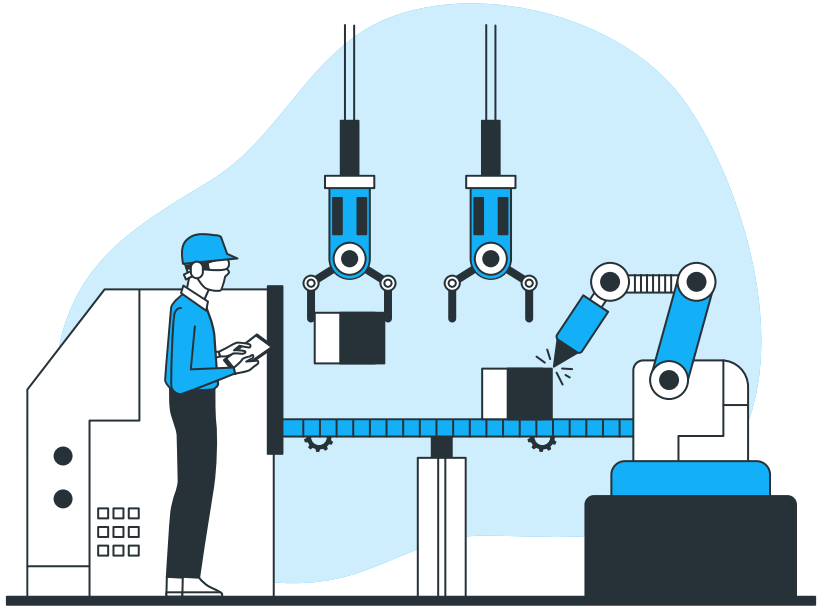


ATLIQ HARDWARES

Codebasics Resume Project Challenge

PRESENTED BY

SRINATH KV

Presentation Video Link: https://drive.google.com/file/d/1YmKrPjJK7Mub49OHBlxHRaAafGksOmH4/view?usp=sharing

AGENDA

- Introduction To Resume Project Challenge
- Overview Of Atliq Markets, Products And Customers
- Ad Hoc Requests & Insights

Domain
Consumer Goods

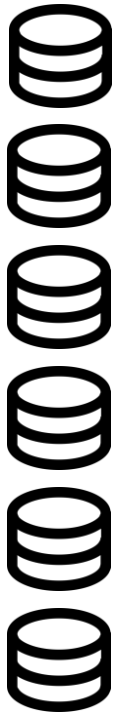
Atliq hardware (Imaginary Company) is one of the leading computer hardware producers in India and well expanded in other countries too.

Atliq's management noticed that they do not get enough insights to make quick and smart data – informed decision. They want to expand their data analytics team by conducting a SQL challenge to pick a data analyst who is good in both technical and soft skills.

Function
Executive Management

By getting into the challenge I have to solve 10 Ad – Hoc – Requests to give insights to top level executives which will help them to make quick and smart decision.

DATA SETS



- Fact sales monthly
- Fact gross price
- Fact pre invoice deductions
- Fact manufacturing cost
- Dim customer
- Dim product

AGENDA

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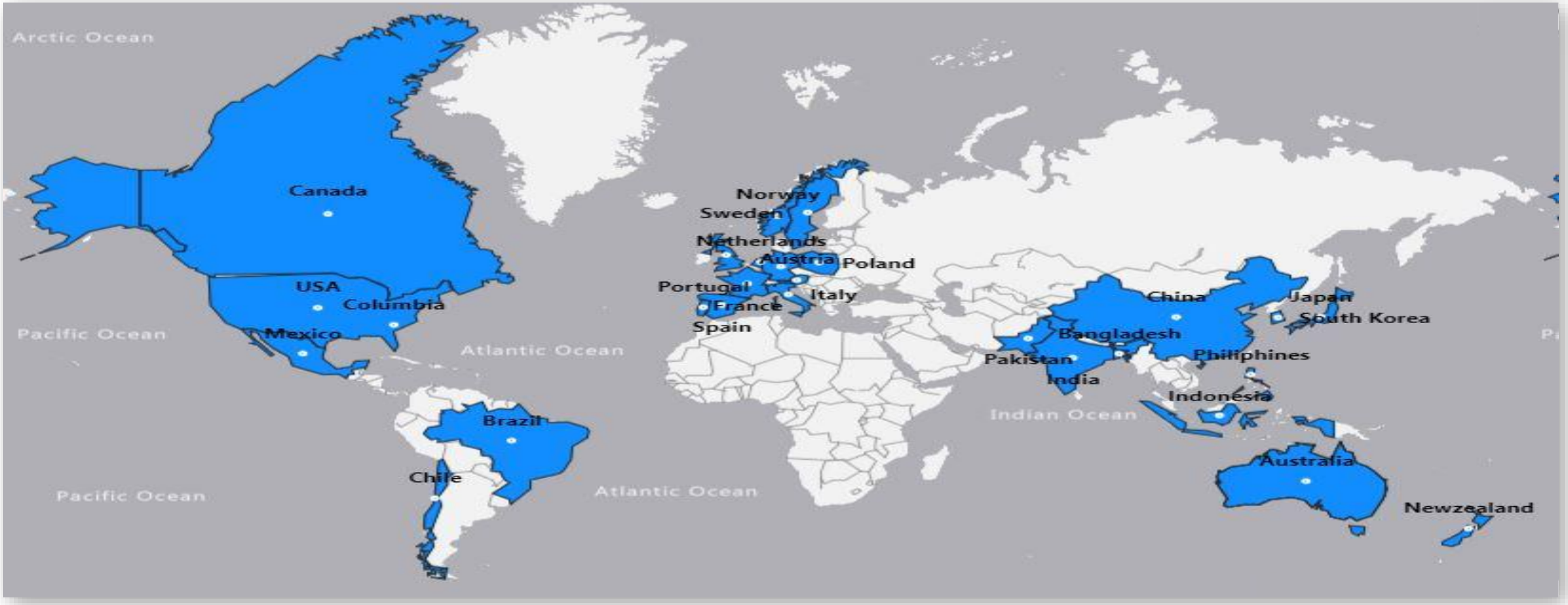
REGION

