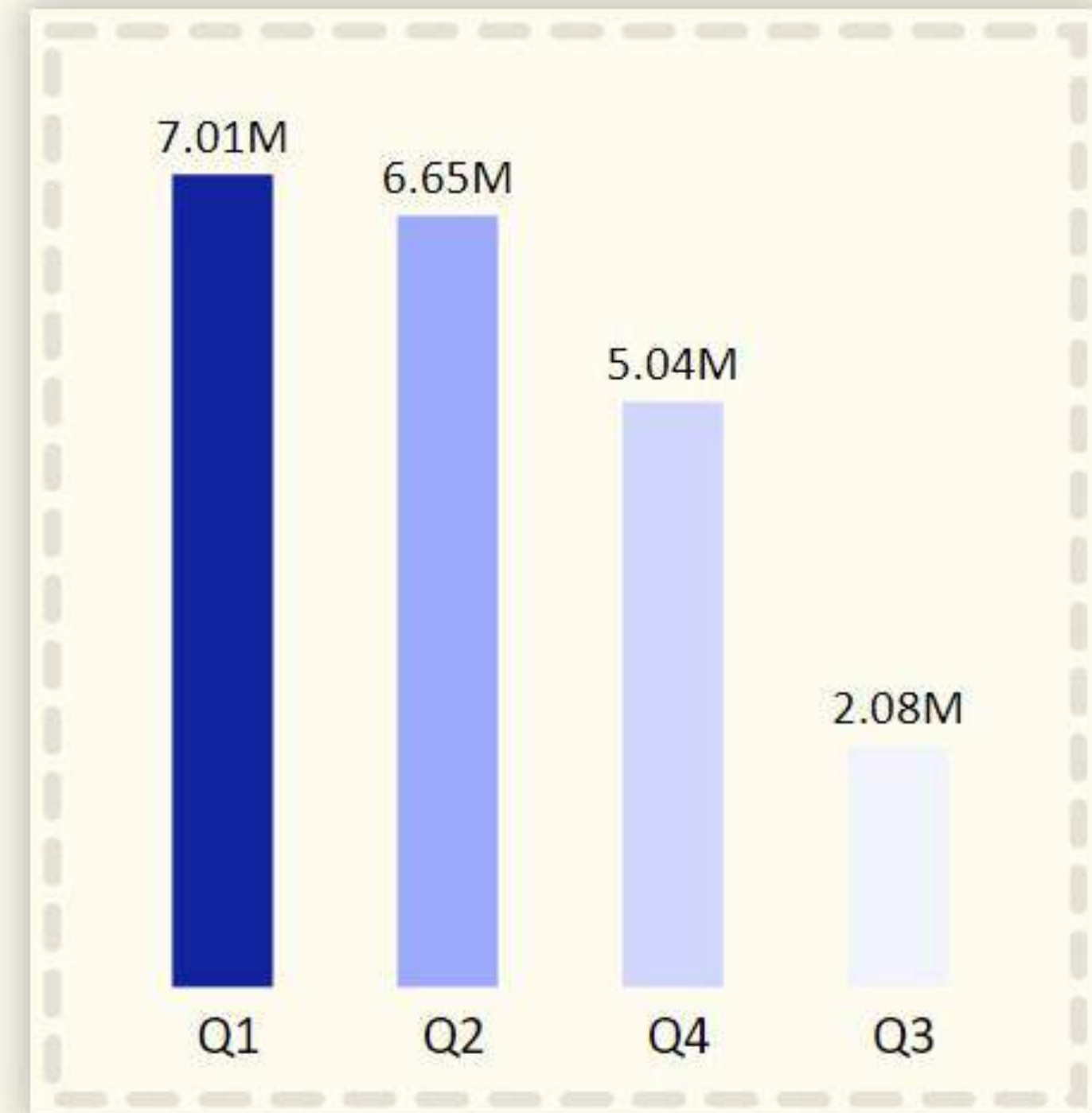
Insights:

- Quarter 1 of FY2020 saw the most units sold overall, while Quarter 3 had the fewest.
- The highest and lowest overall sold quantity is in **December** and **March**.
- Quarter 1 accounts for approximately **34%** of the total sold quantity for FY2020.

