Code Basics

Executive
# Managemment

sahilsingh003

Problem Statement

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 will help him understand both the skills.

Overview

Atliq Hardware is a Hardware Company Whose Product Company hardware and periperales
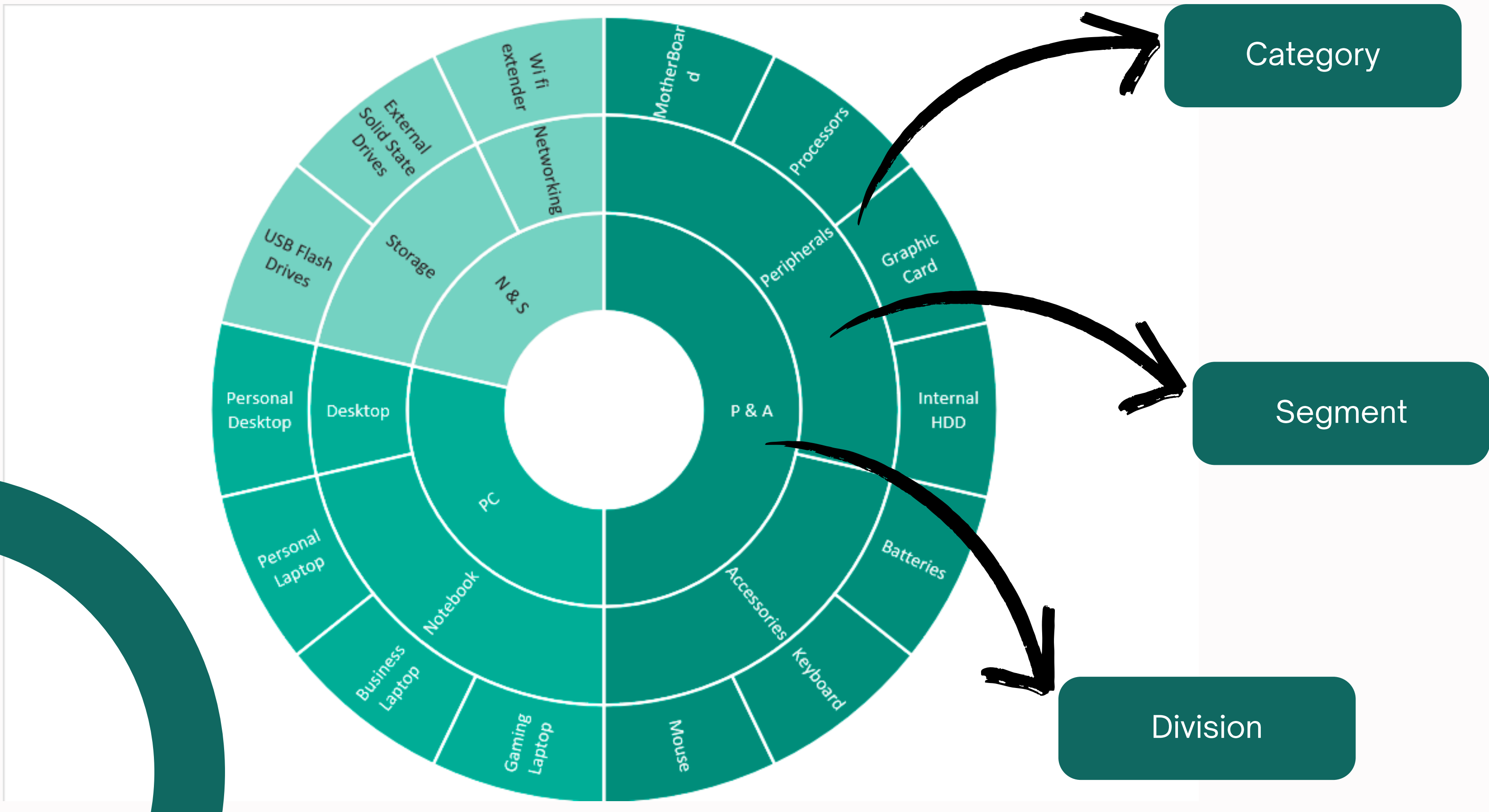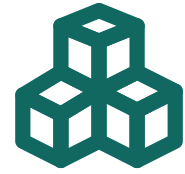
Provide the list of markets in which customer "Atliq Exclusive" operates its business in the APAC region.

