WHY?

Objectives

WHAT?

Company's detail and market

HOW?

Data, Requests, and Tools

Objectives

- **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.

Company's Market

Canada

Columbia

Mexico

Brazil

USA

Chile

NA

LATAM

United Kingdom

Norway

Sweden

Poland

Germany

Netherlands

Austria

France

Italy

Portugal

Spain

EU

China

Japan

South Korea

Pakistan

Bangladesh

Philiphines

India

Indonesia

Australia

Newzealand

APAC

Atliq Hardware

Data, Requests, and Tools

gdb041 fact_pre_invoi...
- customer_code
- Σ fiscal_year
- Σ pre_invoice_discount_pct

Collapse ^

gdb041 fact_manufac...
- Σ cost_year
- Σ manufacturing_cost
- product_code

Collapse ^

gdb041 dim_customer
- channel
- customer
- customer_code
- market
- platform
- region

Collapse ^

gdb041 dim_product
- category
- division
- product
- product_code
- segment
- variant

Collapse ^

gdb041 fact_sales_mo...
- customer_code
- date
- Σ fiscal_year
- Month Short
- product_code

Collapse ^

gdb041 fact_gross_pri...
- Σ fiscal_year
- Σ gross_price
- product_code

Collapse ^

MySQL | **Power BI**
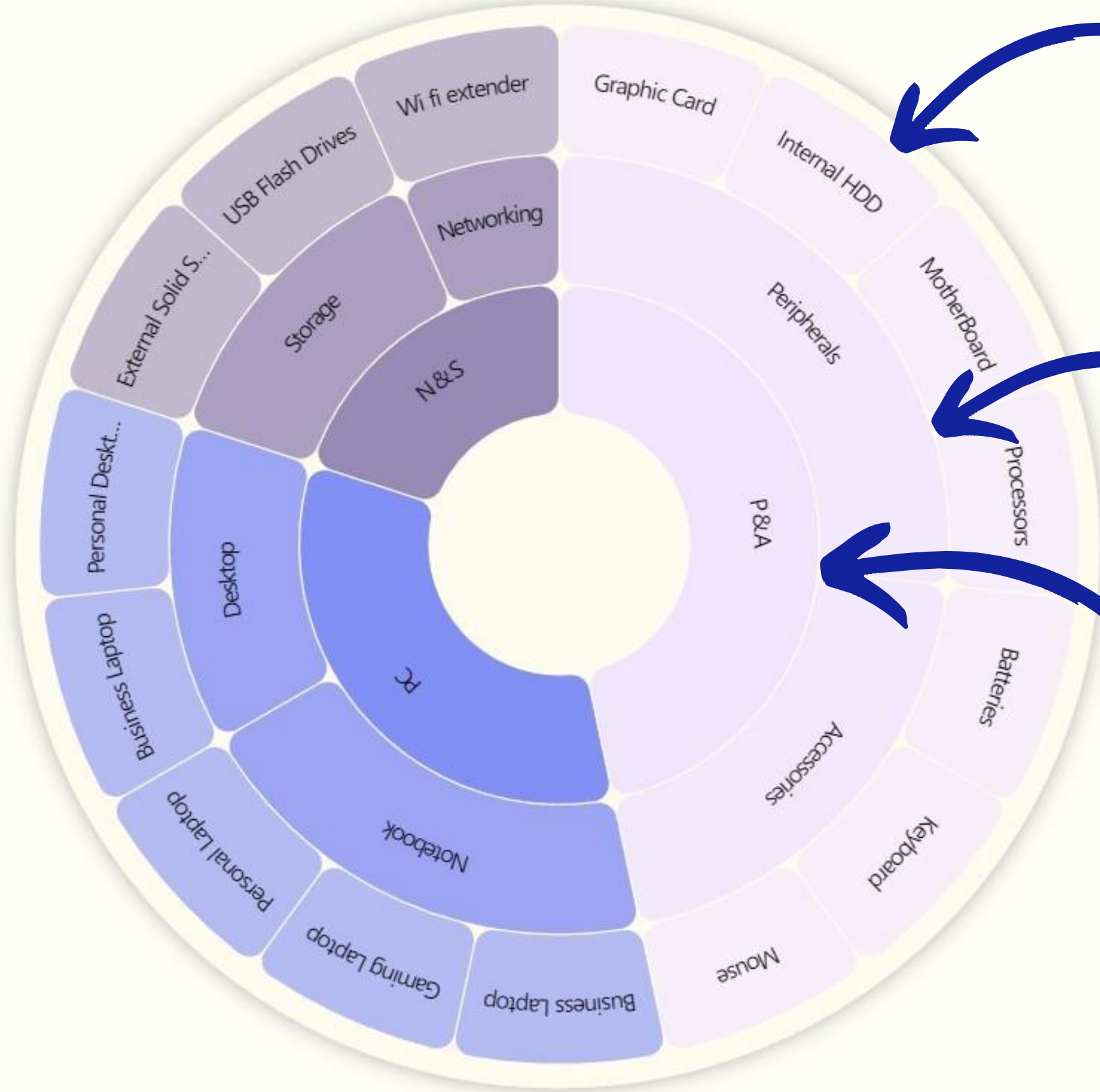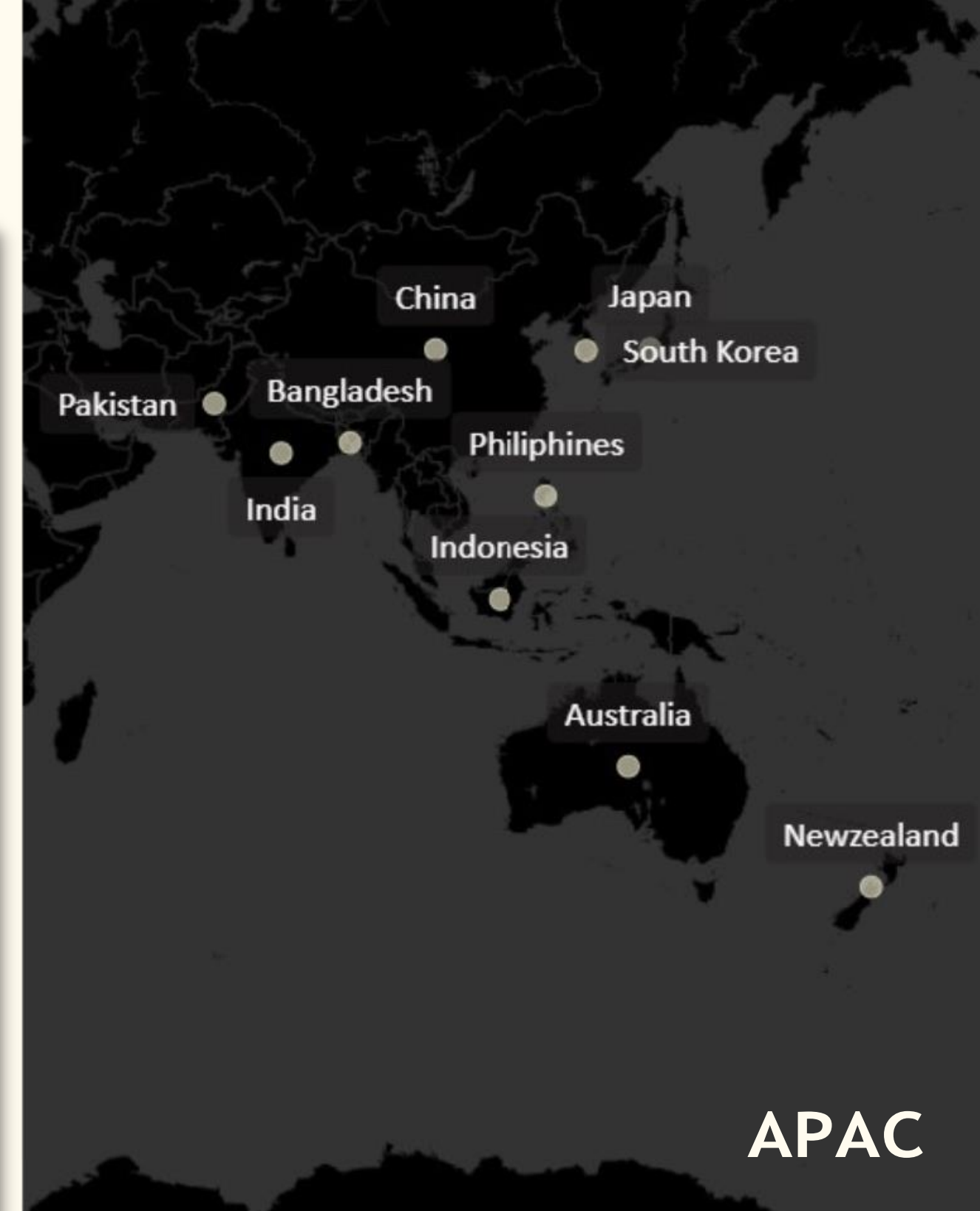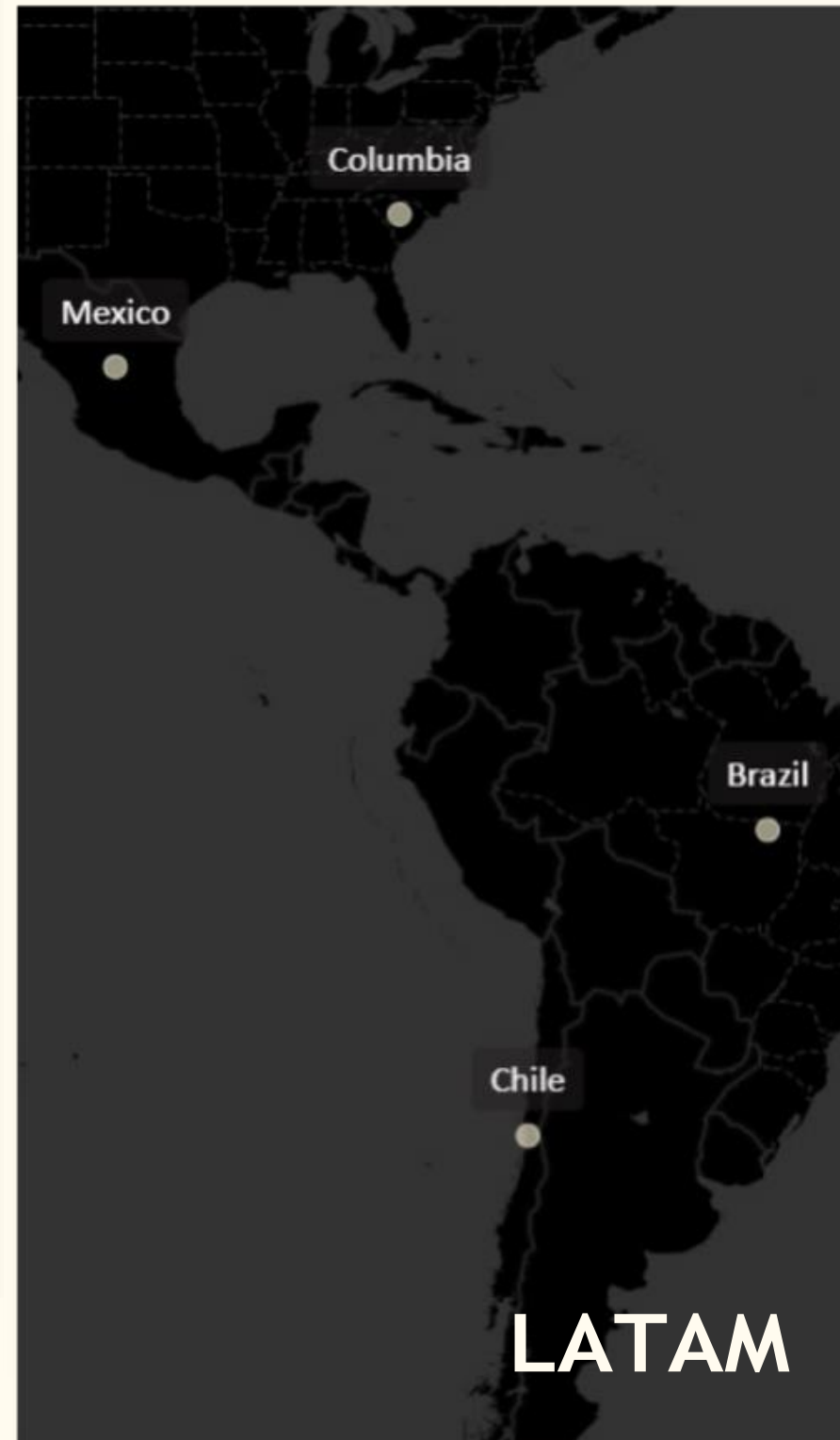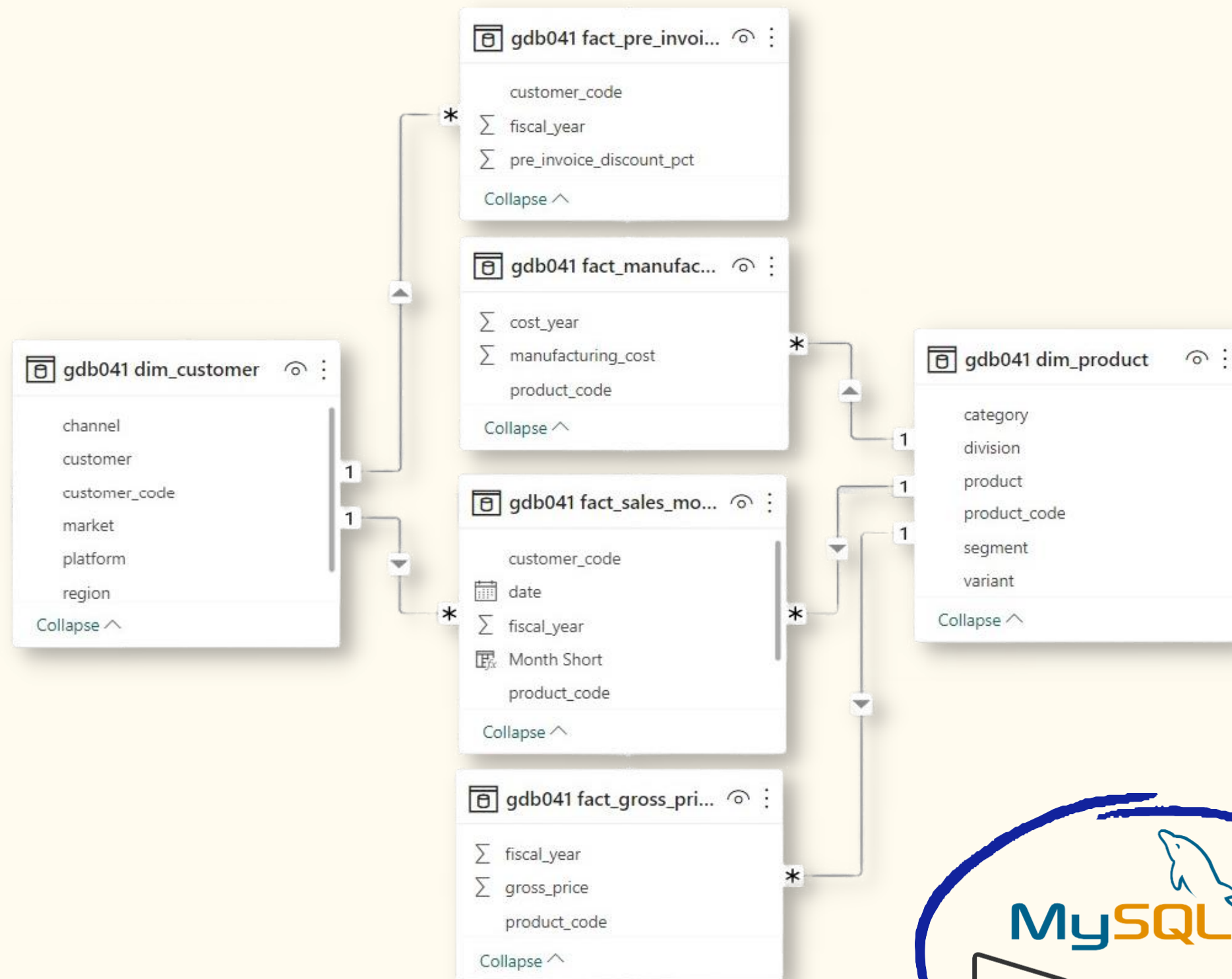
For Analysis and Visualization

