

SQL PROJECT

CONSUMER GOODS INSIGHTS



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THE CASE

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

To solve the problem, we need to:

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

THE TABLES

Table:dim_product

Columns:

product_code	varchar(45)
division	varchar(45)
segment	varchar(45)
category	varchar(45)
product	varchar(200)
variant	varchar(45)

Table:dim_customer

Columns:

customer_code	int UN
customer	varchar(150)
platform	varchar(45)
channel	varchar(45)
market	varchar(45)
sub_zone	varchar(45)
region	varchar(45)

Table:fact_gross_price

Columns:

product_code	varchar(45)
fiscal_year	year
gross_price	decimal(15,4) UN

Table:fact_pre_invoice_deductions

Columns:

customer_code	int UN
fiscal_year	year
pre_invoice_discount_pct	decimal(5,4)

Table:fact_manufacturing_cost

Columns:

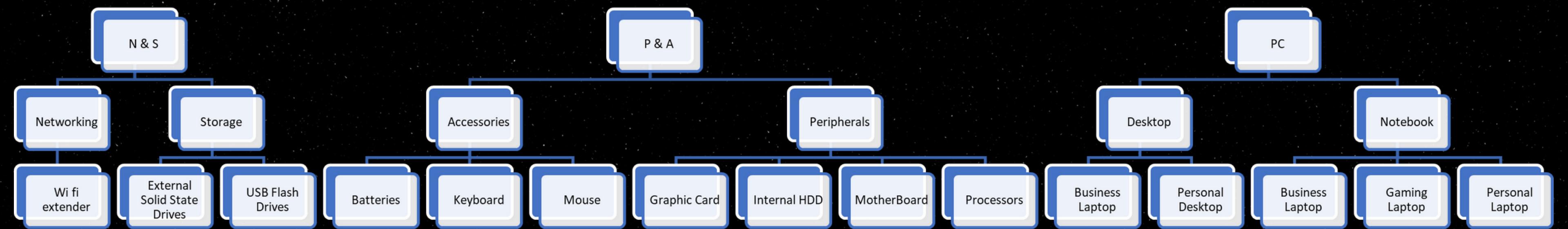
product_code	varchar(45)
cost_year	year
manufacturing_cost	decimal(15,4) UN

Table:fact_sales_monthly

Columns:

date	date
product_code	varchar(45)
customer_code	int UN
sold_quantity	int UN
fiscal_year	year