APAC | EU | NA | LATAM

SUB ZONE

India | ROA | ANZ | NE | SE | NA | LATAM

MARKET



DIVISION

P & A	N & S	Pc

SEGMENT

Peripherals & Accessories	Networking & Storage	Notebook & Desktop

CATEGORY

Peripherals	**Networking**	**Notebook**
Internal HDD Graphic Card Processors Mother Board	Wi fi extender	Personal Laptop Business Laptop Gaming Laptop
Accessories	**Storage**	**Desktop**
Mouse Keyboard Batteries	External Solid State Drives USB Flash Drives	Business Laptop Personal Desktop

PRODUCT

VARIANT

CUSTOMERS

Direct

Atliq Exclusive

Atliq e Store

Direct sales refer to sales made directly to consumers through a company's website or other direct means

Retailer

Croma

Flipkart

Retailers refer to physical or online stores that sell products to consumers

Distributor

Neptune , Sage

distributors refer to intermediaries or middlemen between the manufacturer and retailer or end consumers

CONSUMERS

AGENDA

- Introduction To Resume Project Challenge
- Overview Of Atliq Markets, Products And Customers
- Ad Hoc Requests & Insights

1

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

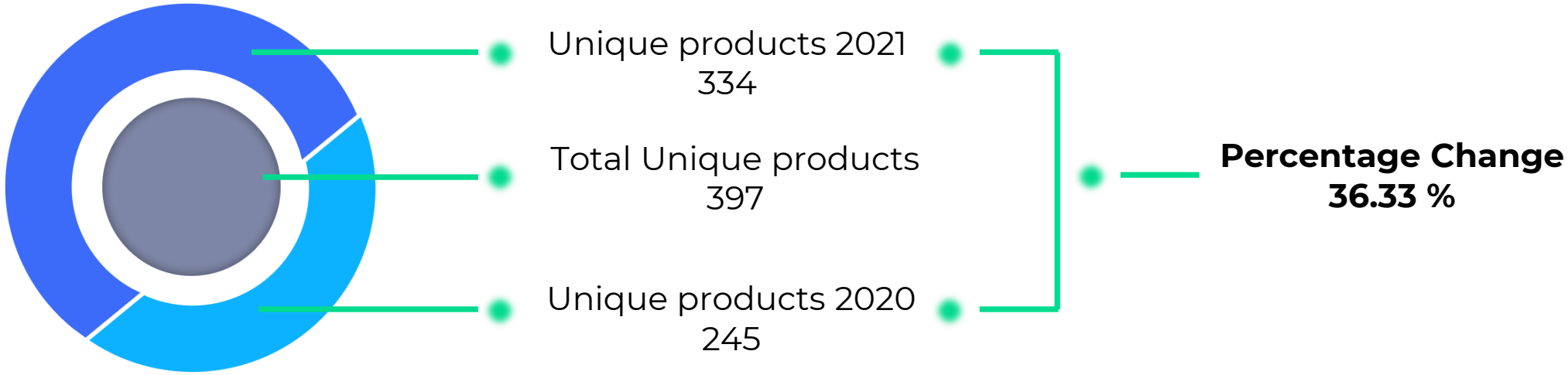
DRILL DOWN

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

market	product	variant	Total quantity	category	channel
India	AQ Master wired x1 Ms	Standard 1	223007	Mouse	Direct
India	AQ Gamers Ms	Standard 1	220969	Mouse	Direct
India	AQ Master wireless x1 Ms	Standard 1	211794	Mouse	Direct
India	AQ Lite Ms	Standard 1	209640	Mouse	Direct
India	AQ Gamers	Standard 1	183467	Keyboard	Direct
India	AQ Master wireless x1	Standard 1	181908	Keyboard	Direct
India	AQ Master wired x1	Standard 1	180267	Keyboard	Direct