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,
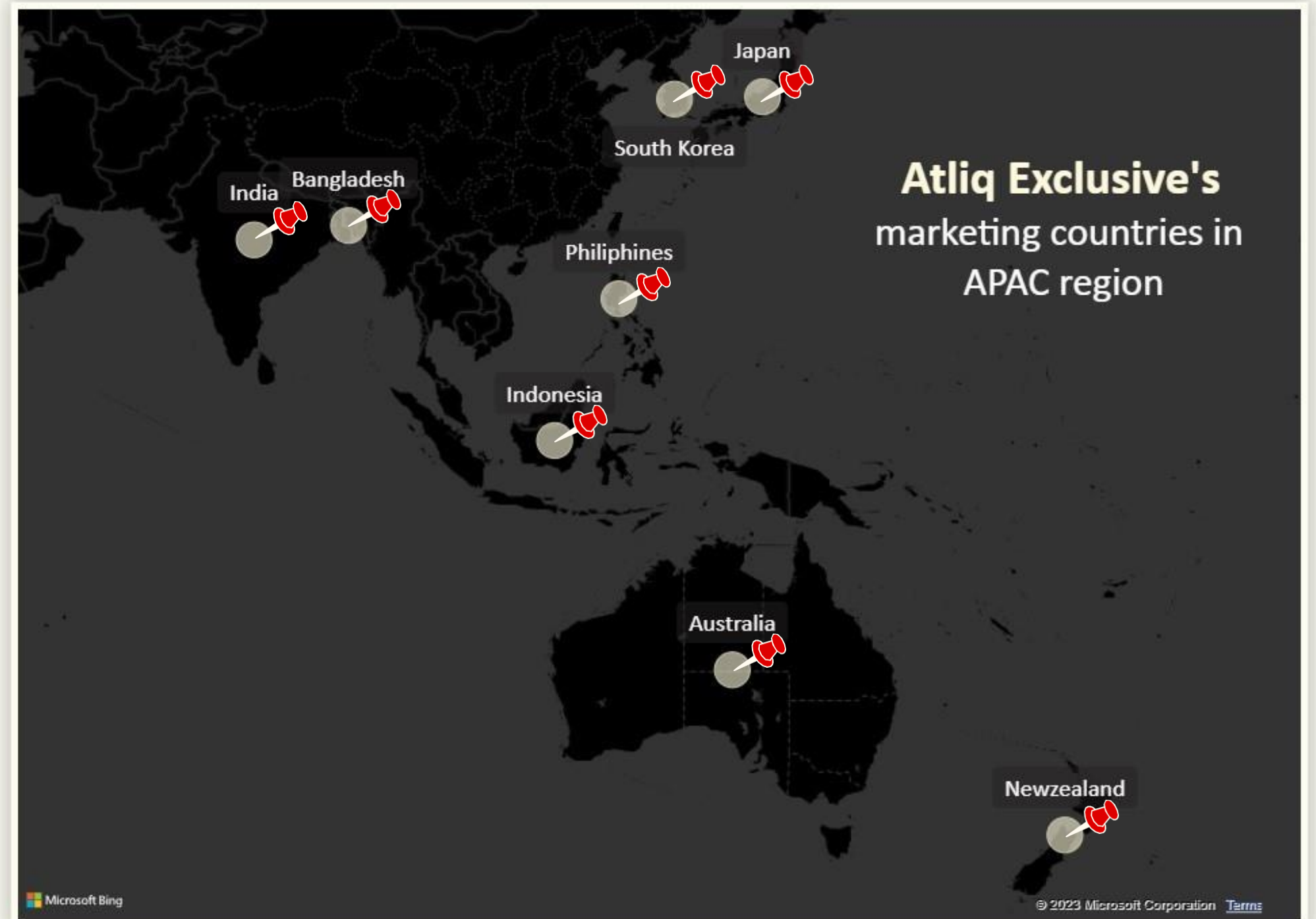   - product_code
   - product
   - manufacturing_cost

