

Ad – Hoc Insights

Consumer Goods

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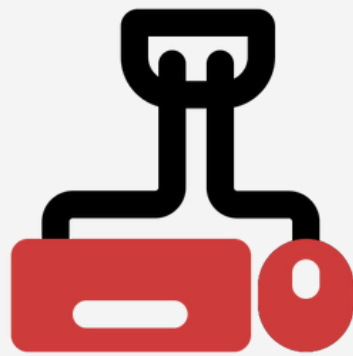
Company Overview

AtliQ Hardware is a leading provider of high-quality computer peripherals, including PCs, mouse, keyboards etc.

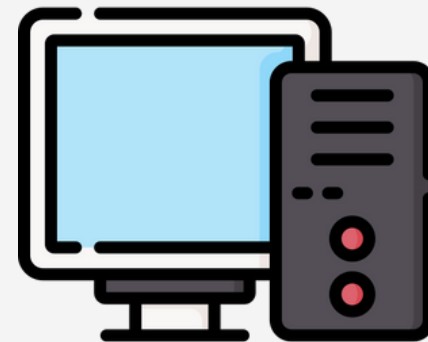
AtliQ Hardware is one of the leading computer hardware producers in India and across the globe.



Products



**Peripherals &
Accessories**



**Personal
Computers**



**Networking &
Storage Devices**

These are the Products that are being manufactured by AtliQ Hardwares

Problem Statement

- **AtliQ Hardware** management identified a gap in insights for making quick, data-driven decisions.
- Decisions are made to expand the **Data Analytics Team** with several junior Data Analysts.
- **Tony Sharma (*not Rohit Sharma)**, the Director of Data Analytics, is looking for candidates who possess both strong technical and soft skills.
- To assess these capabilities, Tony has decided to organize an **SQL Challenge**.

Dataset

dim_customer
customer_code INT
customer VARCHAR(150)
platform VARCHAR(45)
channel VARCHAR(45)
market VARCHAR(45)
sub_zone VARCHAR(45)
region VARCHAR(45)

fact_pre_invoice_deductions
customer_code INT
fiscal_year YEAR
pre_invoice_discount_pct DECIMAL(5,4)

fact_sales_monthly
date DATE
product_code VARCHAR(45)
customer_code INT
sold_quantity INT
fiscal_year YEAR

dim_product
product_code VARCHAR(45)
division VARCHAR(45)
segment VARCHAR(45)
category VARCHAR(45)
product VARCHAR(200)
variant VARCHAR(45)

fact_gross_price
product_code VARCHAR(45)
fiscal_year YEAR
gross_price DECIMAL(15,4)

fact_manufacturing_cost
product_code VARCHAR(45)
cost_year YEAR
manufacturing_cost DECIMAL(15,4)

Understanding The Dataset

• dim_customer	Contains Customer-Related Data
• dim_product	Contains Product-Related Data
• fact_gross_price	Contains Gross Price information for each product
• fact_manufacturing_cost	Contains the cost incurred in the production of each product
• fact_pre_invoice_deduction	Contains the pre-invoice deductions information for each product
• fact_sales_monthly	Contains monthly sales data for each product



Ad-Hoc

Requests
Inputs
and Their
Insights

Outputs



Ad-Hoc Request - 1

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

Input

```
SELECT DISTINCT market
FROM dim_customer
WHERE customer="Atliq Exclusive" AND
region="APAC"
ORDER BY market;
```

Output and Insights

	market
▶	India
	Indonesia
	Japan
	Philippines
	South Korea
	Australia
	Newzealand
	Banqladesh



Out of total 27 markets 'Atliq Exclusive' operates its business in 8 markets in APAC region.

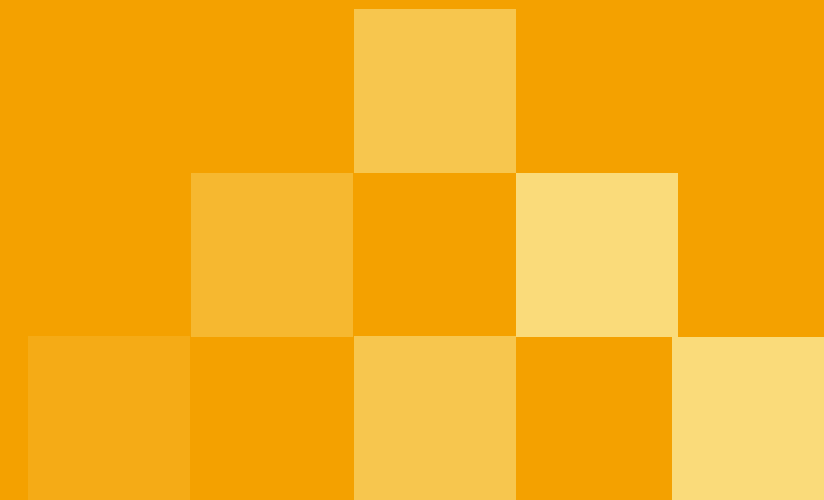
Input

```
SELECT
X.A AS unique_product_2020,
Y.B AS unique_products_2021,
ROUND((B-A)*100/A, 2) AS percentage_chg
FROM
(
  (SELECT COUNT(DISTINCT(product_code)) AS A
   FROM fact_sales_monthly
   WHERE fiscal_year = 2020) X,

  (SELECT COUNT(DISTINCT(product_code)) AS B
   FROM fact_sales_monthly
   WHERE fiscal_year = 2021) Y
)
```