THE PRODUCTS





TASK 1

REQUEST

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

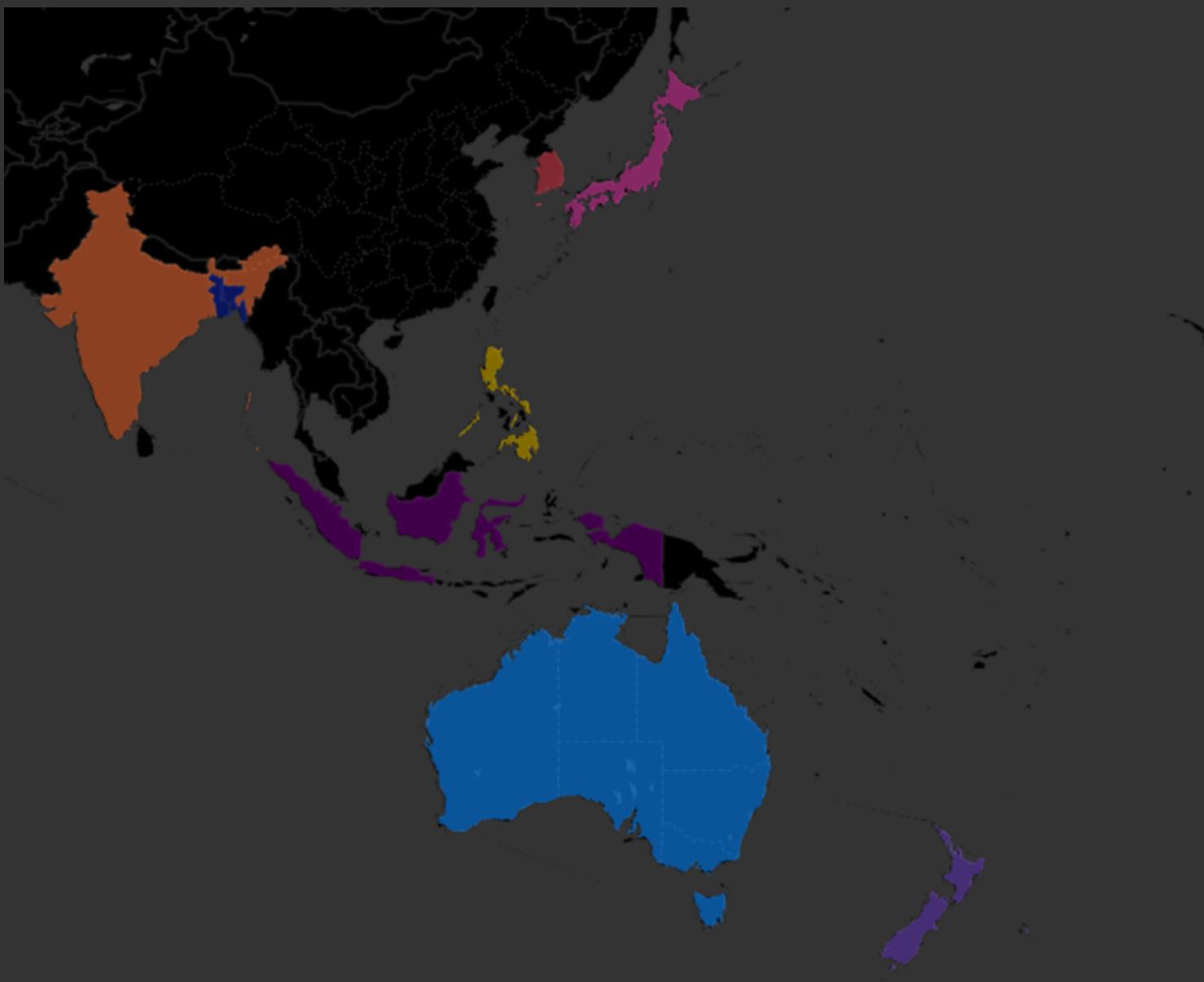
OUTPUT

market
India
Indonesia
Japan
Philippines
South Korea
Australia
Newzealand
Bangladesh

TASK 1

VISUALIZATION

There are **8 markets** of Atliq Exclusive in the Asia Pacific Region





TASK 2

REQUEST

What is the percentage of unique product increase in 2021 vs. 2020? The final output contains these fields:

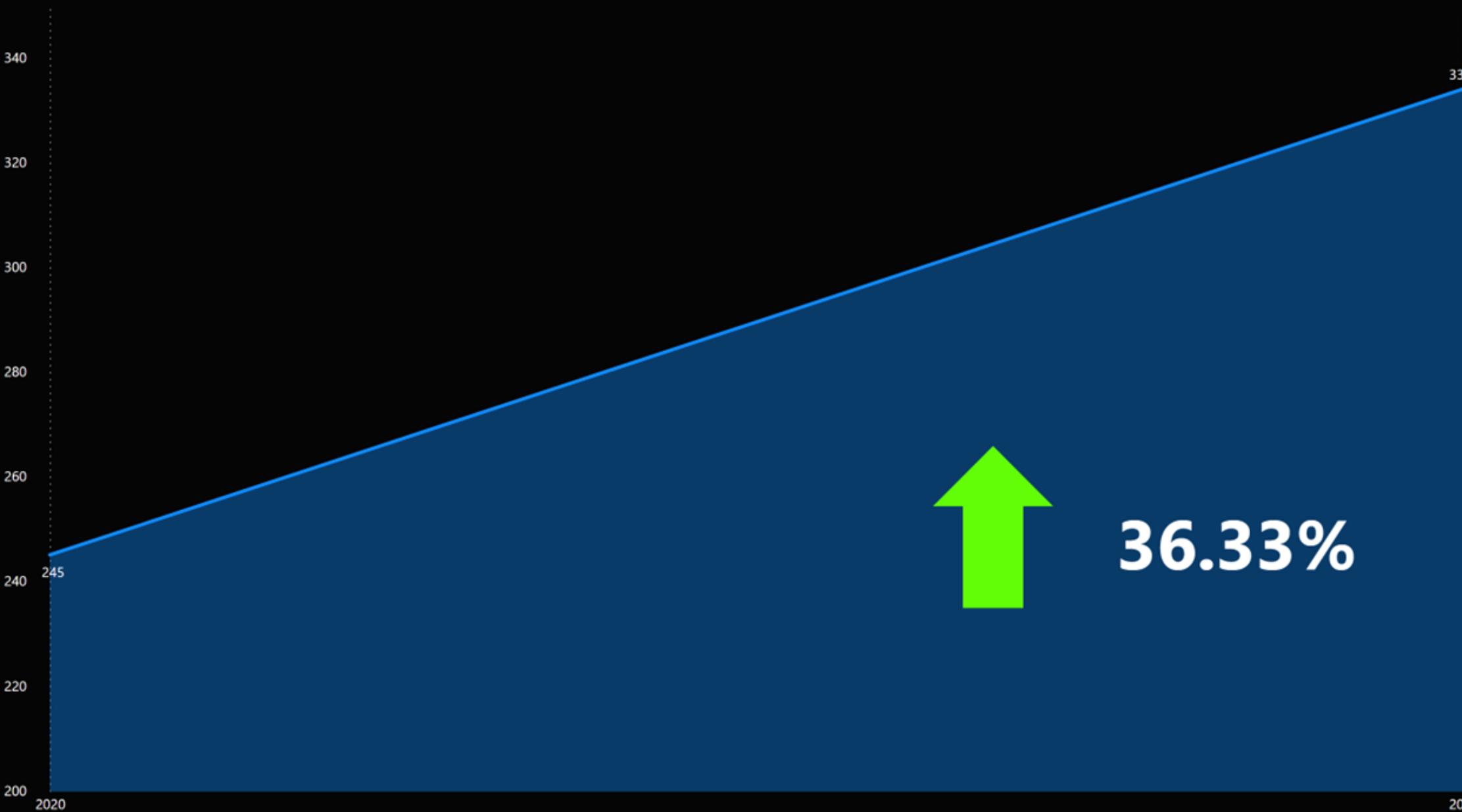
unique_products_2020
unique_products_2021
percentage_chg