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.
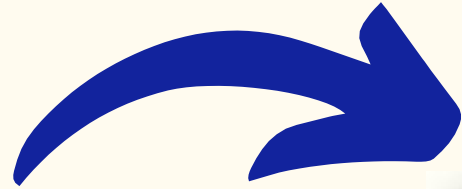
market
Australia
Bangladesh
India
Indonesia
Japan
Newzealand
Philiphines
South Korea

Atliq Exclusive's marketing countries in APAC region

Japan
South Korea
India   Bangladesh
Philiphines
Indonesia
Australia
Newzealand

Microsoft Bing
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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

Unique Products 2021
Vs
Unique Products 2020

Percentage Change **36.33%**

334

245

Unique Product 2020

Unique Product 2021
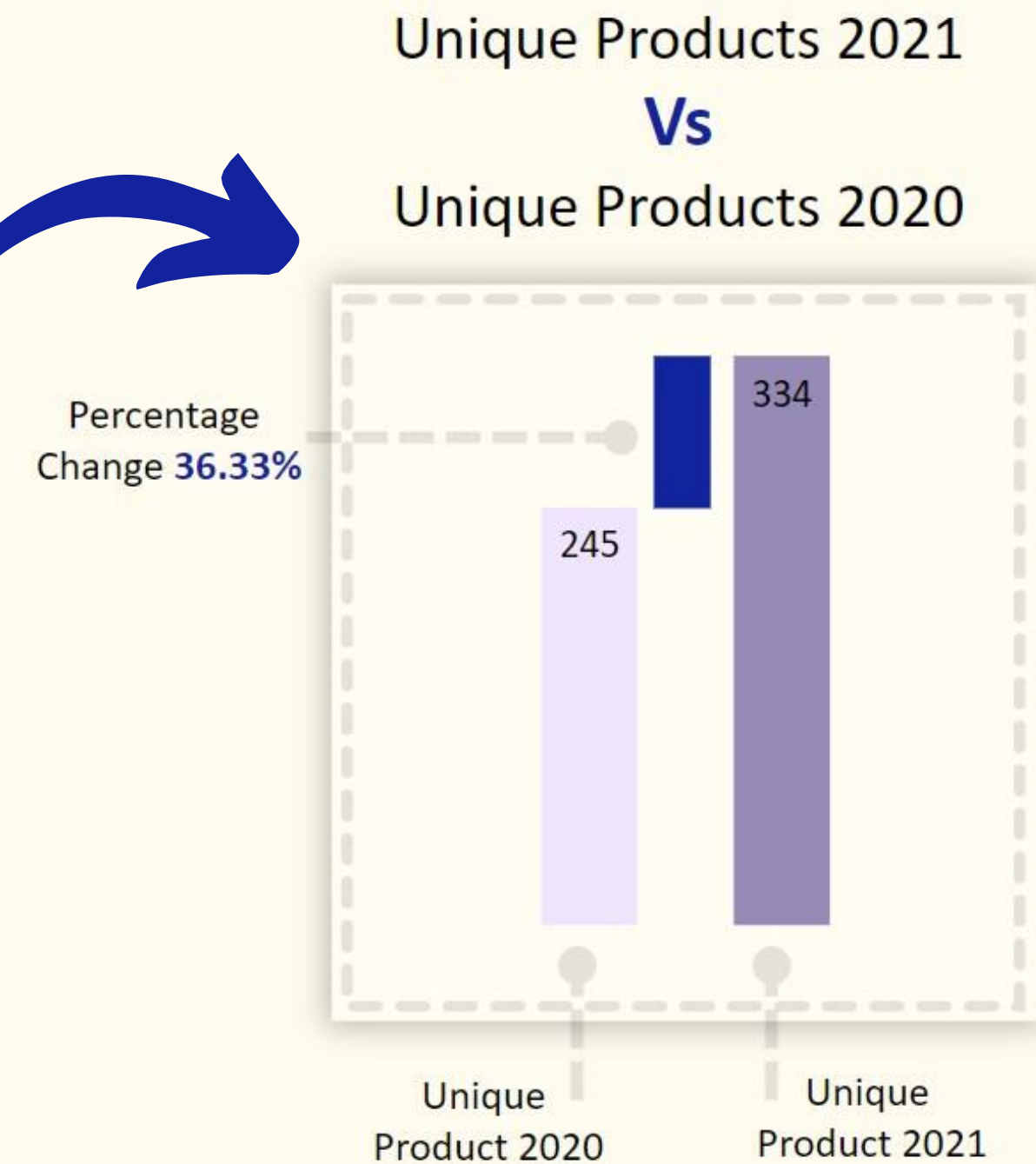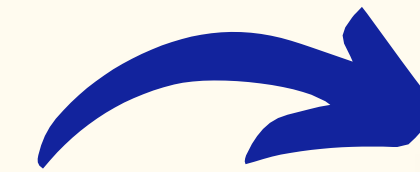
Insight:
- Demand and production both **increased.**