Ad-Hoc Request - 2

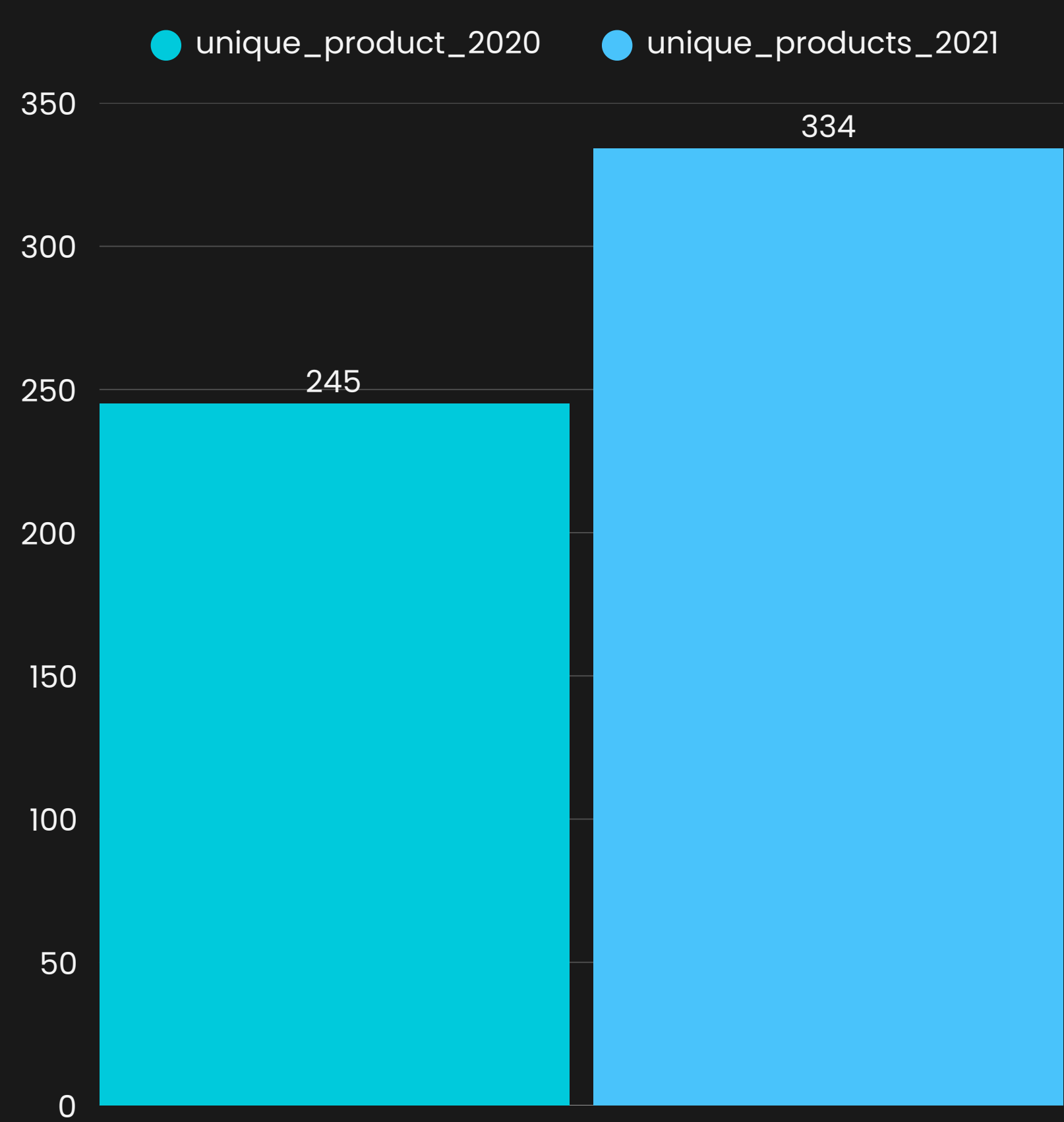
**What is the percentage of
unique product increase
in 2021 vs. 2020?**



Outputs and Insights

	unique_product_2020	unique_products_2021	percentage_chg
►	245	334	36.33

There was a **36% Increase** in Products that are recorded from 2020 – 2021 .



Ad-Hoc

Request – 3

Provide a report with all the **unique product counts** for each segment and sort them in descending order of product counts.

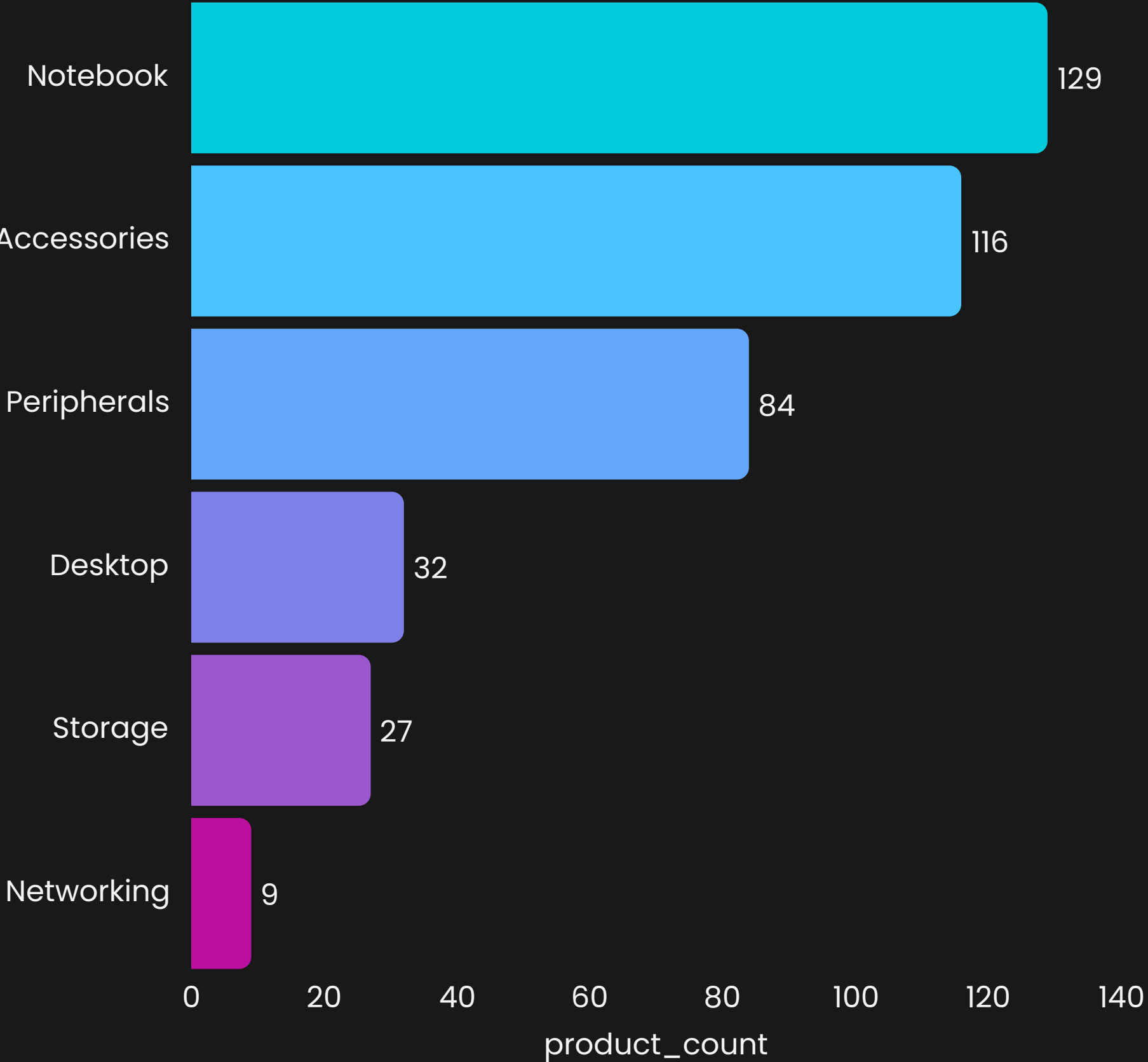
Input

```
SELECT  
segment,  
COUNT(DISTINCT(product_c  
ode)) AS product_count  
FROM dim_product  
GROUP BY segment  
ORDER BY product_count  
DESC ;
```