OUTPUT

unique_products_2020	unique_products_2021	percentage_change
245	334	36.33

TASK 2

VISUALIZATION



Our product
increased by 36.33%
in 2021 than the
last year

TASK 3

REQUEST

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:

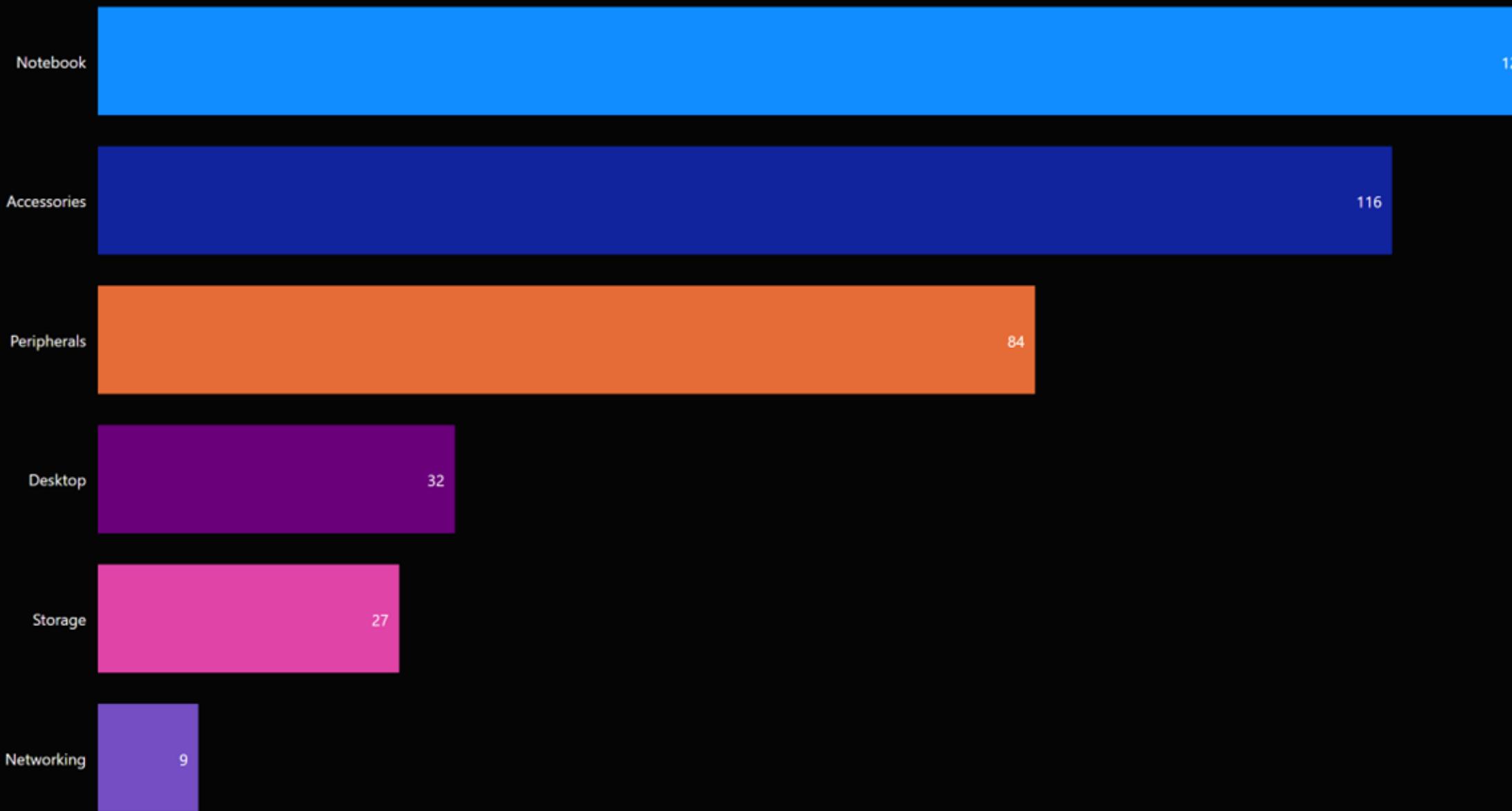
segment
product_count

OUTPUT

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

TASK 3

VISUALIZATION



The **notebook** has the highest number of products, then the **networking** is the lowest one.

There is a high difference between notebooks, accessories, and peripherals with the other 3 segments.