2

What is the percentage of unique product increase in **2021** vs. **2020**? Thefinal output contains these fields,
unique_products_2020
unique_products_2021
percentage_chg



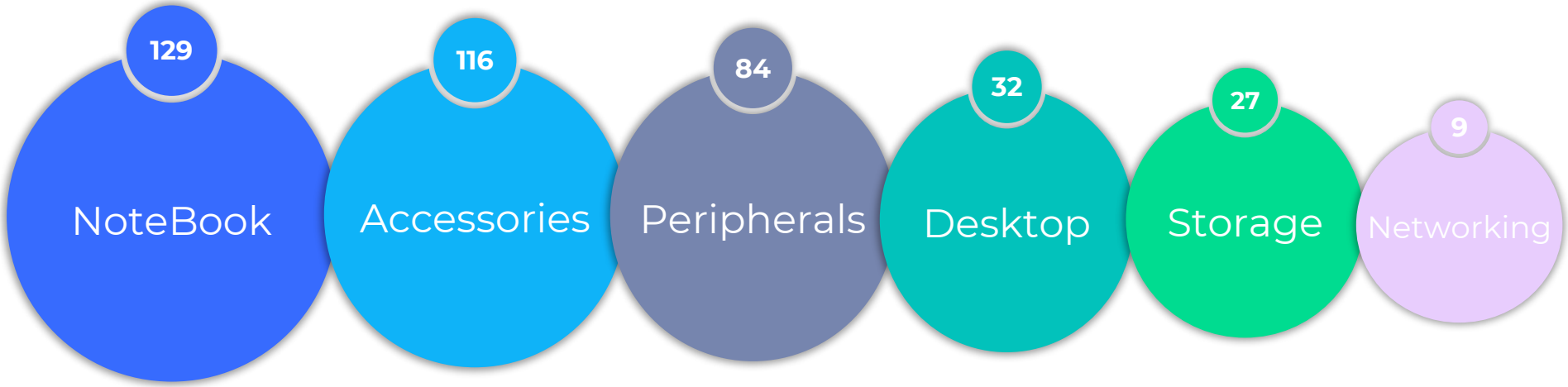
Out of 397 total unique products , 245 unique products were sold in 2020, and 334 unique products were sold in 2021, a rise of 36.33% change. This is a positive sign that end users are showing an interest in purchasing new products.

```
WITH uniq_prod_2020 AS (
        SELECT COUNT(DISTINCT product_code) AS unique_product_2020
        FROM fact_sales_monthly
        WHERE fiscal_year = 2020),

uniq_prod_2021 AS (
        SELECT COUNT(DISTINCT product_code) AS  unique_product_2021
        FROM fact_sales_monthly
        WHERE fiscal_year = 2021)

       SELECT unique_product_2020,unique_product_2021,
      (unique_product_2021 - unique_product_2020) * 100 / unique_product_2020 AS percentage_chg
       FROM uniq_prod_2020 CROSS JOIN uniq_prod_2021;
```

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

DRILL DOWN



From this visual, notebook has highest number of unique product though it's a main selling segment consists of personal, business & gaming laptops. Following that accessories which is a sub selling segment for the notebook and networking has the least products.

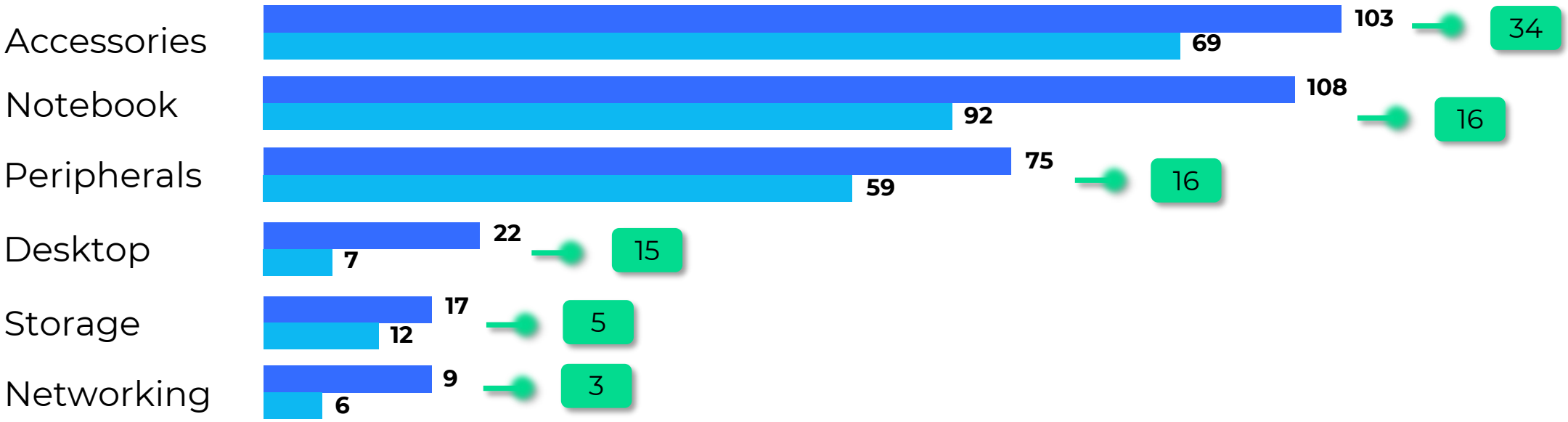
```sql
SELECT segment,COUNT(DISTINCT product_code) AS unique_product
        FROM dim_product
        GROUP BY segment
        ORDER BY unique_product DESC;
```