Outputs and Insights

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

Highest Product count of **Notebook** was recorded with **129 unique products**, followed by **Accessories** and **Peripherals** having **116 and 84 products** respectively.

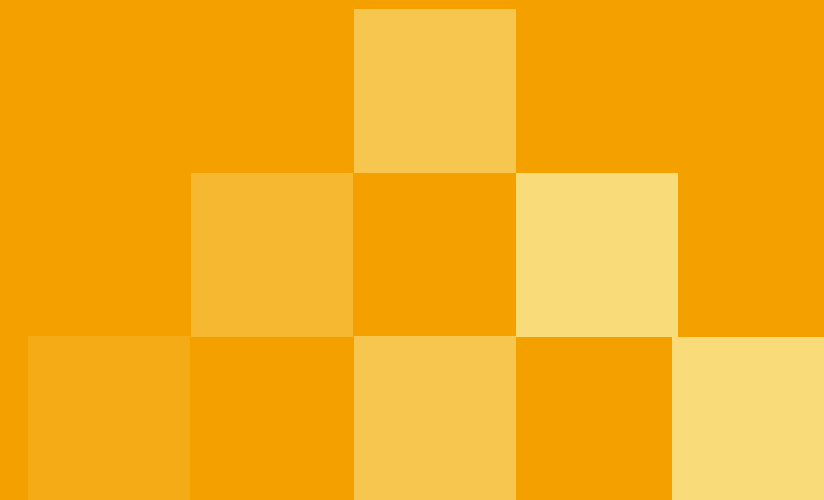


Input

```
WITH cte1 AS(
SELECT
segment,
COUNT(DISTINCT(CASE WHEN fiscal_year = 2020
THEN s.product_code END)) AS unique_products_2020,
COUNT(DISTINCT(CASE WHEN fiscal_year = 2021
THEN s.product_code END)) AS unique_products_2021
FROM dim_product p
JOIN fact_sales_monthly s
ON p.product_code = s.product_code
GROUP BY segment)
SELECT
segment,
unique_products_2020,
unique_products_2021,
unique_products_2021-unique_products_2020 AS difference
FROM cte1
ORDER BY difference desc;
```

Ad-Hoc Request - 4

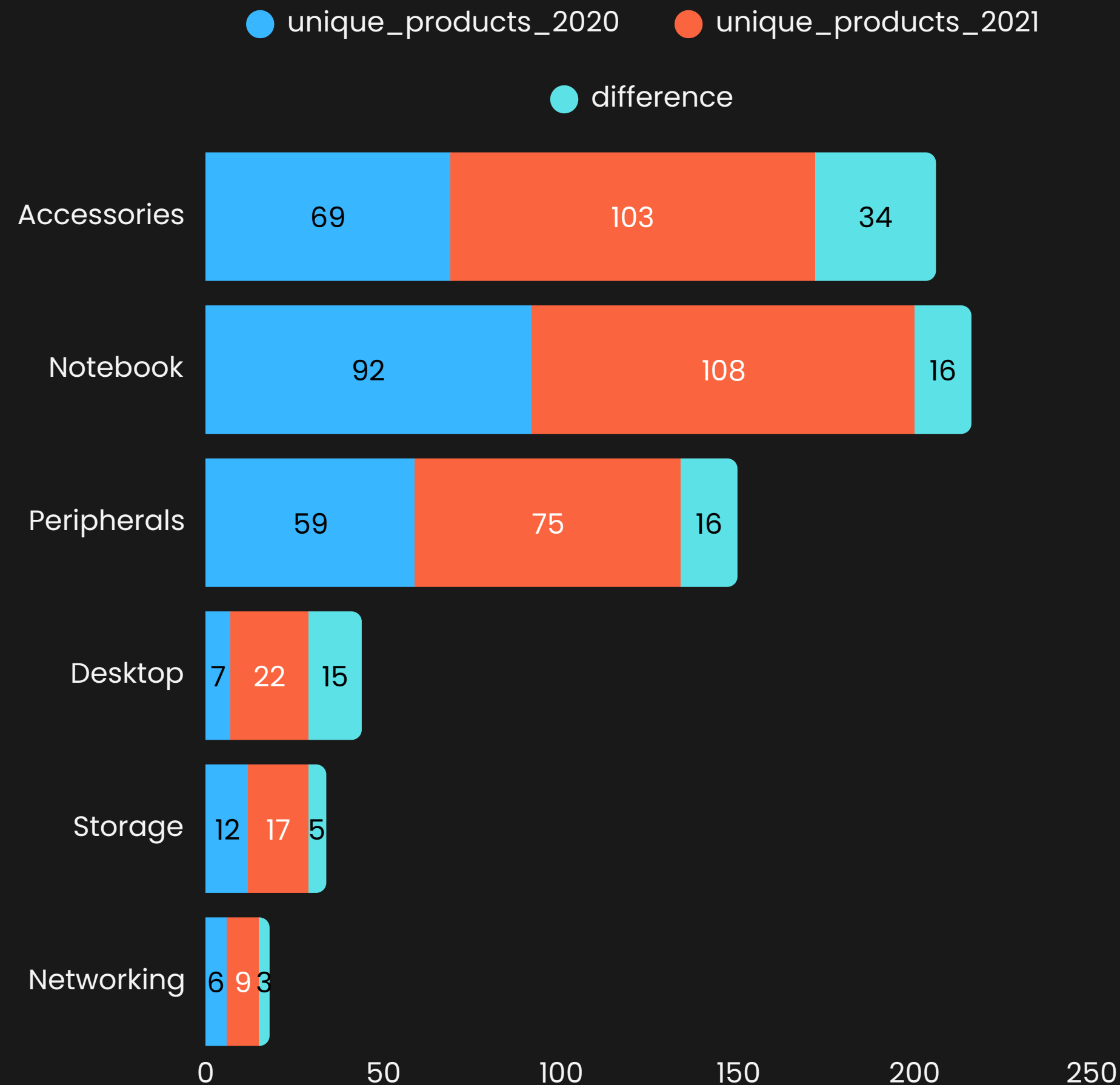
**Which segment had the
most increase in unique
products in 2021 vs 2020?**



Outputs and Insights

	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

The **Accessories** segment saw an increase of **34 products** from 2020–2021, followed by **Notebook and Peripherals**.