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

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

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

Unique Products	Segments
129	Notebook
116	Accessories
84	Peripherals
32	Desktop
27	Storage
9	Networking
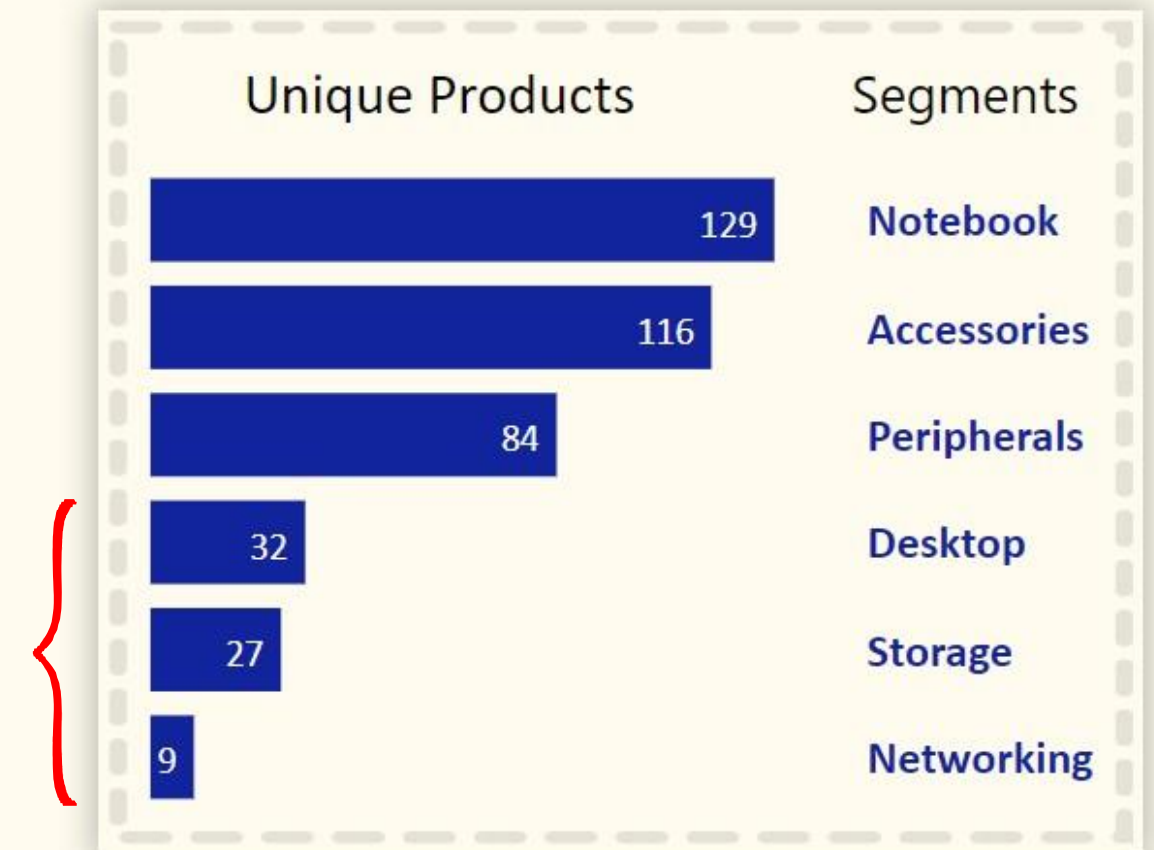
Alarming