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

Total sold quantity in FY 2020 by Quarter

Month	Quarter	Total sold quantity
September	Q1	1.76M
October	Q1	7.01M
November	Q1	3.05M
January	Q2	1.76M
February	Q2	6.65M
December	Q2	3.18M
March	Q3	0.24M
April	Q3	2.08M
May	Q3	1.02M
June	Q4	1.56M
July	Q4	5.04 M
August	Q4	1.79M

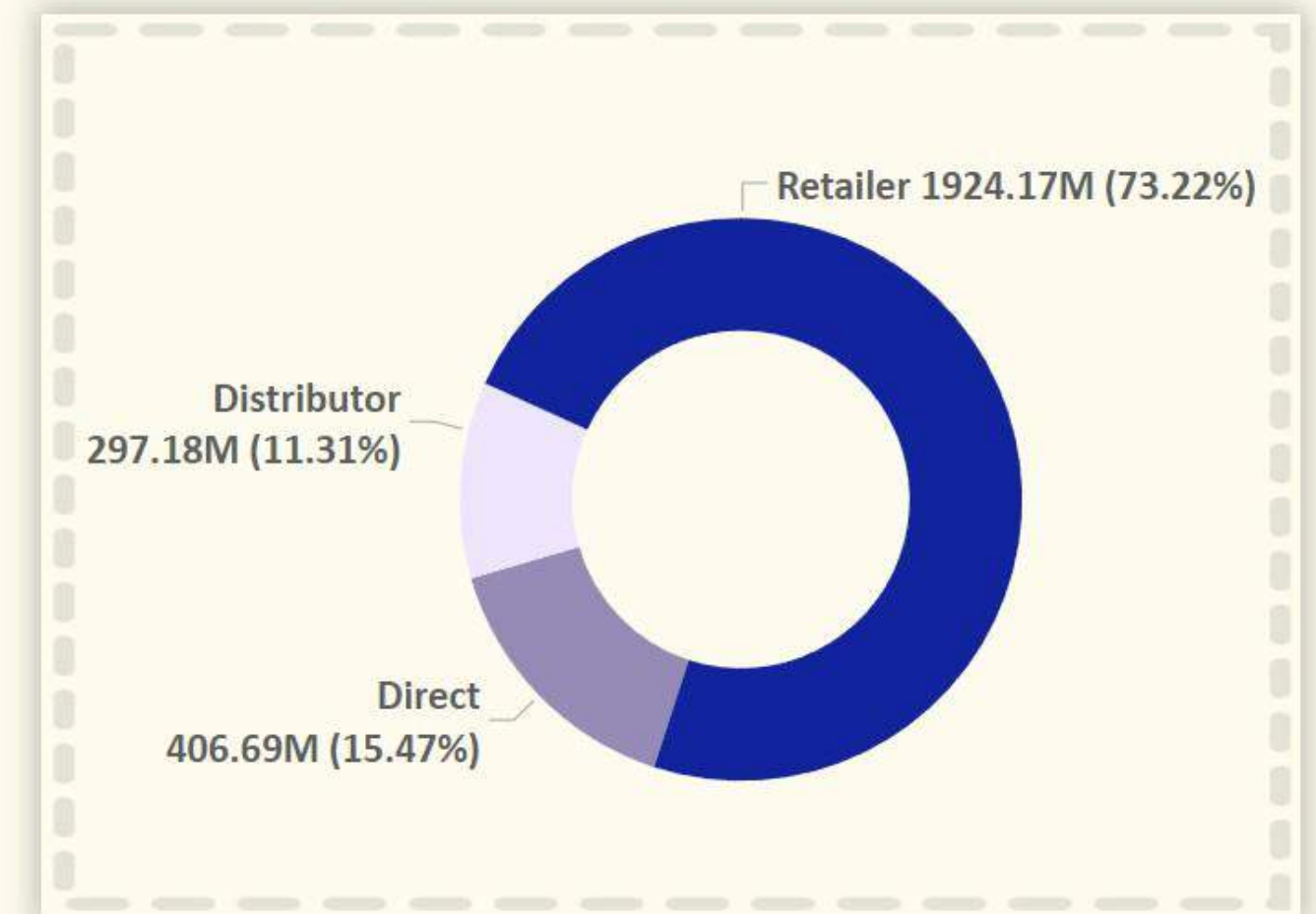


9. Which channel helped to bring more gross sales in the fiscal year 2021 and the percentage of contribution? The final output contains these fields,

channel
gross_sales_mln
percentage

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

Gross sales and contribution percentages by
Channels for **FY 2021**



Insights:

- Channel: "**Retailer**" helped bring maximum sales to the company with **73.22%** as the contribution percentage.
- Channel: "**Distributor**" makes the least contribution at a percentage of **11.31%**.