Ad-Hoc Request - 5

Get the products that have
the highest and lowest
manufacturing costs

Input

```
(SELECT
p.product_code,
p.product,
manufacturing_cost
FROM dim_product p
JOIN fact_manufacturing_cost m
ON p.product_code = m.product_code
ORDER BY manufacturing_cost DESC
LIMIT 1)
UNION
(SELECT
p.product_code,p.product, manufacturing_cost
FROM dim_product p
JOIN fact_manufacturing_cost m
ON p.product_code = m.product_code
ORDER BY manufacturing_cost ASC
LIMIT 1);
```

Outputs and Insights

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

The **AQ Home Allin1 Gen2** product has the highest manufacturing cost at Rs 240, while the **AQ Master Wired x1 MS** has the lowest manufacturing cost at Rs 1.



AQ Home Allin1 Gen 2

Highest manufacturing Cost Product

AQ Master wired x1 Ms

Lowest Manufacturing Cost Product



Input

SELECT

c.customer_code,c.customer,

ROUND(AVG(pre_invoice_discount_pct)*100,2)

AS discount_pct

FROM dim_customer c

JOIN fact_pre_invoice_deductions d

ON c.customer_code = d.customer_code

WHERE fiscal_year = 2021 **AND** market ="India"

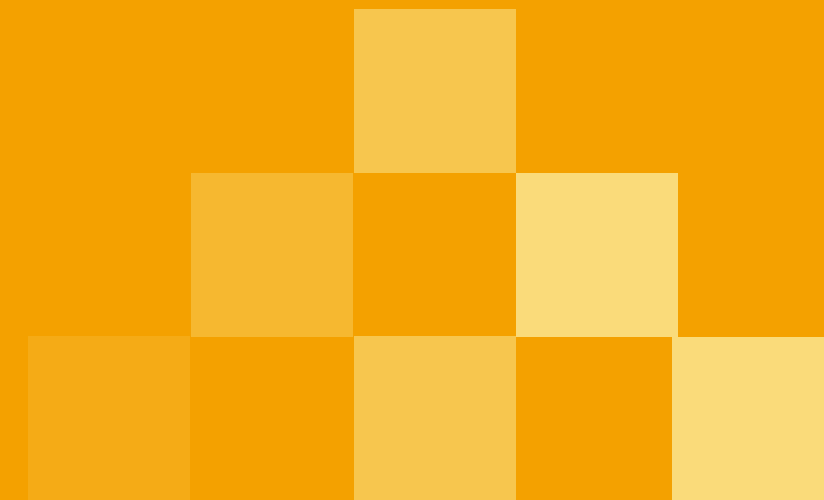
GROUP BY customer_code,customer

ORDER BY discount_pct **desc**

LIMIT 5;

Ad-Hoc Request - 6

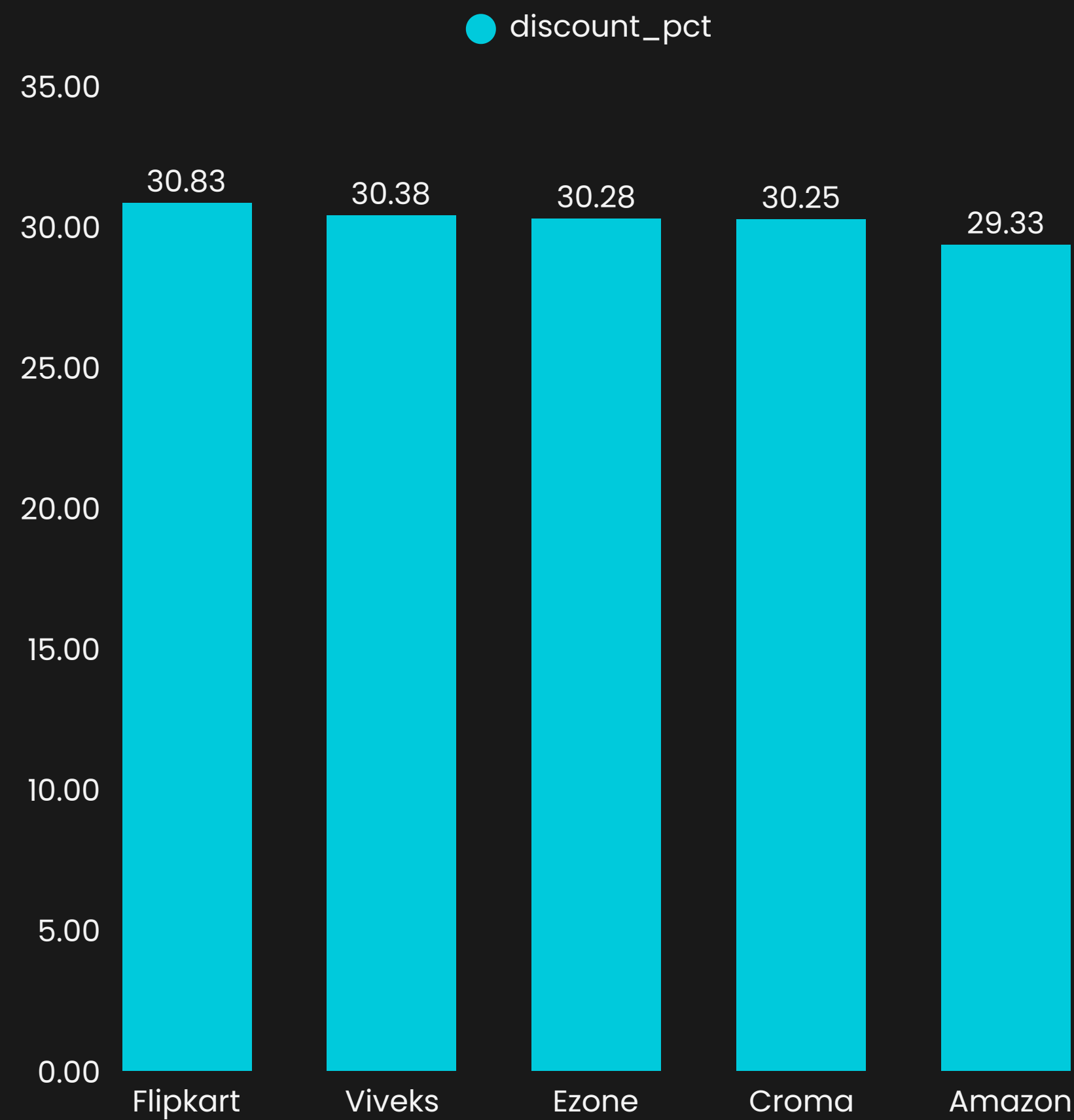
Generate a report which contains the top 5 customers who received an average high pre_invoice_discount_pct for the fiscal year 2021 and in the Indian market.