market
▶ India
Indonesia
Japan
Philiphines
South Korea
Australia
Newzealand
Bangladesh
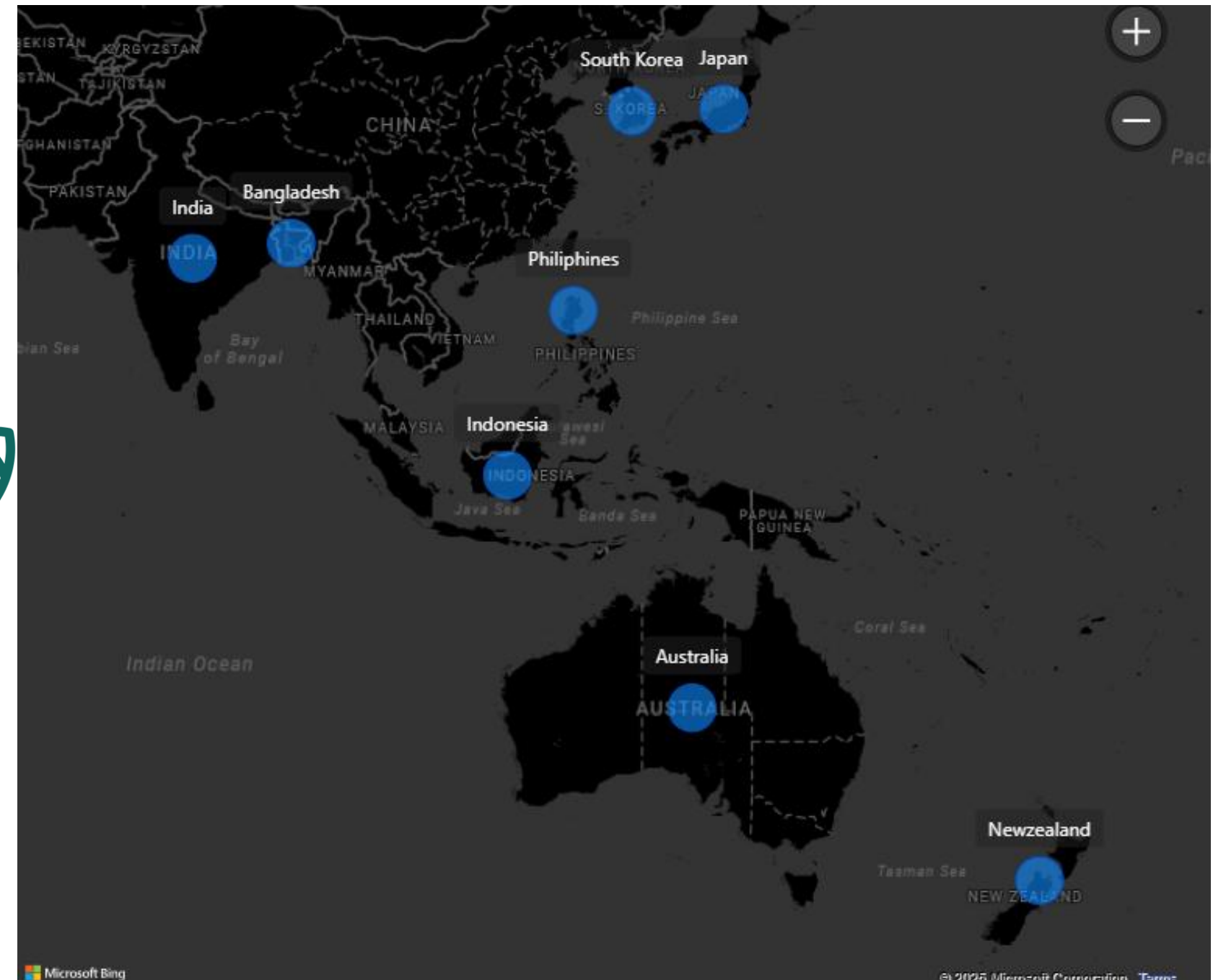
Provide a report with all the unique product counts for each segment and sort them in descending order of product counts. The final output contains 2 fields,
segment
product_count