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.
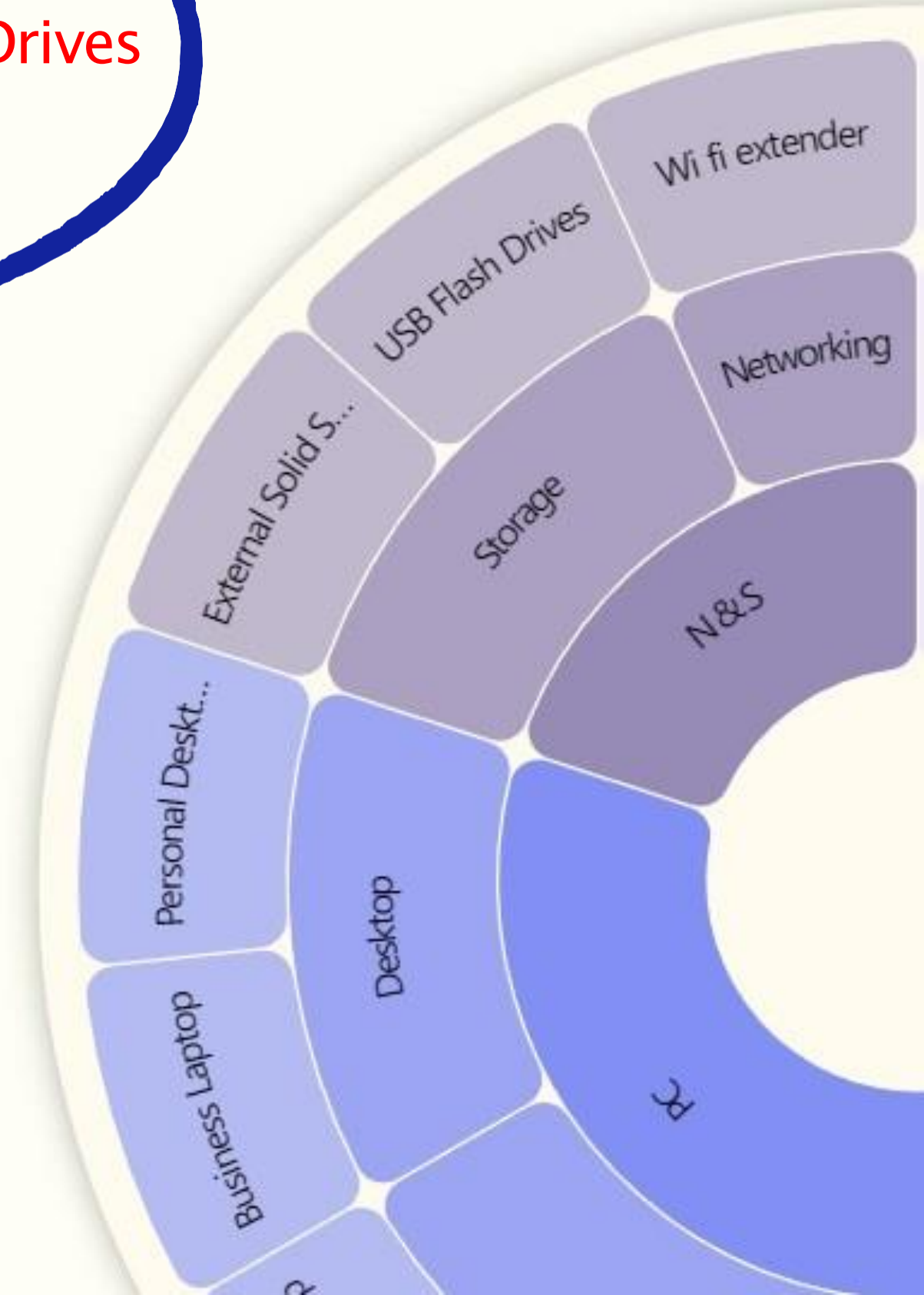
32

27

9

Desktop

Storage

Networking

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

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

Suggestions :

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

Wi fi extender

USB Flash Drives

External Solid S...

Networking

Storage

N&S

Personal Deskt...

Desktop

Business Laptop

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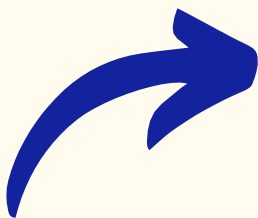
segment	product_count_2020	product_count_2021	difference
Accessories	69	103	34
Desktop	7	22	15
Networking	6	9	3
Notebook	92	108	16
Peripherals	59	75	16
Storage	12	17	5

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**
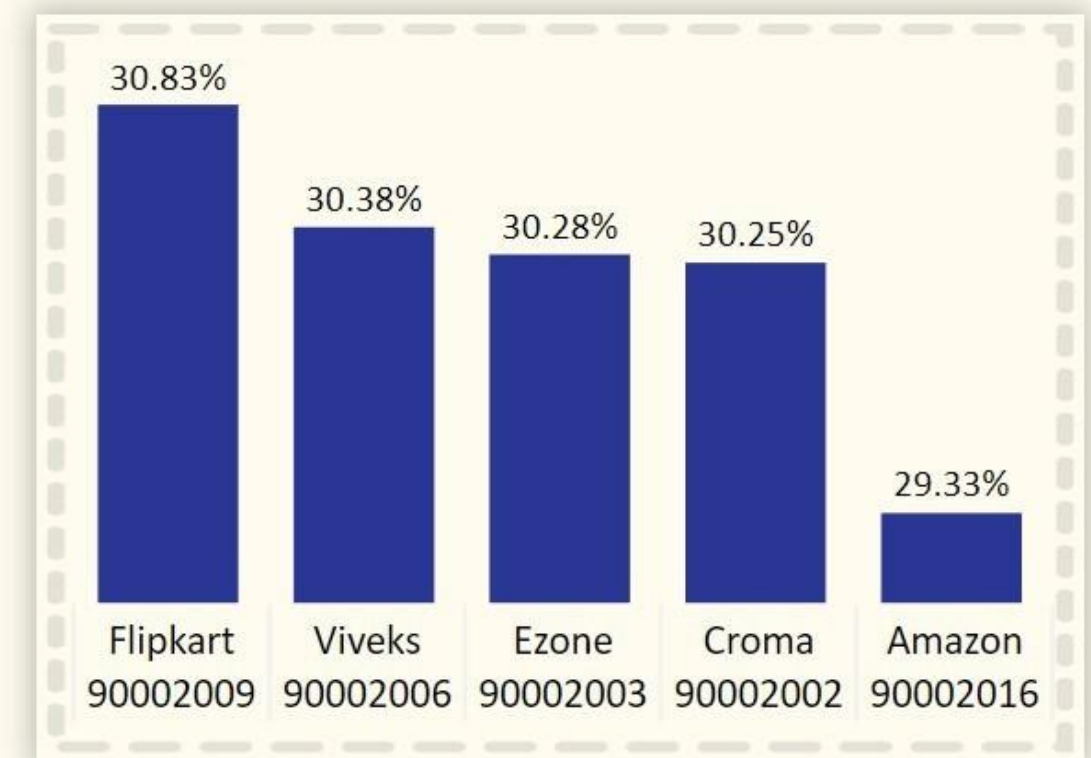
Customer & Customer code