Outputs and Insights

	customer_code	customer	discount_pct
▶	90002009	Flipkart	30.83
	90002006	Viveks	30.38
	90002003	Ezone	30.28
	90002002	Croma	30.25
	90002016	Amazon	29.33

In the Indian market, the **top 5 customers** who received the **highest average discount percentages** were **Flipkart, Viveks, Ezone, Croma, and Amazon.**



Ad-Hoc Request - 7

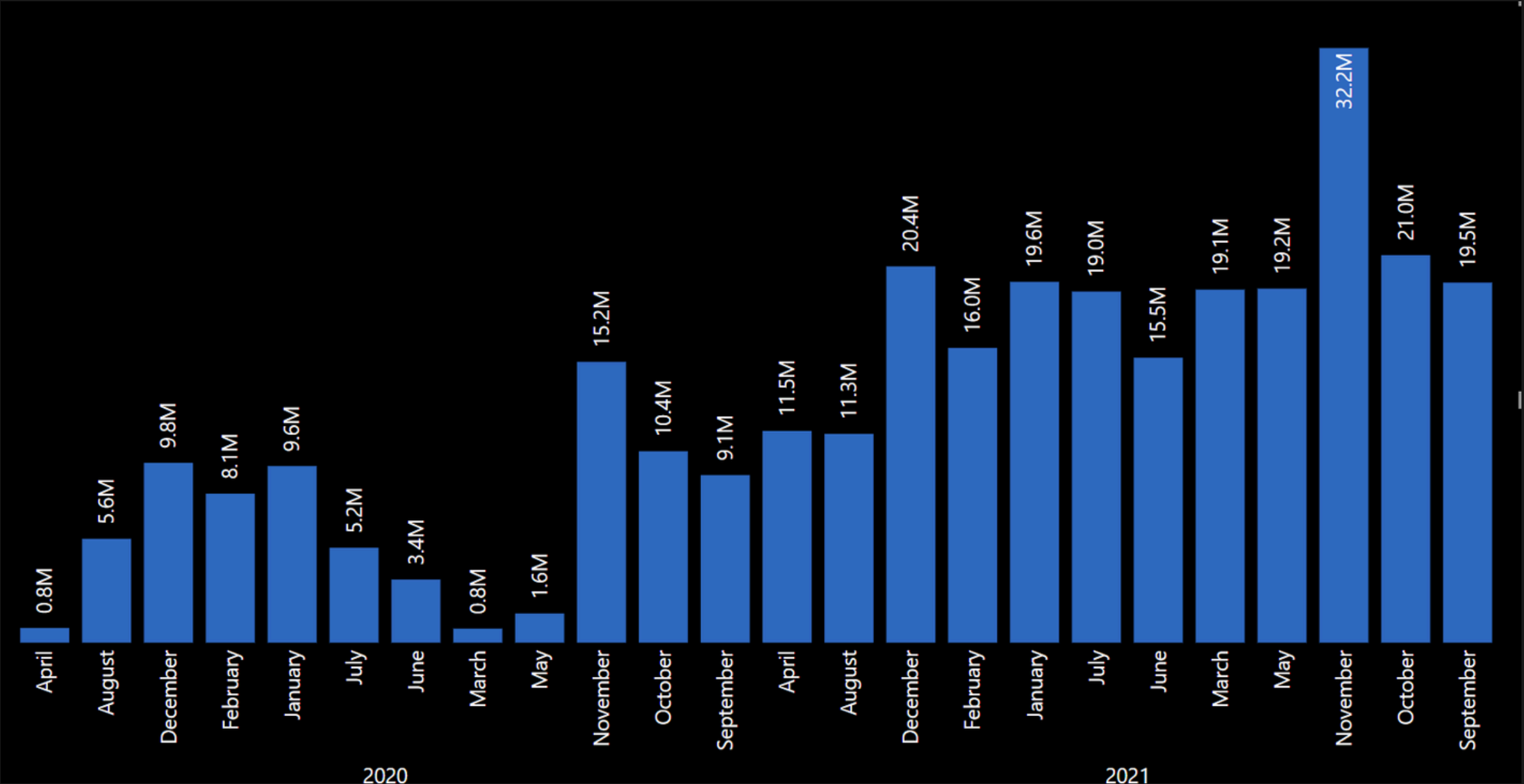
Get the complete report of the **Gross sales amount** for the customer "**Atliq Exclusive**" for each month . This analysis helps to get an idea of low and high-performing months and take strategic decisions.