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

**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_count_2020	product_count_2021	difference	pct_inc
Accessories	69	103	34	49.28
Desktop	7	22	15	214.29
Networking	6	9	3	50.00
Notebook	92	108	16	17.39
Peripherals	59	75	16	27.12
Storage	12	17	5	41.67
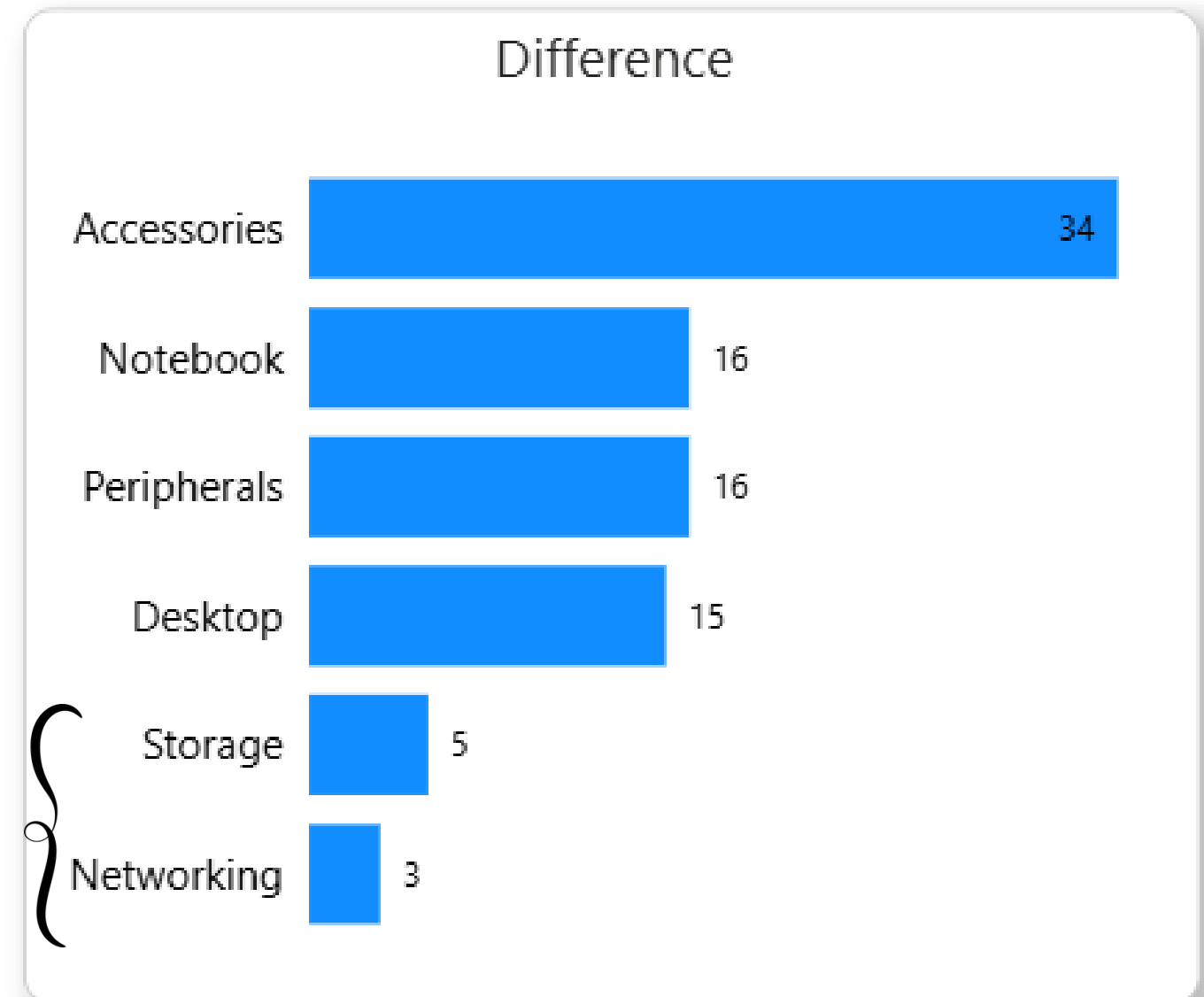
15

Storage and Networking segments have experienced the lowest growth in unique products year-over-year