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
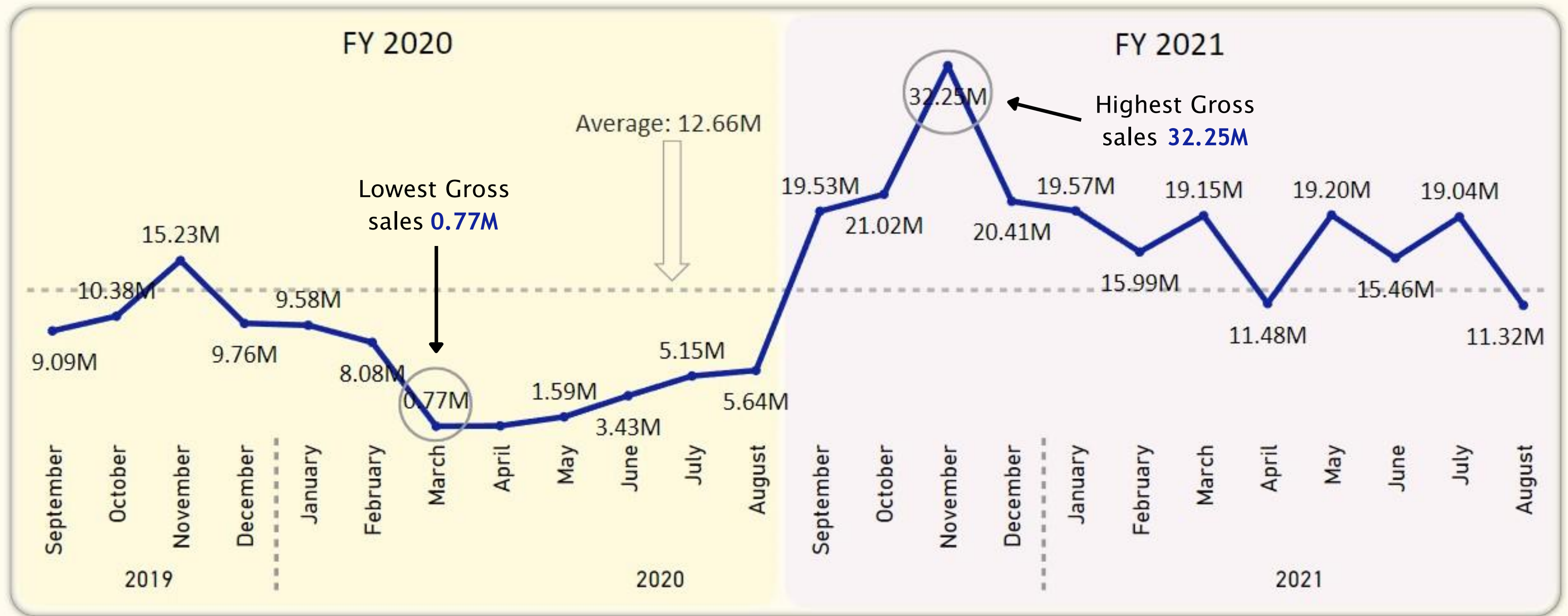
Reasons:

- **COVID-19**
- Global Chip shortage

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

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

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.

Total sold quantity in **FY 2020** by **Quarter**

Month	Quarter	Total sold quantity
September	Q1	1.76M
October	Q1	2.19M
November	Q1	3.05M
January	Q2	1.76M
February	Q2	1.70M
December	Q2	3.18M
March	Q3	0.24M
April	Q3	0.82M
May	Q3	1.02M
June	Q4	1.56M
July	Q4	1.69M
August	Q4	1.79M

Q1: 7.01M
Q2: 6.65M
Q3: 2.08M
Q4: 5.04M

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

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

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

Retailer 1924.17M (73.22%)

Distributor
297.18M (11.31%)