Input

```
SELECT
DATE_FORMAT(date,'%Y-%m') AS Months,s.fiscal_year,
ROUND((SUM(gross_price*sold_quantity)/1000000),2)
as gross_sales_amount_mln
FROM dim_customer c
JOIN fact_sales_monthly s
ON c.customer_code = s.customer_code
JOIN fact_gross_price p
ON s.product_code = p.product_code
WHERE customer = "Atliq Exclusive"
GROUP BY s.fiscal_year,Months
ORDER BY s.fiscal_year;
```

Outputs and Insights

	Months	fiscal_year	gross_sales_amount_mln
►	2019-09	2020	9.09
	2019-10	2020	10.38
	2019-11	2020	15.23
	2019-12	2020	9.76
	2020-01	2020	9.58
	2020-02	2020	8.08
	2020-03	2020	0.77
	2020-04	2020	0.80
	2020-05	2020	1.59
	2020-06	2020	3.43
	2020-07	2020	5.15
	2020-08	2020	5.64
	2020-09	2021	19.53
	2020-10	2021	21.02
	2020-11	2021	32.25
	2020-12	2021	20.41
	2021-01	2021	19.57
	2021-02	2021	15.99
	2021-03	2021	19.15
	2021-04	2021	11.48
	2021-05	2021	19.20
	2021-06	2021	15.46
	2021-07	2021	19.04
	2021-08	2021	11.32



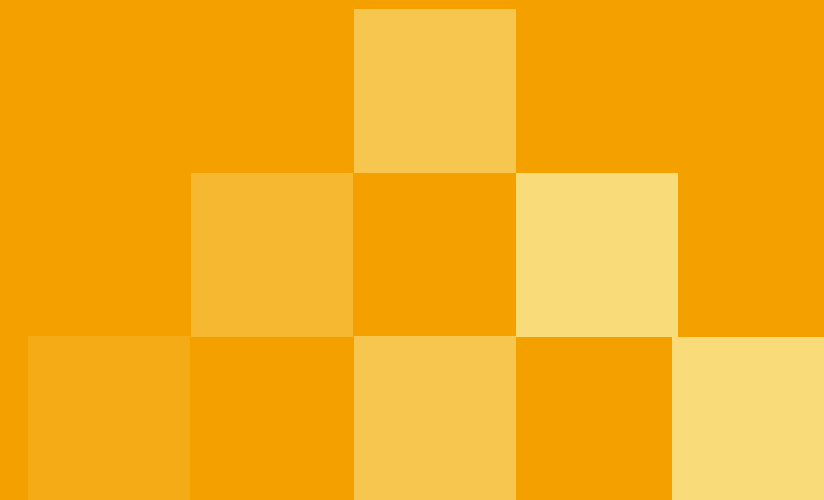
Gross sales showed a gradual increase from 2020–2021, but experienced a sharp decline starting in **December 2019**, reaching their lowest point in **March and April 2020**.

Input

```
SELECT
(CASE
WHEN MONTH(date) IN (9,10,11) THEN "Q1"
WHEN MONTH(date) IN (12,1,2) THEN "Q2"
WHEN MONTH(date) IN (3,4,5) THEN "Q3"
WHEN MONTH(date) IN (6,7,8) THEN "Q4"
END) AS "Quarter_result",
SUM(sold_quantity) AS sold_quantity
FROM fact_sales_monthly s
WHERE fiscal_year = 2020
GROUP BY Quarter_result
ORDER BY sold_quantity desc;
```

Ad-Hoc Request - 8

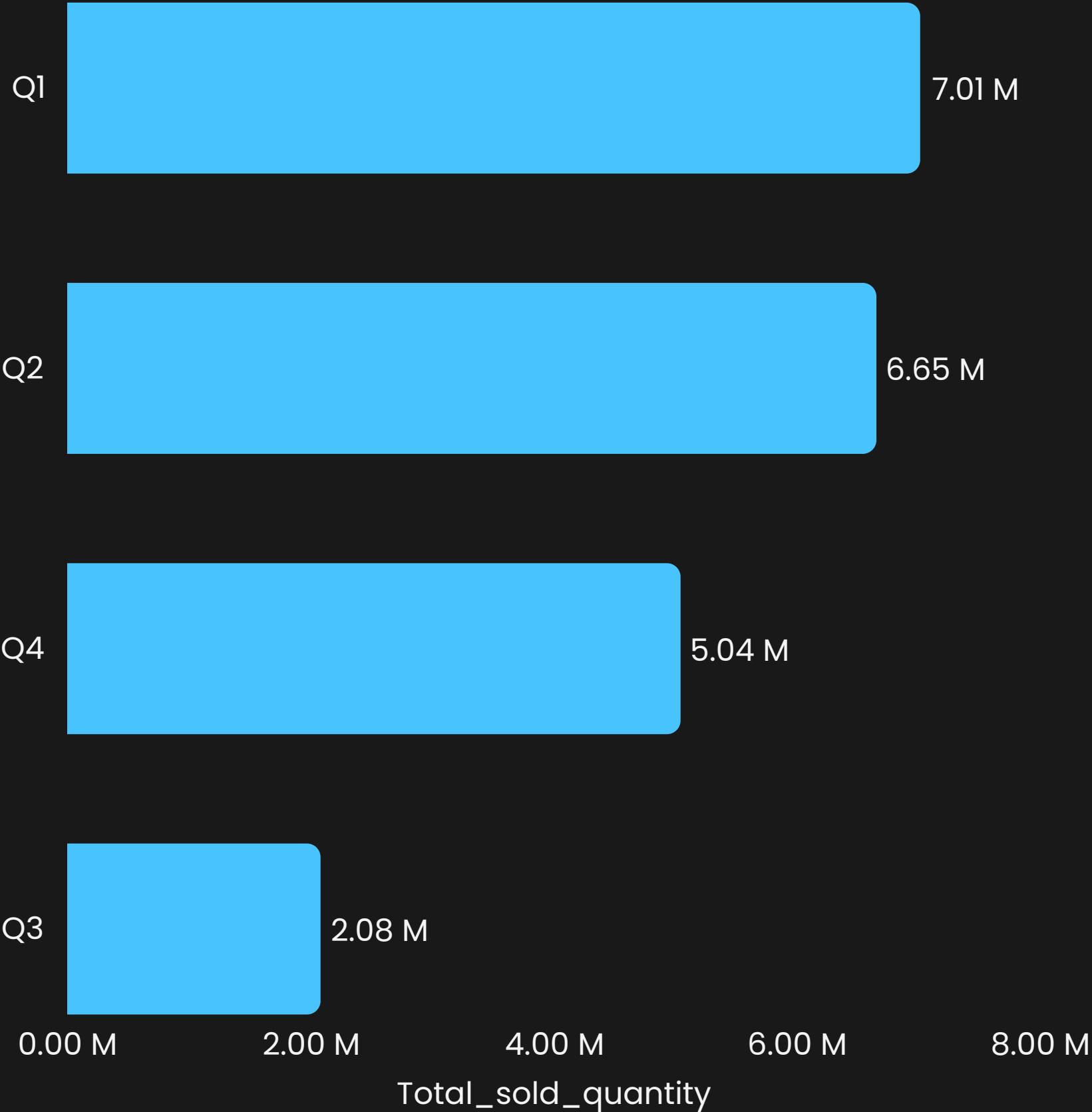
In which quarter of 2020,
got the **maximum**
total_sold_quantity?