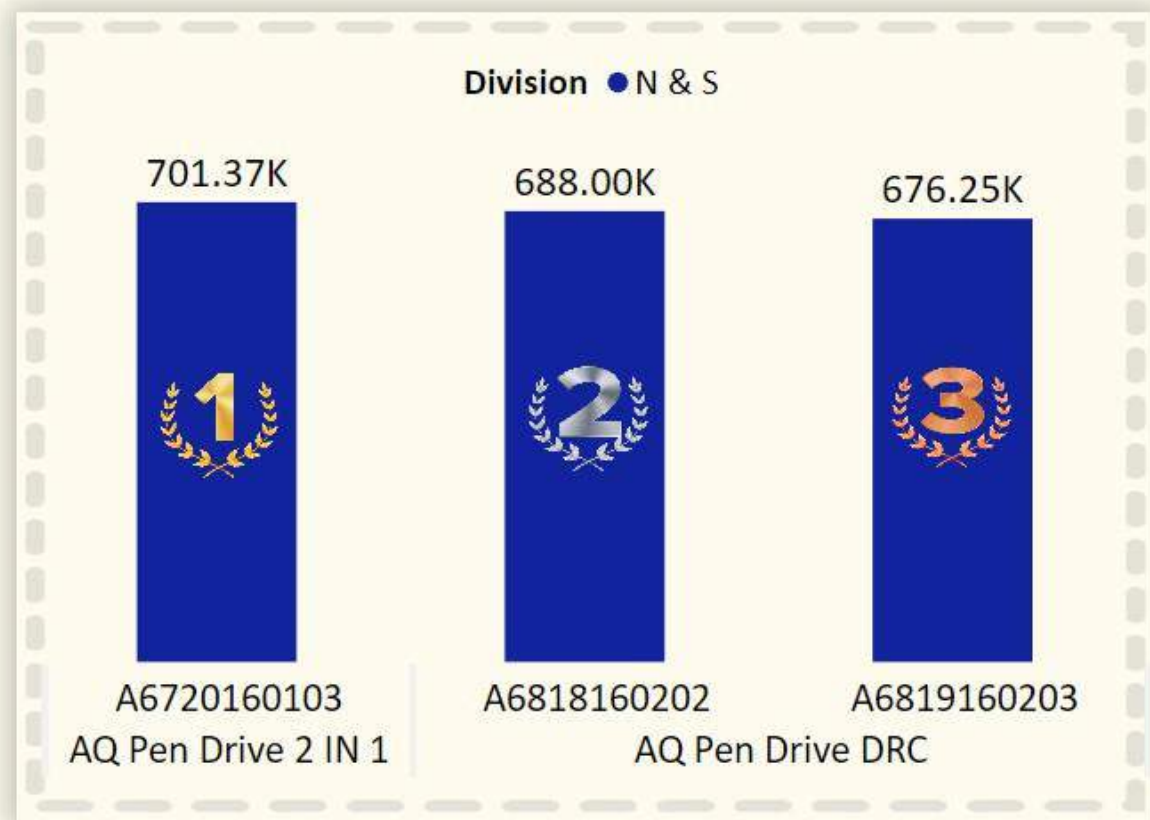
10. Get the Top 3 products in each division that have a high total_sold_quantity in the fiscal_year 2021? The final output contains these fields,

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	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

Insight:

- Every division has a product with **different variants** that appears **twice** in the top three products by division list.



Premium

Plus

Premium



Standard
Blue

Plus Red

Premium
Misty Green



Standard 2

Standard 1

Plus 2

Codebasics



Hemanand Vadivel
aka **Tony Sharma**



Dhaval Patel
aka **Peter Pandey**



Bhavin Patel
aka **Bruce Haryali**

Atliqo

Thank you!



x