Difference

Accessories	34
Notebook	16
Peripherals	16
Desktop	15
Storage	5
Networking	3

Difference

Segment	Difference
Accessories	34
Notebook	16
Peripherals	16
Desktop	15
Storage	5
Networking	3
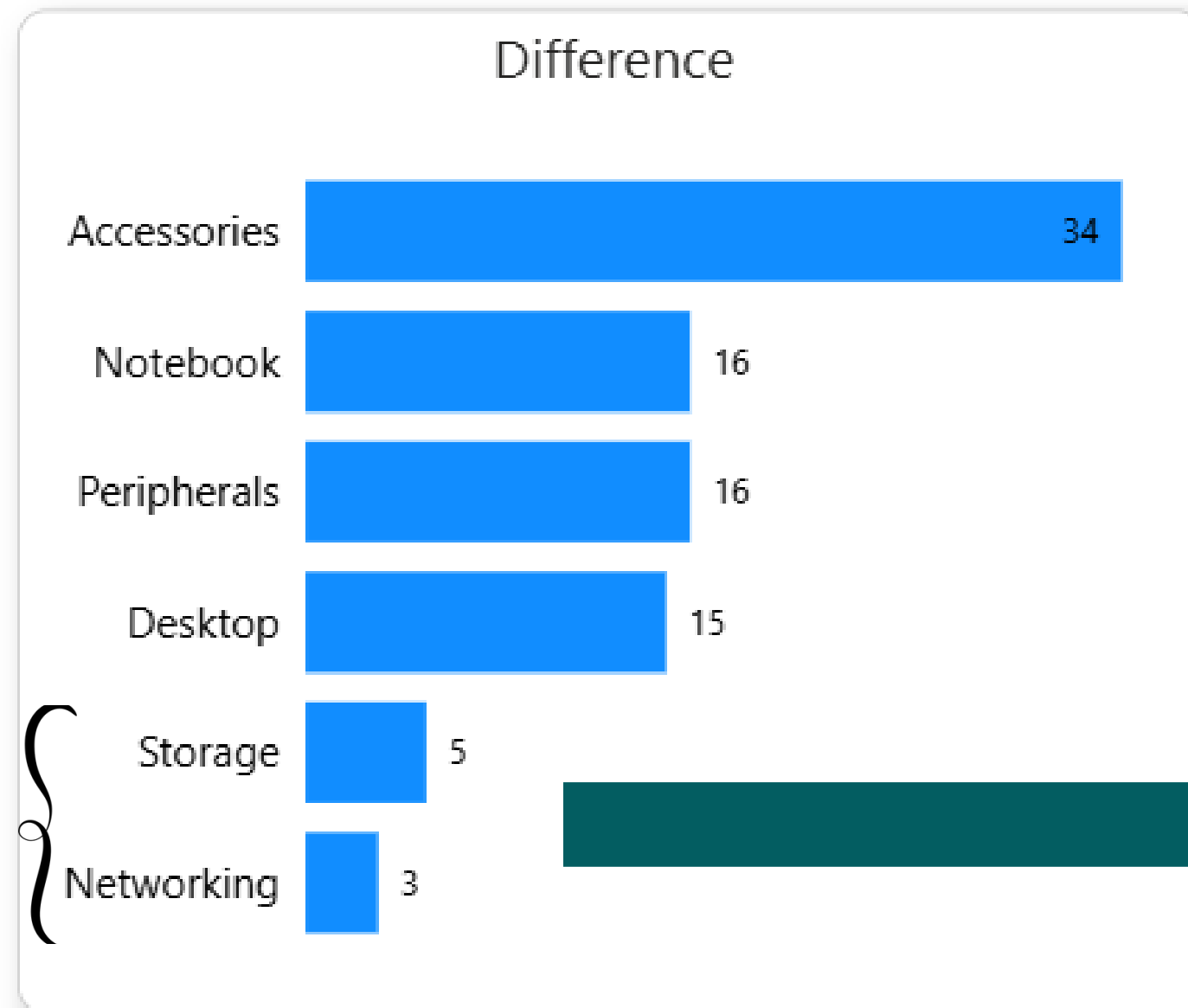
Although the Storage and Networking segments have experienced the lowest growth in unique products year-over-year, this reveals a valuable opportunity for the company. If the goal is to introduce new products, these two segments should be the primary focus due to their untapped potential.

To effectively seize this opportunity, the expansion must be supported by a robust go-to-market strategy. This should begin with thorough market analysis — identifying customer needs, analyzing gaps in current offerings, and staying ahead of emerging technology trends. With a focused and data-driven approach, Storage and Networking can evolve into key segments driving future innovation and growth for the company.