Outputs and Insights

	Quarter_result	sold_quantity
▶	Q1	7005619
	Q2	6649642
	Q4	5042541
	Q3	2075087

In fiscal year 2020, the **highest quantity of products** was sold in **Quarter 1** compared to Quarters 2, 3, and 4.



Ad-Hoc Request – 9

Which channel helped to
bring more **gross sales in
the fiscal year 2021** and the
percentage of contribution

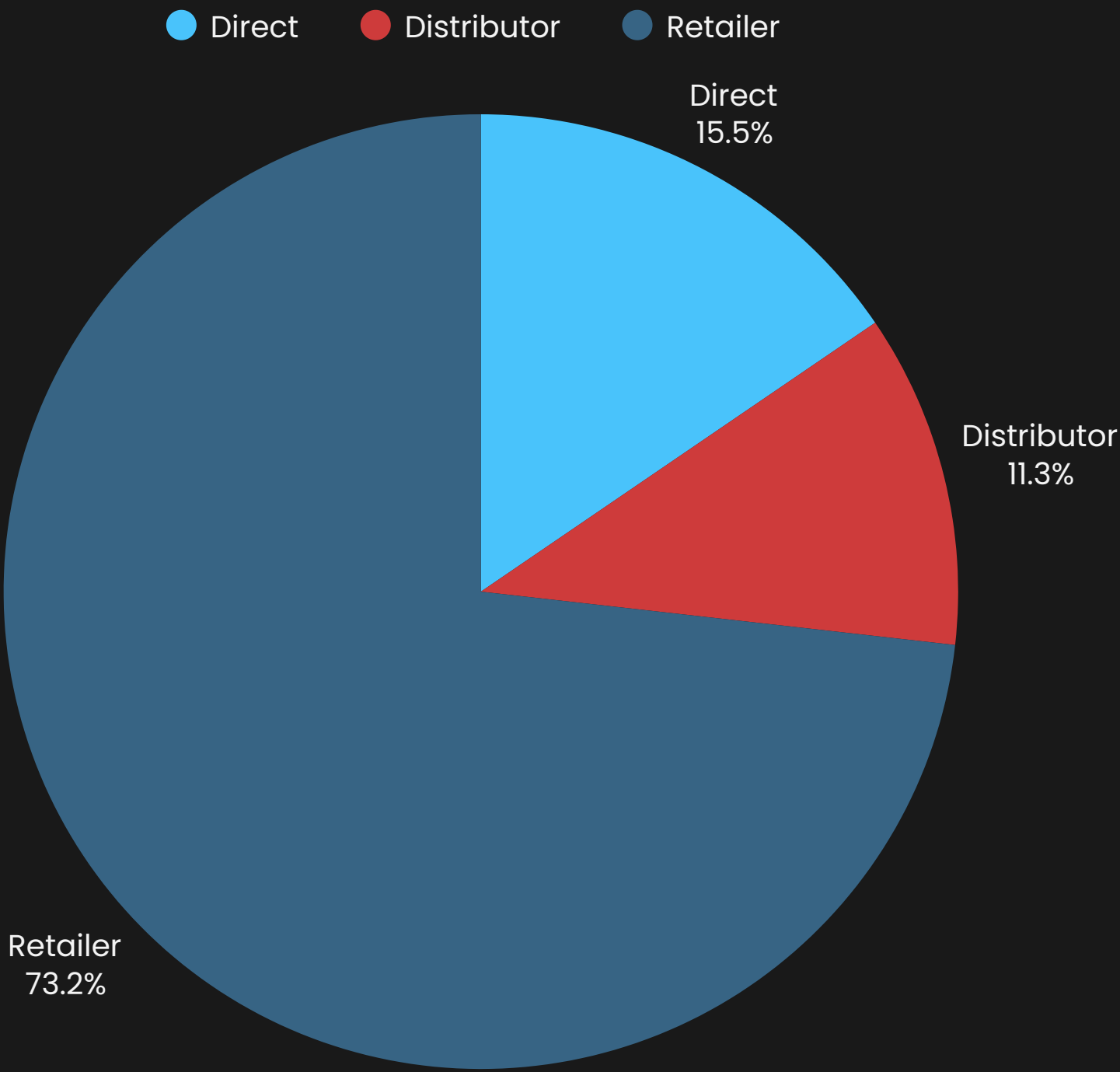
Input

```
WITH cte1 AS (  
SELECT c.channel,  
round(sum(sold_quantity*gross_price)/1000000,2) as  
gross_sales_mln  
FROM dim_customer c  
JOIN fact_sales_monthly s  
ON c.customer_code = s.customer_code  
JOIN fact_gross_price g  
ON s.product_code = g.product_code  
WHERE s.fiscal_year = 2021  
GROUP BY c.channel)  
SELECT channel, gross_sales_mln,  
round(gross_sales_mln* 100/  
(SELECT sum(gross_sales_mln) FROM cte1),2) AS  
pct_contribution  
FROM cte1  
GROUP BY channel;
```

Outputs and Insights

	channel	gross_sales_mln	pct_contribution
▶	Direct	406.69	15.48
	Distributor	297.18	11.31
	Retailer	1924.17	73.22

The majority of AtliQ’s sales come from **Retailers**, accounting for a substantial **73.22% of Total gross sales**