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

DRILL DOWN

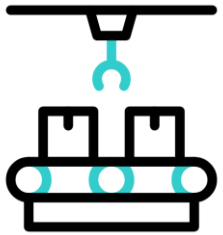


From this bar graph, compared to last year, 2021 has high increased unique products. In that accessories had the most increase in unique products following by notebook, peripherals, desktop, storage, networking.

```
WITH uniq_prod_2020 AS (
        SELECT dp.segment, COUNT(DISTINCT dp.product_code) AS unique_product_2020
        FROM fact_sales_monthly fs
        JOIN dim_product dp  ON
        fs.product_code = dp.product_code
        WHERE fs.fiscal_year = 2020
        GROUP BY dp.segment),
uniq_prod_2021 AS (
       SELECT dp.segment, COUNT(DISTINCT dp.product_code) AS unique_product_2021
        FROM fact_sales_monthly fs
        JOIN  dim_product dp  ON
        fs.product_code = dp.product_code
        WHERE fs.fiscal_year = 2021
        GROUP BY dp.segment)
SELECT up1.segment,unique_product_2020,unique_product_2021,
        (unique_product_2021 - unique_product_2020) AS difference
        FROM uniq_prod_2020 up1
        JOIN uniq_prod_2021 up2 ON
        up1.segment = up2.segment
        GROUP BY up1.segment
        ORDER BY difference DESC;
```

5

Get the products that have the **highest** and **lowest** manufacturing costs.The final output should contain these fields,
product_code
product
manufacturing_cost