TASK 4

REQUEST

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

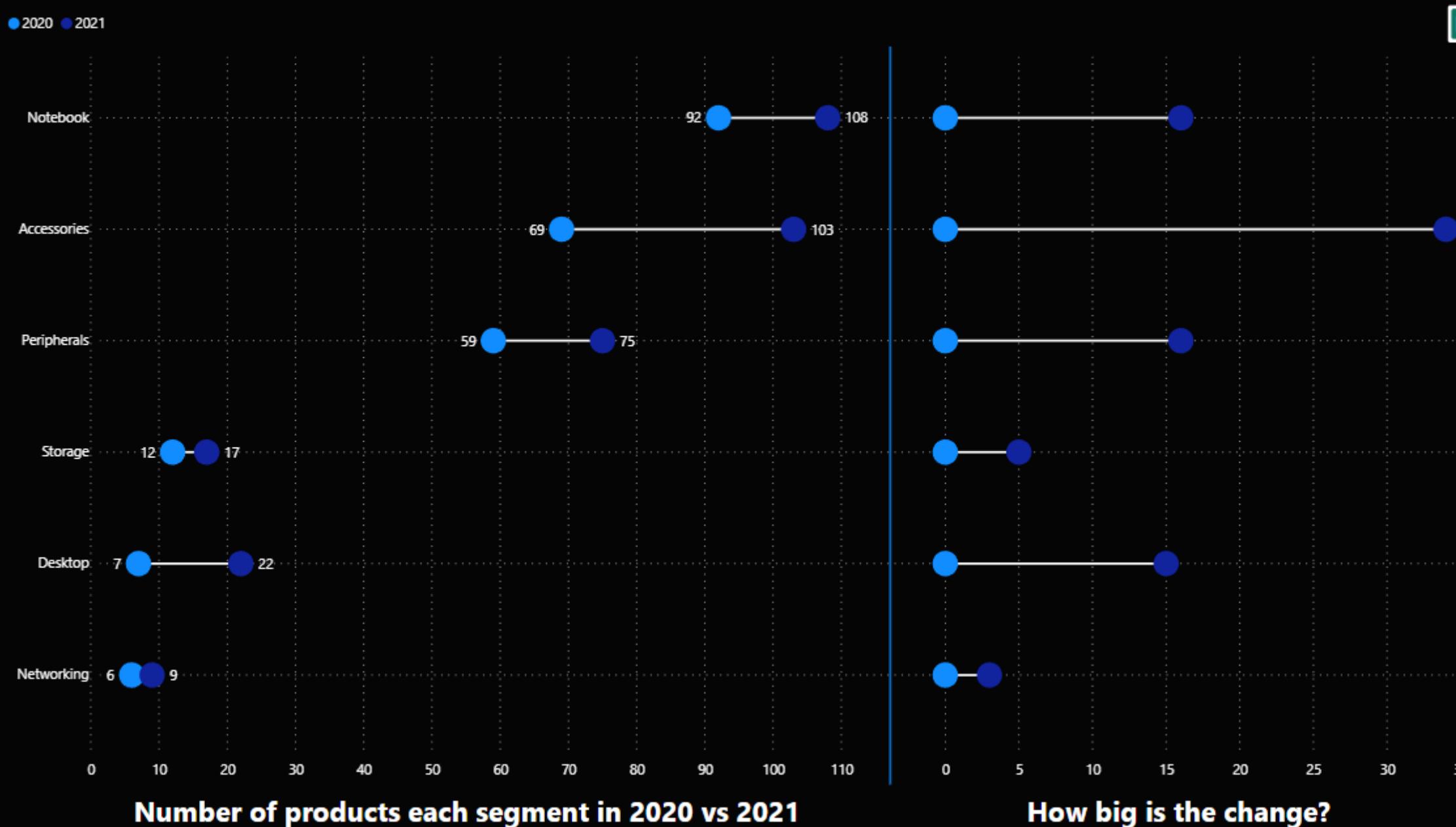
segment
product_count_2020
product_count_2021
difference

OUTPUT

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

TASK 4

VISUALIZATION



We have **89 new products** for all segments, and **accessories have 34 newcomers**, which is the highest one.

TASK 5

REQUEST

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

TASK 5

VISUALIZATION

240.54

A6120110206

product_code

AQ HOME Allin1 Gen 2

product

0.89

A2118150101

product_code

AQ Master wired x1 Ms

product

The highest manufacture cost is **\$240.54 which is a personal desktop**, then the lowest one is **\$0.89 which is a mouse**