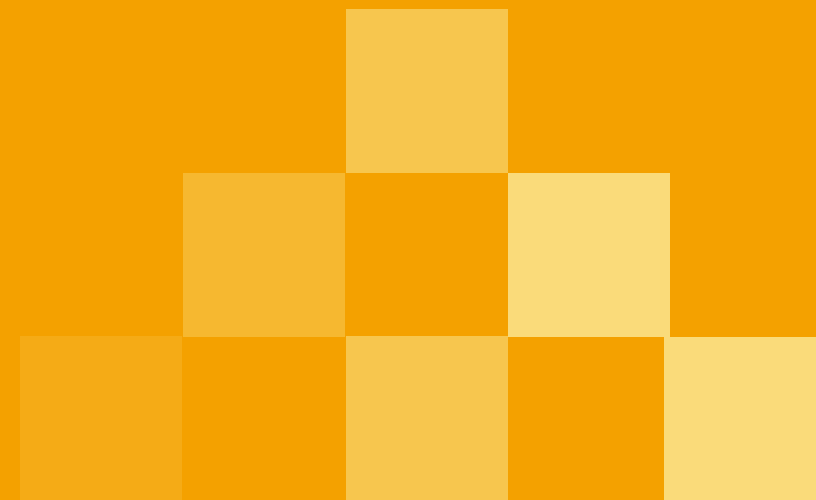


Input

```
WITH cte1 AS (  
  SELECT  
    c.product_code, division, product,  
    sum(sold_quantity) AS total_sold_quantity,  
    DENSE_RANK() OVER (PARTITION BY division ORDER  
      BY sum(sold_quantity) DESC) AS rank_order  
  FROM dim_product c  
  JOIN fact_sales_monthly s  
  ON c.product_code = s.product_code  
  WHERE fiscal_year = 2021  
  GROUP BY division, c.product_code, product)  
SELECT * FROM cte1  
WHERE rank_order < 4;
```

Ad-Hoc Request – 10

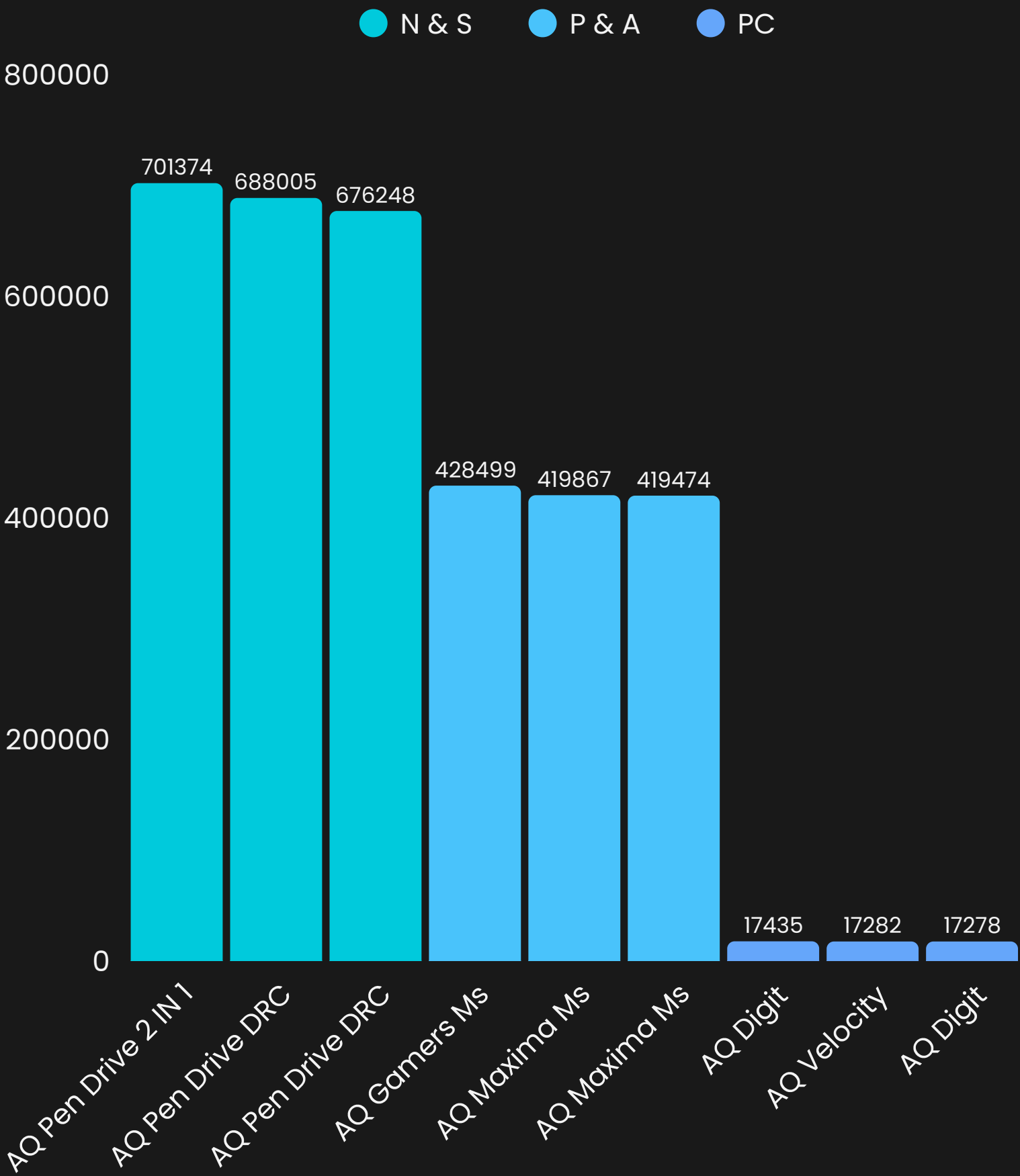
Get the **Top 3 products** in
each division that have a
high total_sold_quantity
in the **fiscal_year 2021**?



Outputs and Insights

	product_code	division	product	total_sold_quantity	rank_order
▶	A6720160103	N & S	AQ Pen Drive 2 IN 1	701373	1
	A6818160202	N & S	AQ Pen Drive DRC	688003	2
	A6819160203	N & S	AQ Pen Drive DRC	676245	3
	A2319150302	P & A	AQ Gamers Ms	428498	1
	A2520150501	P & A	AQ Maxima Ms	419865	2
	A2520150504	P & A	AQ Maxima Ms	419471	3
	A4218110202	PC	AQ Digiit	17434	1
	A4319110306	PC	AQ Velocity	17280	2
	A4218110208	PC	AQ Digiit	17275	3

In the N&S division, **two AQ Pen drives** ranked among the top 3 products. In the P&A division, **AQ Maxima MS products** were in the top 3, while in the PC division, all bestsellers were **personal laptops**.



Recommendations

- **AtliQ Hardwares** should concentrate on expanding its presence in markets like **Bangladesh, New Zealand, and Japan** within the **APAC region** to boost business growth in these areas.
- Regarding product segments, AtliQ Hardwares should develop strategies to enhance sales of **desktops, storage, and networking products**.
- AtliQ Hardwares must consider and prepare strategies to address any **unforeseen situations** that may arise.
- **Customer feedback** is essential for improvement and plays a crucial role in scaling up the business.

Get In Touch



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