A2118150101
AQ Master wired x1 Ms
Product

0.892 - Min Cost

A6120110206
AQ HOME Allin1 Gen 2
Product

240.5364 - Max Cost

Segment	Category	Product	Variant
Accessories	Mouse	AQ Master wired x1 Ms	Standard 1
Desktop	Personal Desktop	AQ HOME Allin1 Gen 2	Plus 3

```
SELECT
        dp.product_code, dp.product,
        CONCAT(fm.manufacturing_cost,' - ','Min Cost') AS manufacturing_cost
        FROM dim_product dp
        JOIN fact_manufacturing_cost fm ON
        dp.product_code = fm.product_code
        WHERE fm.manufacturing_cost = (
SELECT MIN(manufacturing_cost) AS manufacturing_cost FROM fact_manufacturing_cost)
UNION
SELECT dp.product_code, dp.product,
         CONCAT(fm.manufacturing_cost,' - ','Max Cost') AS manufacturing_cost
         FROM dim_product dp
         JOIN fact_manufacturing_cost fm ON
         dp.product_code = fm.product_code
         WHERE fm.manufacturing_cost = (
SELECT MAX(manufacturing_cost) AS manufacturing_cost FROM fact_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

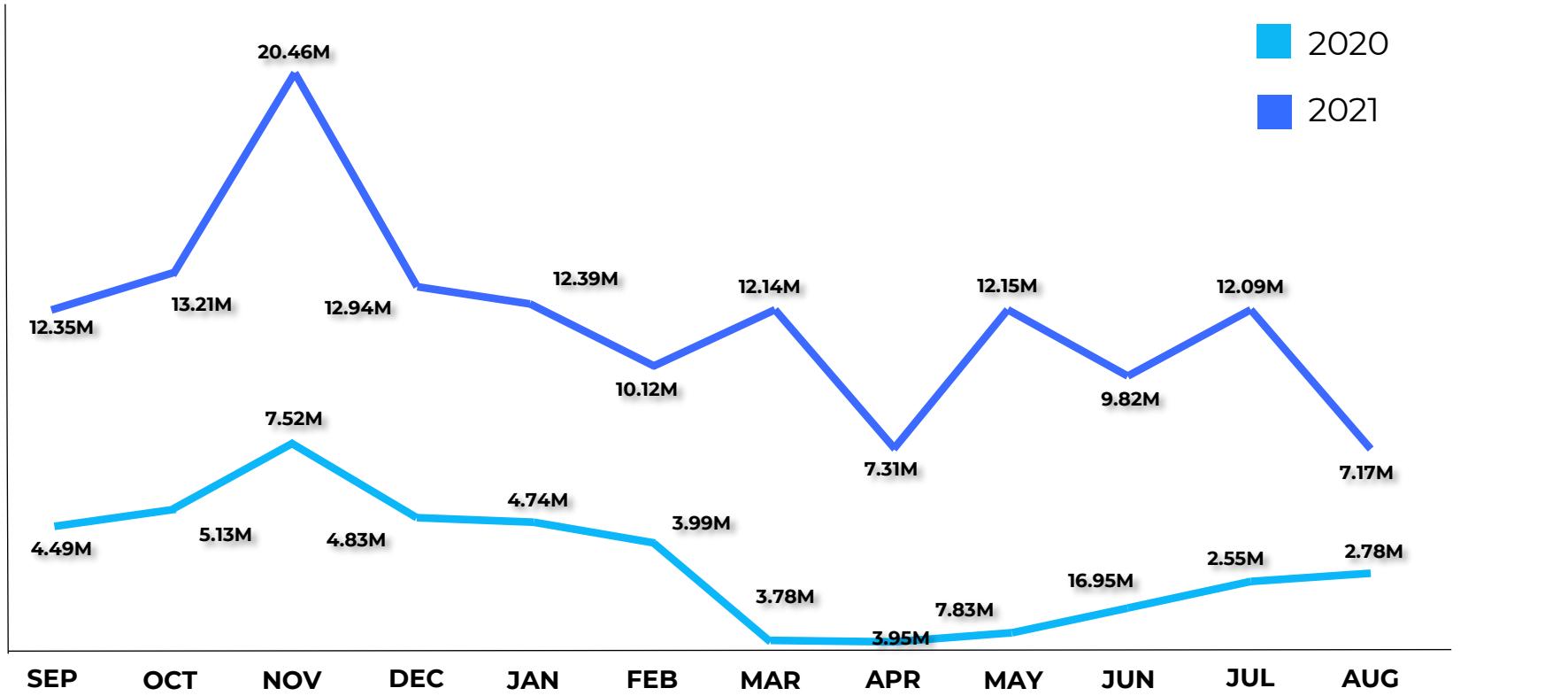
average_discount_percentage

From the above graph, these are the top 5 customers on average where atliq has given discounts in fiscal year 2021. all customers shares almost the same discount with slight variation.