TASK 6

REQUEST

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

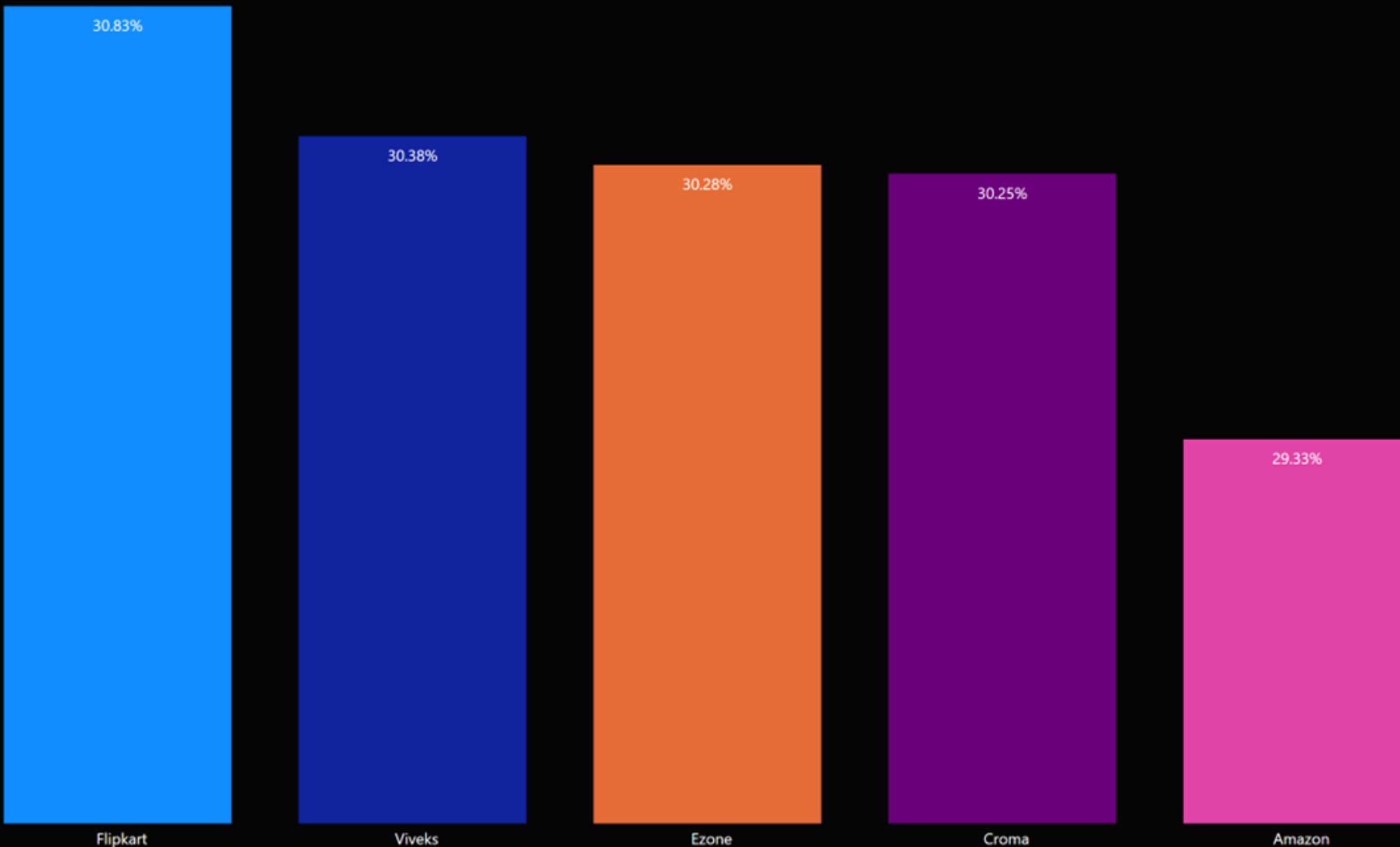
average_discount_percentage

OUTPUT

customer_code	customer	average_discount_percentage
90002009	Flipkart	0.30830000
90002006	Viveks	0.30380000
90002003	Ezone	0.30280000
90002002	Croma	0.30250000
90002016	Amazon	0.29330000

TASK 6

VISUALIZATION



There is **little difference** in the average pre-invoice discount for the top 5 customers in the Indian market, the range between them is **29-30%**.