Direct
406.69M (15.47%)
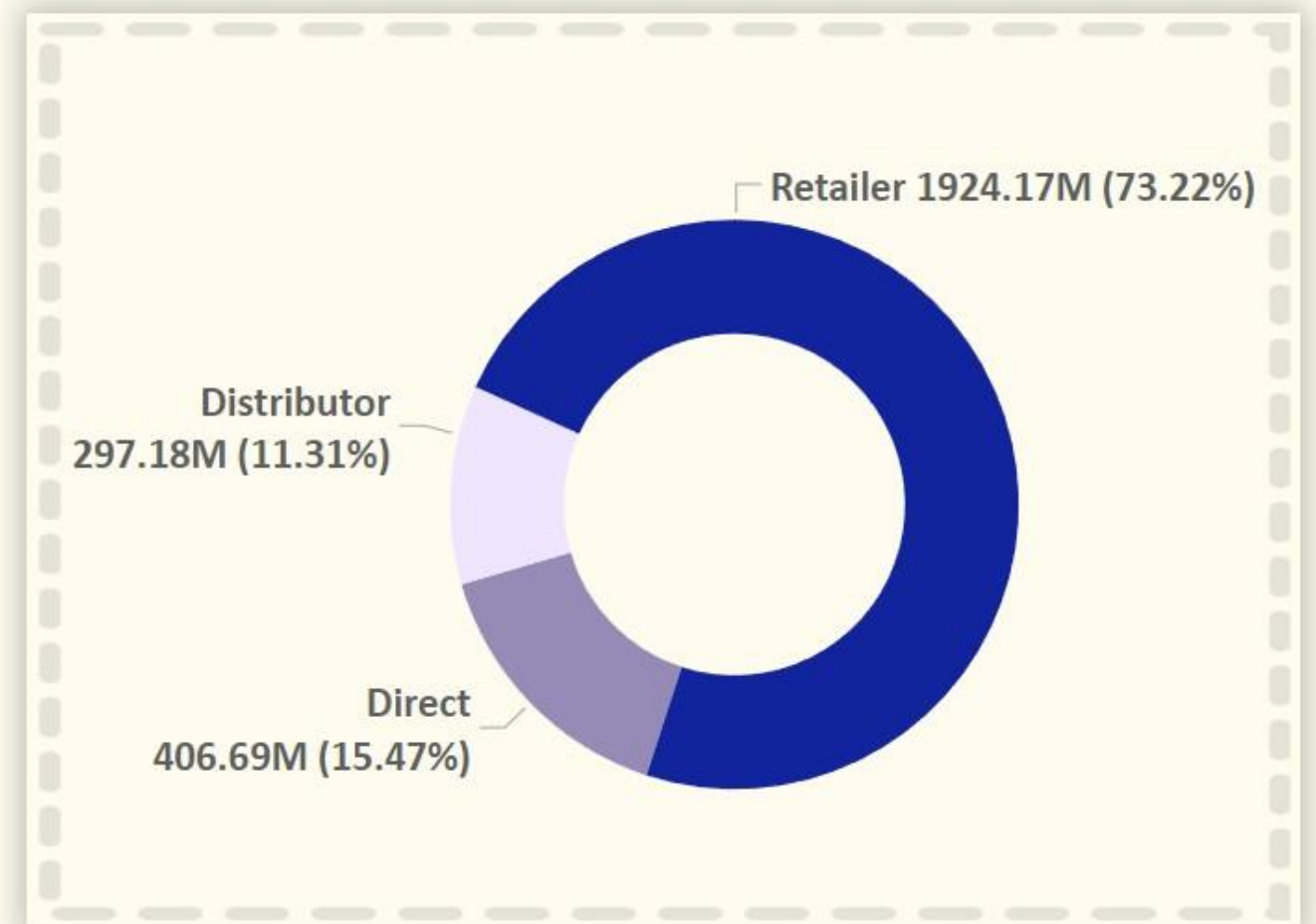
Insights:

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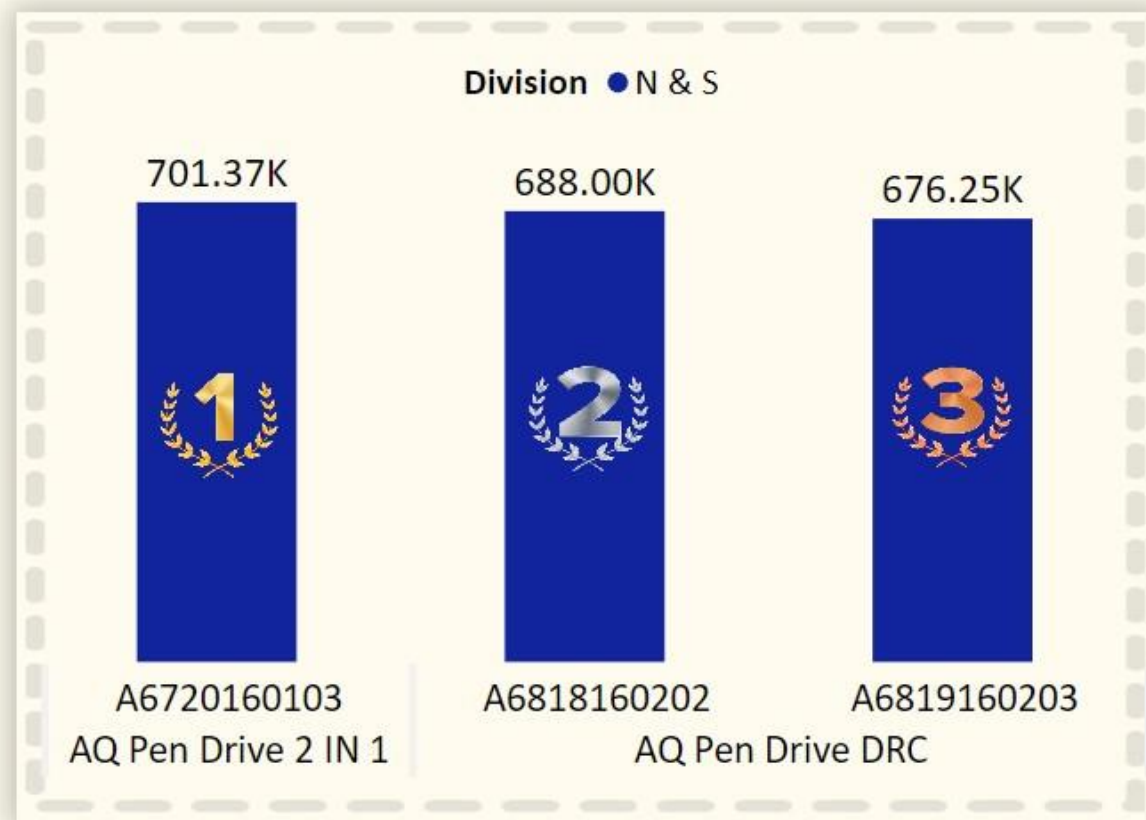
10. Get the Top 3 products in each division that have a high total_sold_quantity in the fiscal_year 2021? The final output contains these fields,

<div align="center">
division
product_code
product
total_sold_quantity
rank_order
</div>

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.

Division ● N & S

701.37K	688.00K	676.25K
1	2	3
A6720160103	A6818160202	A6819160203
AQ Pen Drive 2 IN 1	AQ Pen Drive DRC	
Premium	Plus	Premium

Division ● PC

17.43K	17.28K	17.28K
1	2	3
A4218110202	A4319110306	A4218110208
AQ Digit	AQ Velocity	AQ Digit
Standard Blue	Plus Red	Premium Misty Green

Division ● P & A

428.50K	419.87K	419.47K
1	2	3
A2319150302	A2520150501	A2520150504
AQ Gamers Ms	AQ Maxima Ms	
Standard 2	Standard 1	Plus 2