```sql
SELECT pre.customer_code,customer,
        AVG(pre.pre_invoice_discount_pct) AS avg_pre_invoice_discount_pct_top_5
        FROM fact_pre_invoice_deductions pre
        JOIN dim_customer c ON
        pre.customer_code = C.customer_code
        WHERE c.market = 'India' AND fiscal_year = 2021
        GROUP BY c.customer_code
        ORDER BY avg_pre_invoice_discount_pct_top_5 DESC LIMIT 5;
```

7

Get the complete report of the **Gross sales amount** for the customer **“AtliqExclusive”** 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

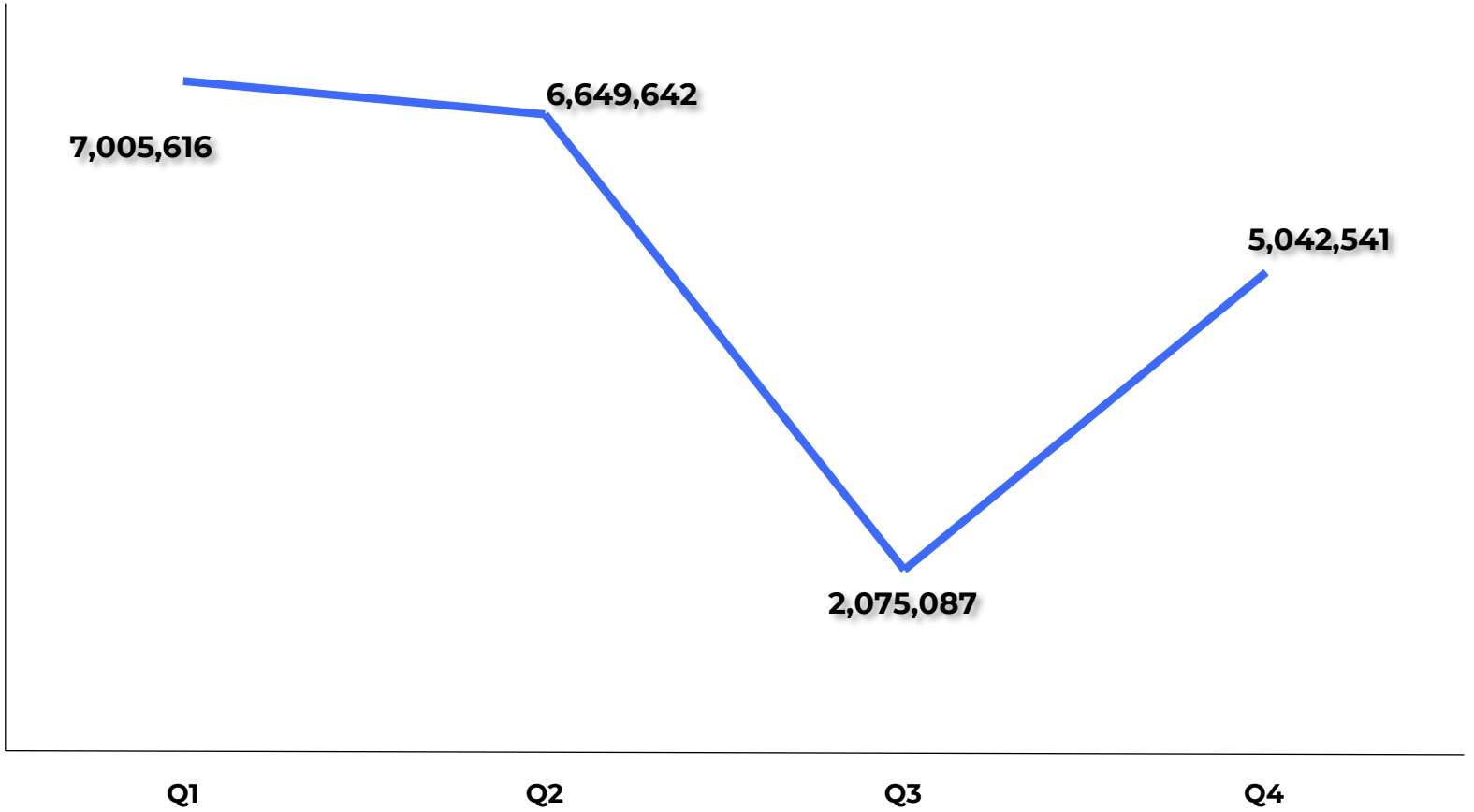


From the line graph, we could see the sales has decreased due to covid lockdown (Mar, Apr, May) in 2020 and gradually started raising after ease of lockdown. While coming to (Oct, Nov) months sales has reached its peak due to Diwali season.