TASK 7

REQUEST

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

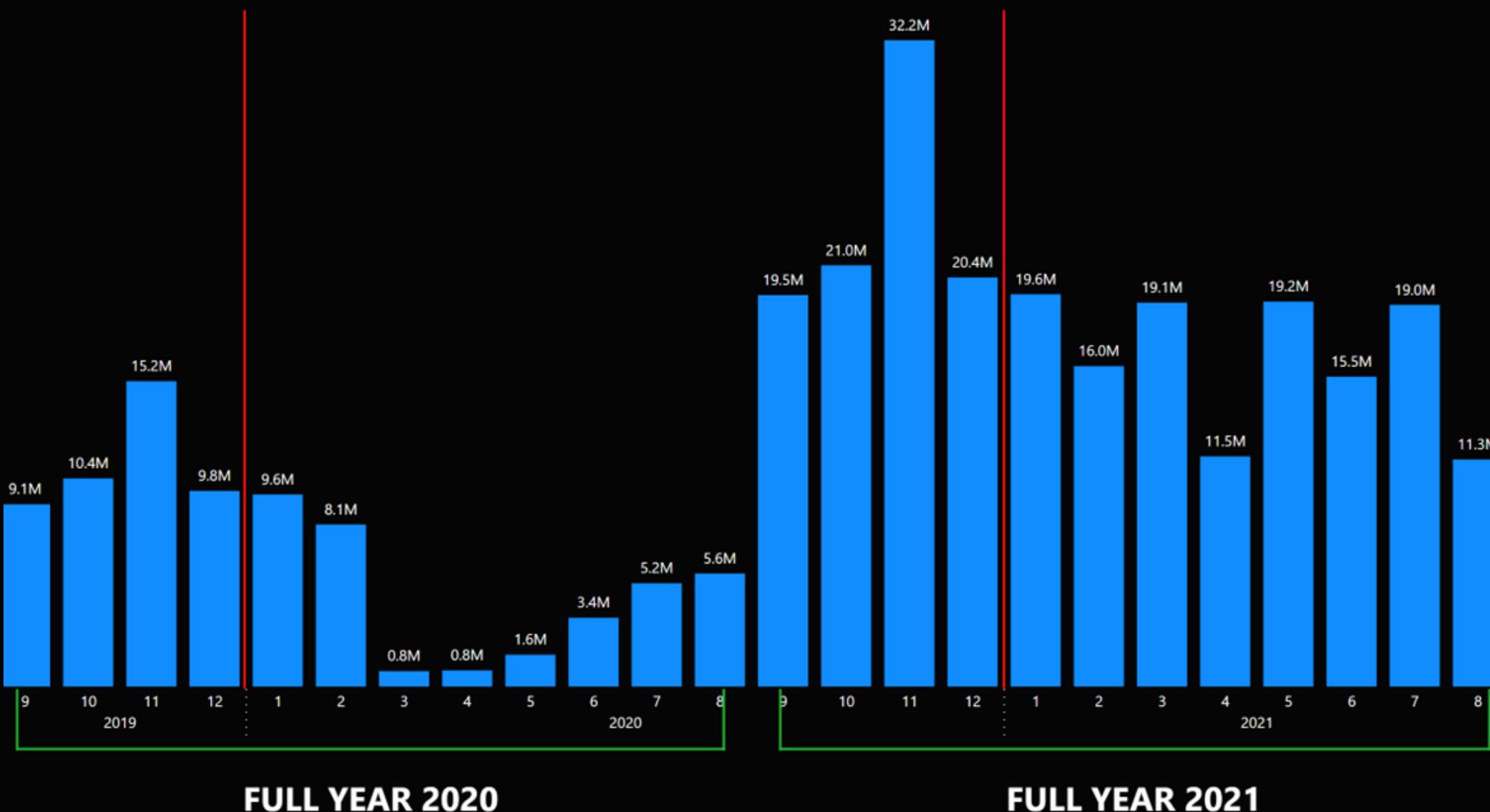
Gross sales Amount

OUTPUT

Year	Month	Gross_sales_Amount
2019	9	9092670.3392
2019	10	10378637.5961
2019	11	15231894.9669
2019	12	9755795.0577
2020	1	9584951.9393
2020	2	8083995.5479
2020	3	766976.4531
2020	4	800071.9543
2020	5	1586964.4768
2020	6	3429736.5712
2020	7	5151815.4020
2020	8	5638281.8287
2020	9	19530271.3028
2020	10	21016218.2095
2020	11	32247289.7946
2020	12	20409063.1769
2021	1	19570701.7102
2021	2	15986603.8883
2021	3	19149624.9239
2021	4	11483530.3032
2021	5	19204309.4095
2021	6	15457579.6626
2021	7	19044968.8164

TASK 7

VISUALIZATION



At the **beginning of 2020**, there is a **massively decreasing gross sales** of our company. But fortunately, **in September** our gross sales **bounce back even highest than before**.

TASK B

REQUEST

In which quarter of 2020, got the maximum total_sold_quantity? The final output contains these fields sorted by the total_sold_quantity:

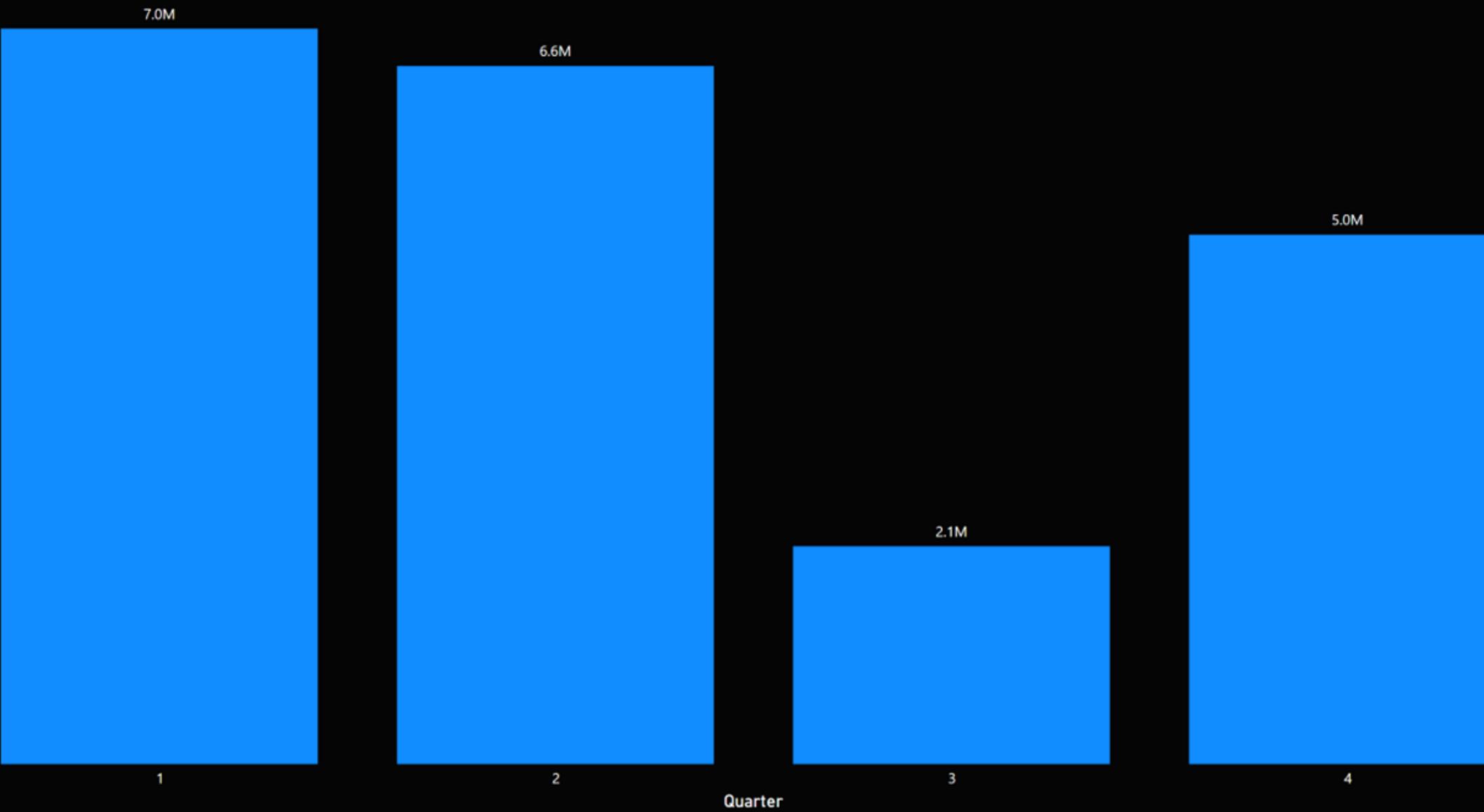
Quarter
total_sold_quantity

OUTPUT

Quarter	total_sold_quantity
Q1	7005619
Q2	6649642
Q3	2075087
Q4	5042541

TASK B

VISUALIZATION



In **Quarter 3** of the Full Year 2020, the **quantity sold decreased by more than half quantity sold last quarter**. This case is the **major factor of decreasing gross sales** that we know before.