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	manufacturing_cost
A2118150101	0.8920
A6120110206	240.5364

Product Code	Product	Category	Manufacturing Cost
A2118150101	AQ Master wired x1 Ms	Mouse	$ 0.89
A6120110206	AQ HOME Allin1 Gen 2	Personal Desktop	$ 240.54

While the slide highlights the products with the highest and lowest manufacturing costs, it lacks crucial context — we do not know which year these costs belong to. To provide a complete and insightful picture, it's recommended to track the maximum and minimum manufacturing costs year-wise. This would not only clarify the time frame of the cost extremes but also enable us to analyze the percentage increase or decrease in manufacturing costs over time, adding significant depth to the insights.

Generate a report that 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	0.30830000
90002006	Viveks	0.30380000
90002003	Ezone	0.30280000
90002002	Croma	0.30250000
90002016	Amazon	0.29330000

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

Significant Year-Over-Year Growth

Comparing fiscal years 2020 and 2021 shows dramatic growth. Total gross sales increased from approximately $79.5 million in FY2020 to about $224.4 million in FY2021, representing a roughly 182% increase.

The data shows what appears to be a significant COVID impact from March-August 2020 (sales dropped dramatically), followed by strong recovery starting September 2021.

COVID-19 Impact and Recovery

November appears to be your strongest month in both years, with significant sales spikes (15.2M in 2020, 32.2M in 2021).The main reason for this spike is Diwali, a major festival in India when people tend to spend more, especially due to festive offers and discounts.me.

Seasonal Patterns

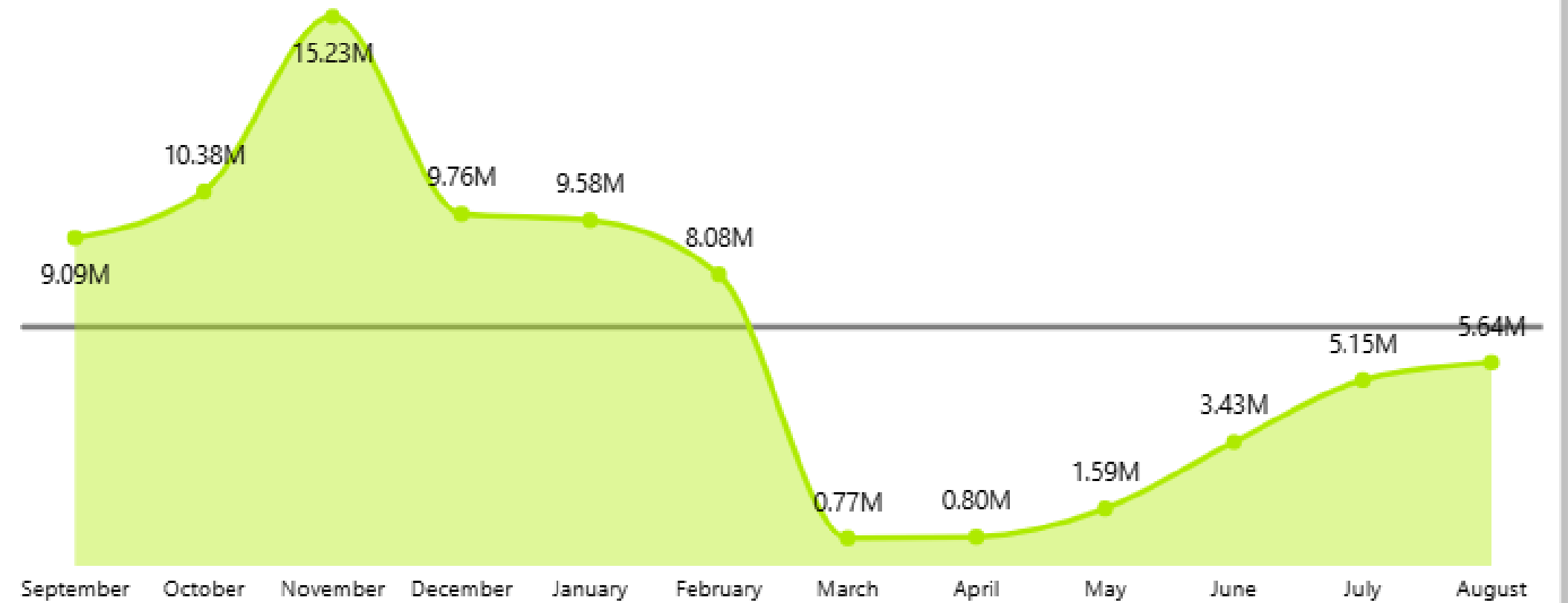Unlike 2020's volatility, 2021 maintained more consistent monthly sales above the $11M mark across all months.