```sql
SELECT CAST(DATE_FORMAT(sm.date, '%M') AS CHAR(3)) AS month_name,
        sm.fiscal_year,
        SUM(gross_price * sold_quantity) AS total_gross_price
        FROM fact_gross_price gp
        JOIN fact_sales_monthly sm  ON
        gp.product_code = sm.product_code
        AND gp.fiscal_year = sm.fiscal_year
        JOIN dim_customer c  ON
        sm.customer_code = c.customer_code
        WHERE c.customer LIKE "%Atliq Exclusive%"
        GROUP BY month_name, sm.fiscal_year
        ORDER BY sm.date;
```

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

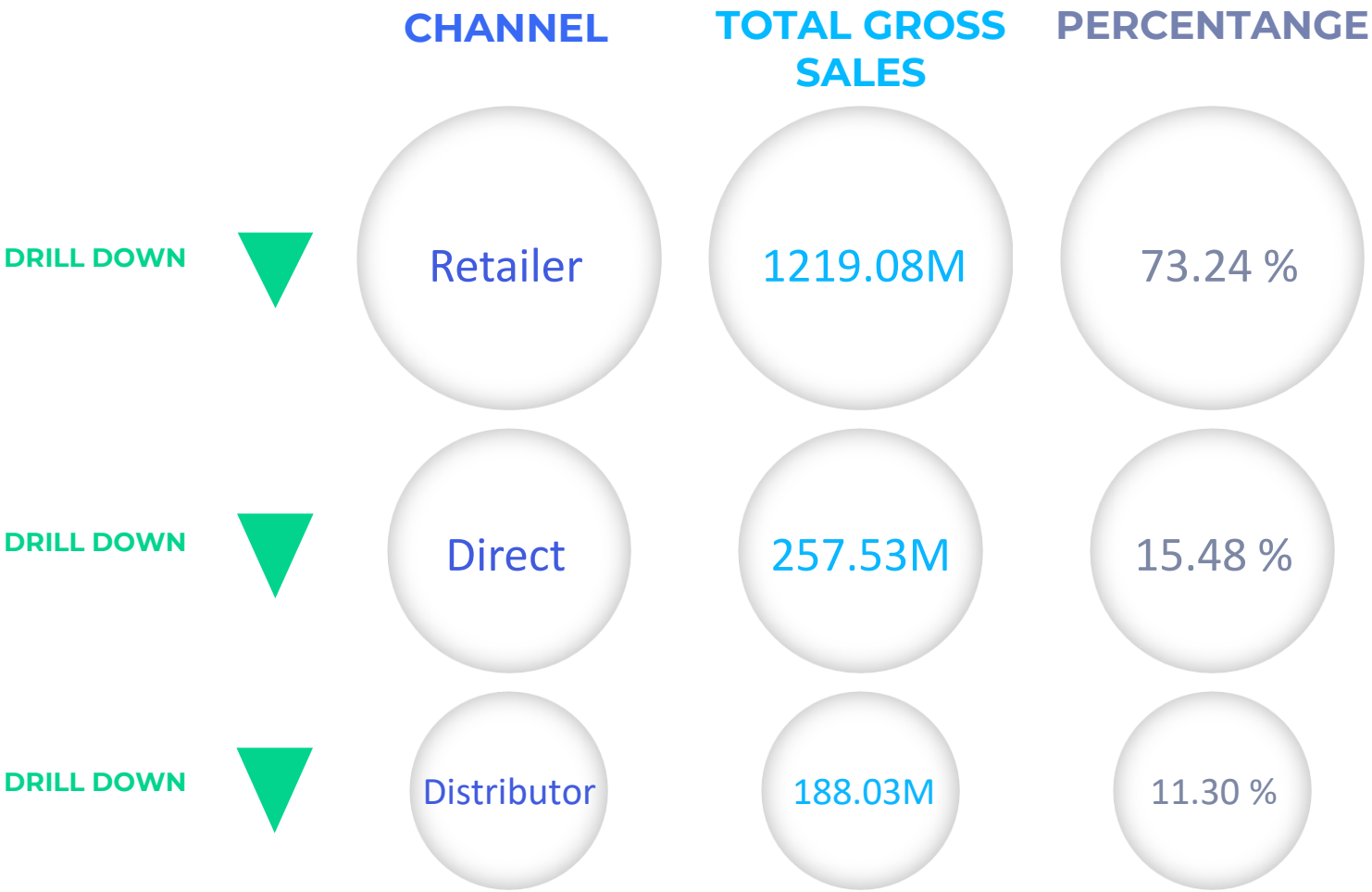


From the line graph, Q1 has the highest sold quantity following that Q2 sold quantity has decreased with 1.5m and Q3 has least quantity ,we saw from the previous slide it’s the impact of lockdown .Then gained sales in Q4.

```
SELECT SUM(sold_quantity) AS sold_quantity,
        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 "quater"
        FROM fact_sales_monthly
        WHERE fiscal_year = 2020
        GROUP BY quater
        ORDER BY 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



```
WITH gross_sales AS (
        SELECT c.channel,
        ROUND(SUM(gross_price * sold_quantity)/1000000,2) AS total_gross_sales_mln
        FROM fact_gross_price gp
        JOIN fact_sales_monthly sm
        ON gp.product_code = sm.product_code
        AND gp.fiscal_year = sm.fiscal_year
        JOIN dim_customer c
        ON sm.customer_code = c.customer_code
        WHERE sm.fiscal_year = 2021
        GROUP BY c.channel)
SELECT *,
        total_gross_sales_mln*100/SUM(total_gross_sales_mln) OVER() AS percentange
        FROM gross_sales
        ORDER BY percentange DESC;
```