TASK 9

REQUEST

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

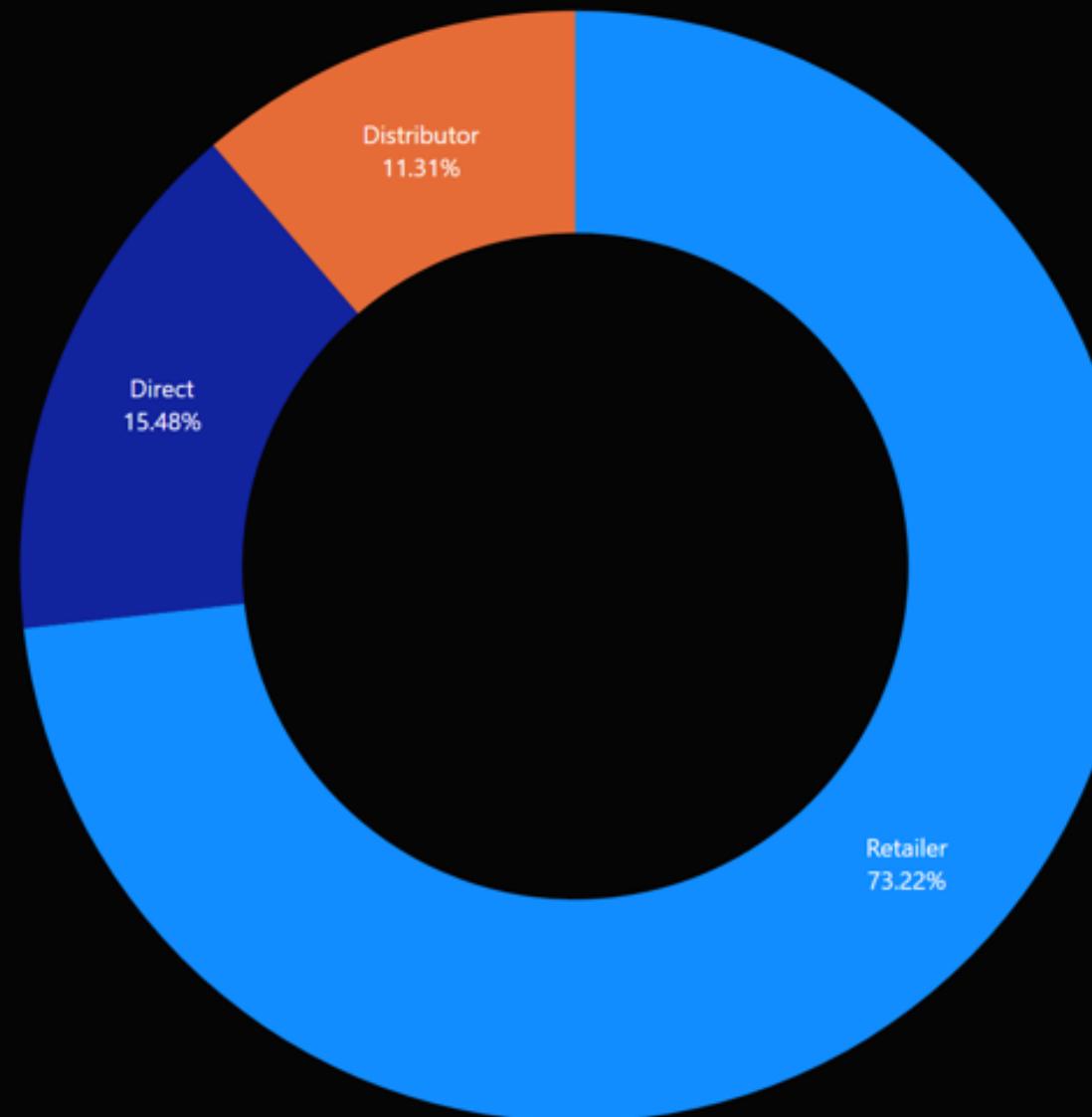
channel
gross_sales_mln
percentage

OUTPUT

channel	gross_sales_mln	percentage
Direct	406.69	15.47
Distributor	297.18	11.31
Retailer	1924.17	73.22

TASK 9

VISUALIZATION



Most of our gross sales came from the **retailer channel**, we need to improve our distributor and direct sales for strengthen our sales channel and take the risk to the minimum

TASK 10

REQUEST

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:

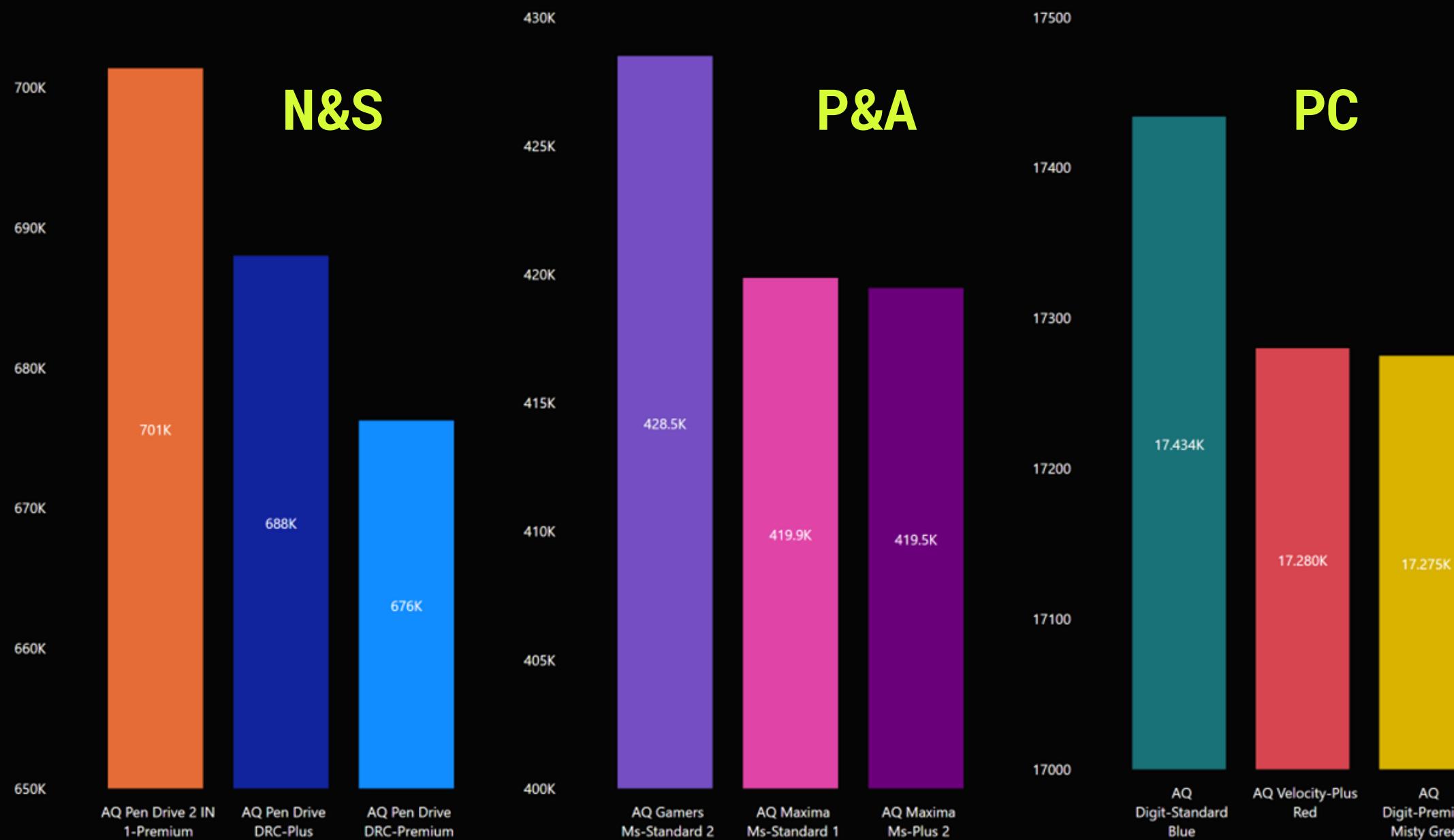
division
product_code
product
total_sold_quantity
rank_order

OUTPUT

division	product_code	product	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

TASK 10

VISUALIZATION



From top 3 products each division, we can know that **total quantity sold from N&S products bigger than P&A and PC products**, While PC products has the lowest quantity that sold, because their price was high.