Consistent Performance in 2021

month	year	total_gross_sales
September	2019	9092670.3392
October	2019	10378637.5961
November	2019	15231894.9669
December	2019	9755795.0577
January	2020	9584951.9393
February	2020	8083995.5479
March	2020	766976.4531
April	2020	800071.9543
May	2020	1586964.4768
June	2020	3429736.5712
July	2020	5151815.4020
August	2020	5638281.8287
September	2020	19530271.3028
October	2020	21016218.2095
November	2020	32247289.7946
December	2020	20409063.1769
January	2021	19570701.7102
February	2021	15986603.8883
March	2021	19149624.9239
April	2021	11483530.3032
May	2021	19204309.4095
June	2021	15457579.6626
July	2021	19044968.8164
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Total Sales Trend of Fiscal Year 2020

9.09M, 10.38M, 15.23M, 9.76M, 9.58M, 8.08M, 0.77M, 0.80M, 1.59M, 3.43M, 5.15M, 5.64M

September, October, November, December, January, February, March, April, May, June, July, August

Total Sales Trend of Fiscal Year 2021

19.53M, 21.02M, 32.25M, 20.41M, 19.57M, 15.99M, 19.15M, 11.48M, 19.20M, 15.46M, 19.04M, 11.32M

September, October, November, December, January, February, March, April, May, June, July, August
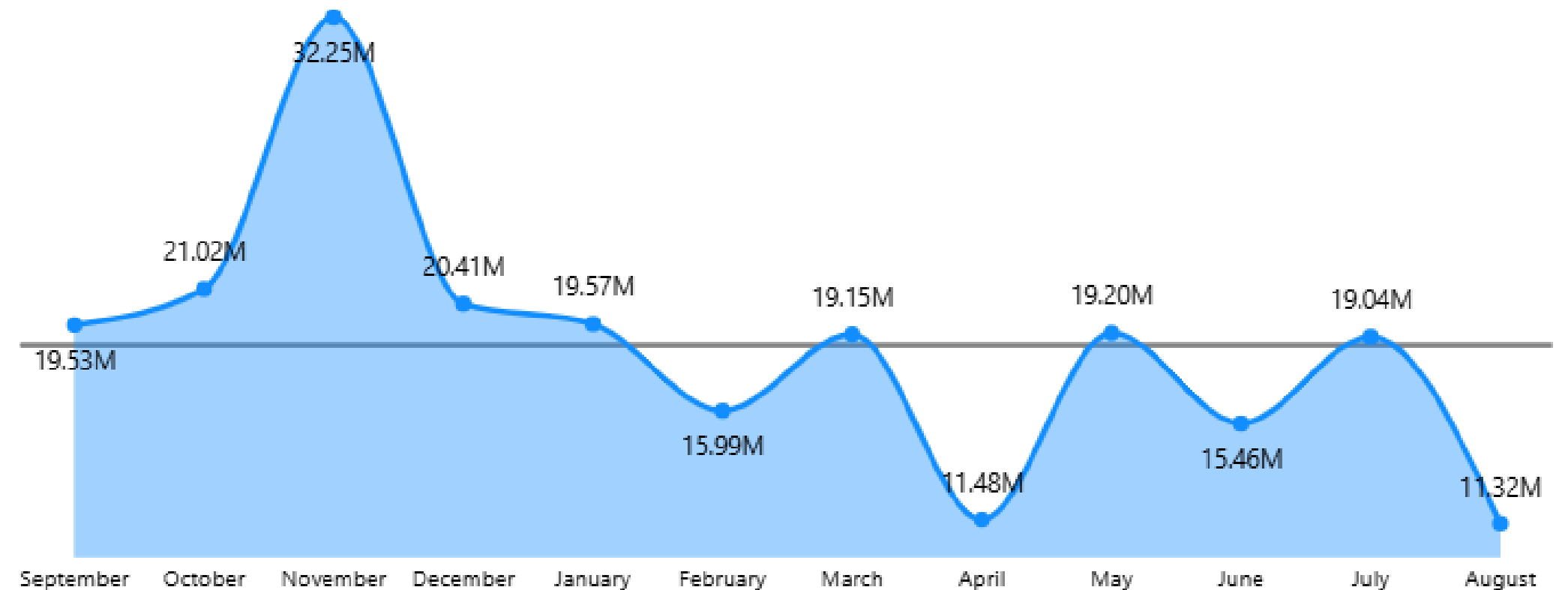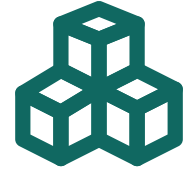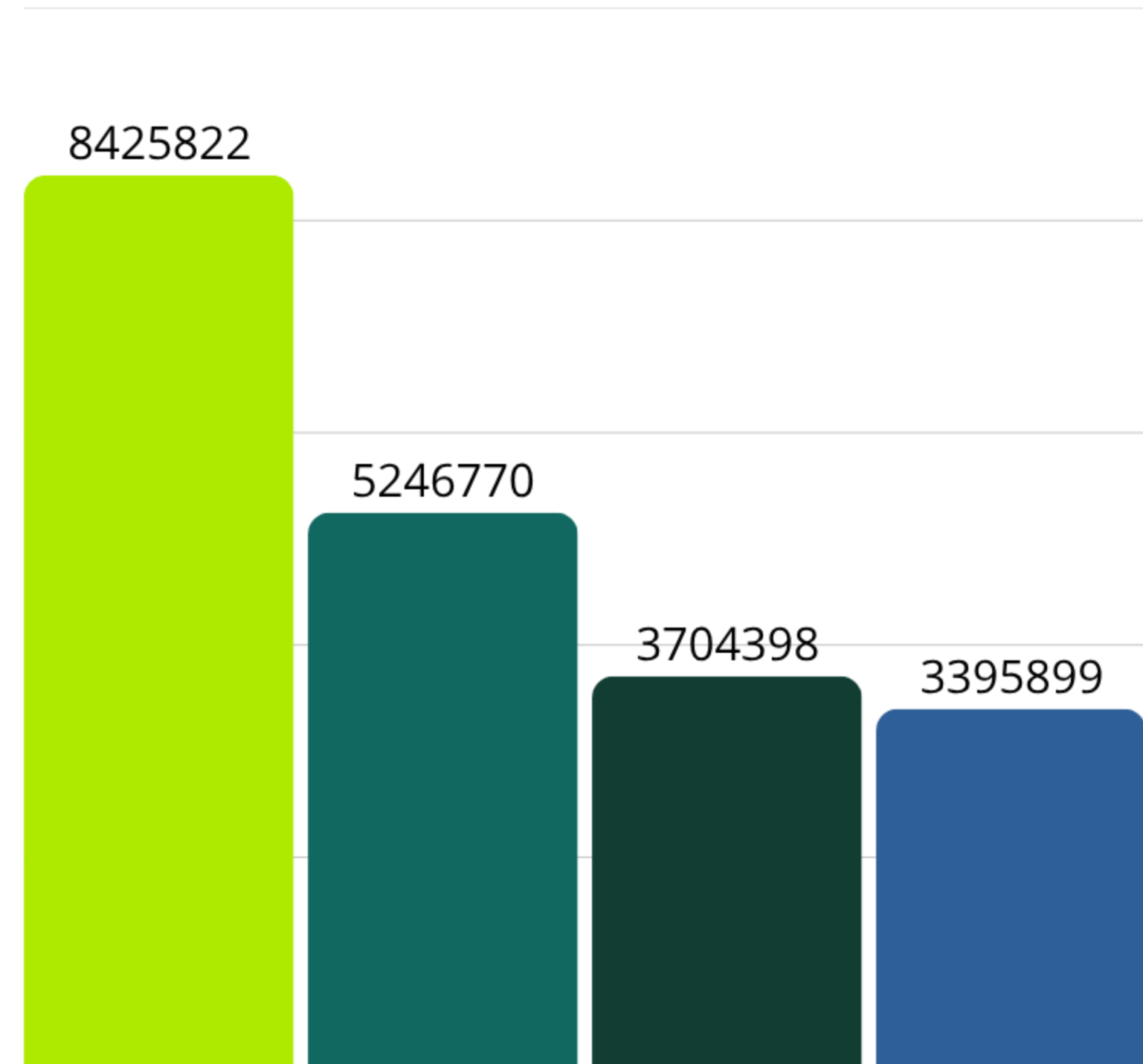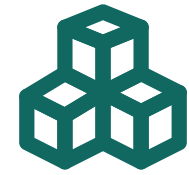
In which quarter of 2020, got the maximum total_
sold_quantity? The final output contains these fields sorted by the total_sold_quantity,
Quarter t
otal_sold_quantity