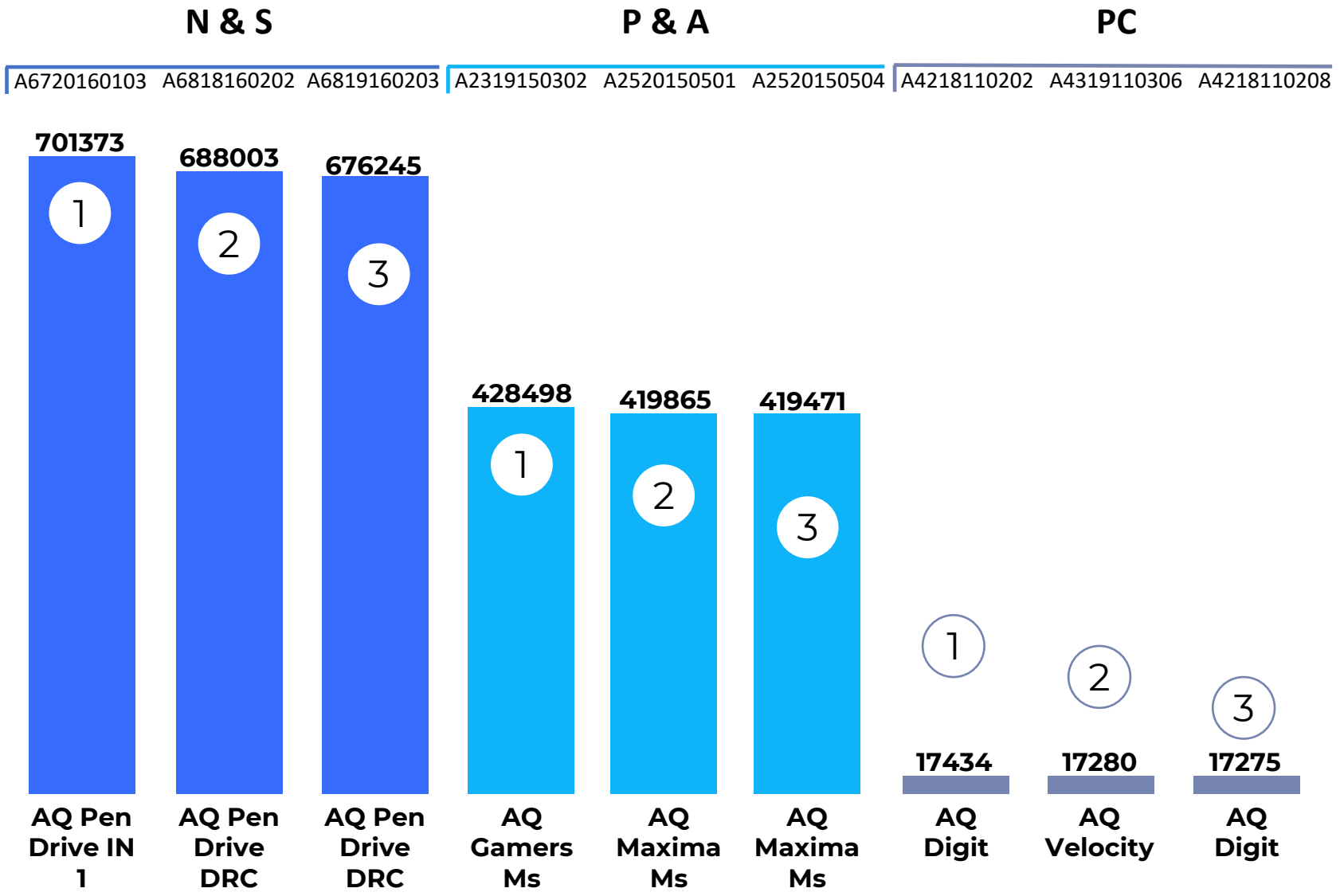
customer	platform	channel	market	Sold quantity	segment	category
Flipkart	E-Commerce	Retailer	India	12871294	Accessories	Mouse
Croma	Brick & Mortar	Retailer	India	10394058	Accessories	Keyboard
Taobao	E-Commerce	Retailer	China	3895398	Storage	External Solid State Drives
Ezone	Brick & Mortar	Retailer	India	2011172	Storage	USB Flash Drives
Croma	Brick & Mortar	Retailer	India	1864112	Networking	Wi fi extender

customer	platform	channel	market	Sold quantity	segment	category
Atliq Exclusive	Brick & Mortar	Direct	Japan	2719487	Accessories	Mouse
Atliq Exclusive	Brick & Mortar	Direct	Newzealand	2185214	Accessories	Keyboard
Atliq e Store	E-Commerce	Direct	Japan	814101	Storage	External Solid State Drives
Atliq Exclusive	Brick & Mortar	Direct	South Korea	411717	Storage	USB Flash Drives
Atliq Exclusive	Brick & Mortar	Direct	India	399300	Networking	Wi fi extender

customer	platform	channel	market	Sold quantity	segment	category
Neptune	Brick & Mortar	Distributor	China	1963164	Accessories	Mouse
Neptune	Brick & Mortar	Distributor	China	1574963	Accessories	Keyboard
Sage	Brick & Mortar	Distributor	South Korea	604845	Storage	External Solid State Drives
Neptune	Brick & Mortar	Distributor	China	313053	Storage	USB Flash Drives
Sage	Brick & Mortar	Distributor	South Korea	289626	Networking	Wi fi extender

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



```
WITH total_qty AS (
        SELECT division,
        product_code,
        product,
        SUM(sold_quantity) AS total_sold_quantity
        FROM dim_product  JOIN
        fact_sales_monthly
        USING(product_code)
        WHERE fiscal_year = 2021
        GROUP BY division, product_code),

rnk AS (
        SELECT *,
        DENSE_RANK() OVER(PARTITION BY division ORDER BY total_sold_quantity DESC) AS rank_order
        FROM total_qty)

SELECT  *  FROM  rnk  WHERE  rank_order < 4;
```

THANK YOU