quarter	total_sold_quantity
Q4	8425822
Q3	5246770
Q1	3704398
Q2	3395899

Legend: Q1, Q3, Q1, Q2

Bar chart values:
- 8425822
- 5246770
- 3704398
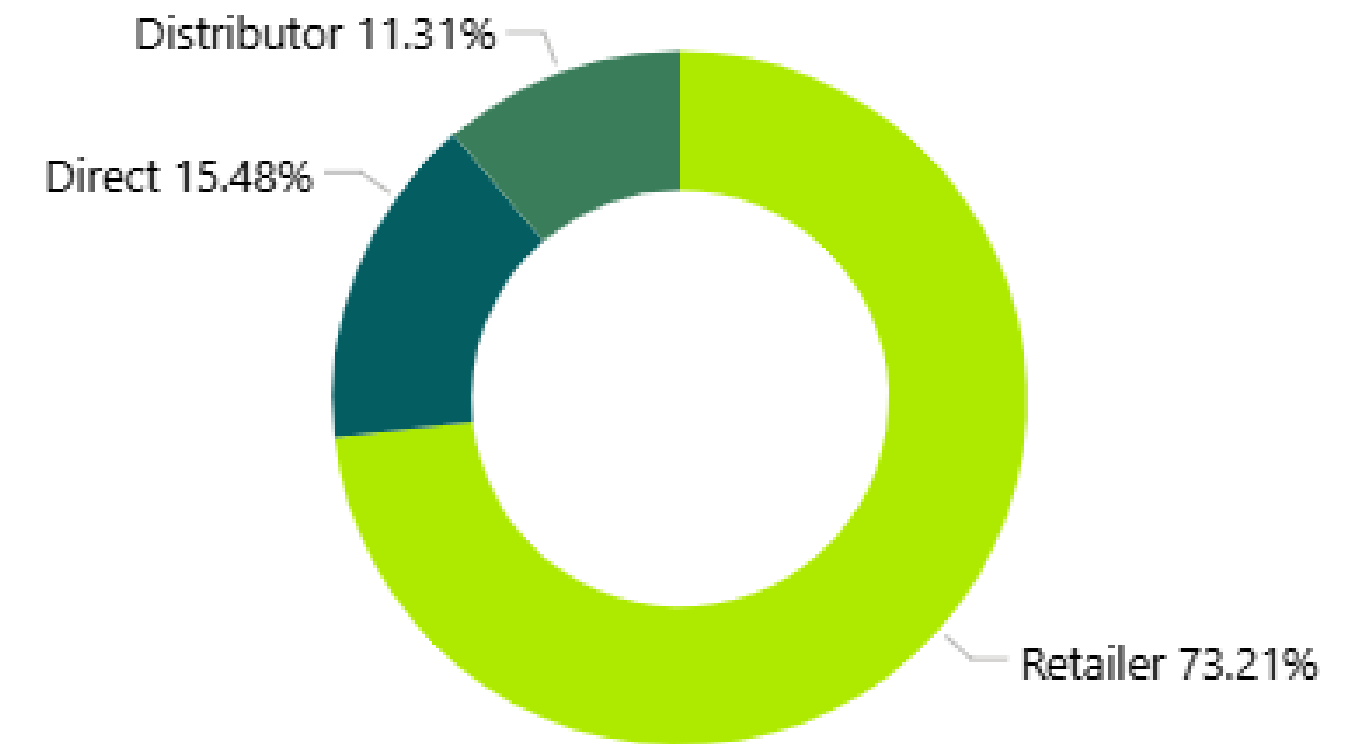- 3395899

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	73.22
Direct	406.69	15.48
Distributor	297.18	11.31

Distributor 11.31%

Direct 15.48%

Retailer 73.21%

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	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

Left section (N & S)

701373	688003	676245
1	2	3
A6720160103	A6818160202	A6819160203
AQ Pen Drive 2 IN 1	AQ Pen Drive DRC	AQ Pen Drive DRC
Premium	Plus	Premium

N & S

Middle section

P & A

Standard 2	Standard 1	Plus 2
AQ Gamers Ms	AQ Maxima Ms	AQ Maxima Ms

428498	419865	419471
1	2	3
A2319150302	A2520150501	A2520150504

Right section (PC)

17434	17280	17275
1	2	3
A4218110202	A4319110306	A4218110208
AQ Digit	AQ Velocity	AQ Digit
Standard Blue	Plus Red	Premium Misty Green

PC