



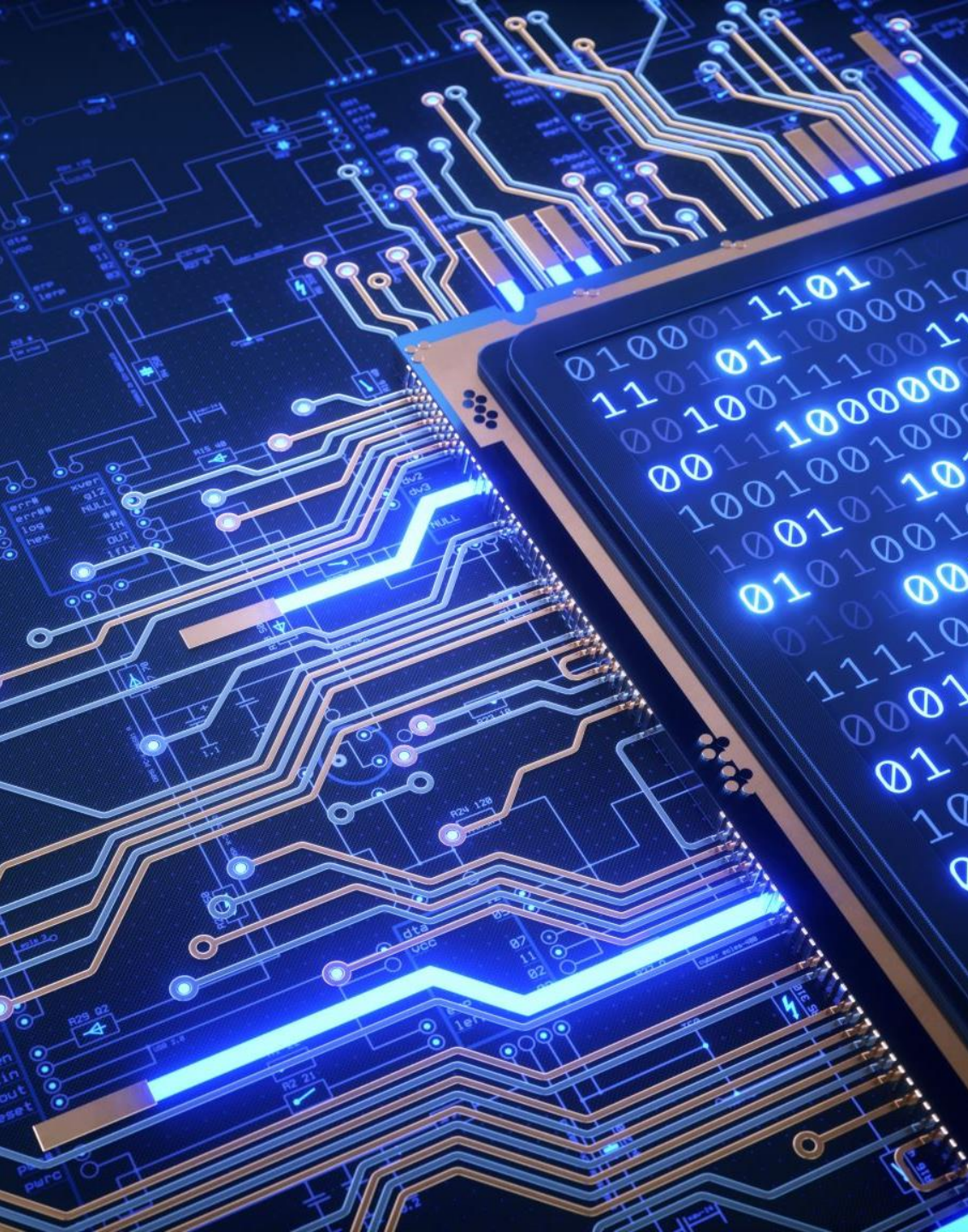
# CONSUMER GOODS

AD-HOC REQUESTS

by  
Pratik Umakant Jadhav



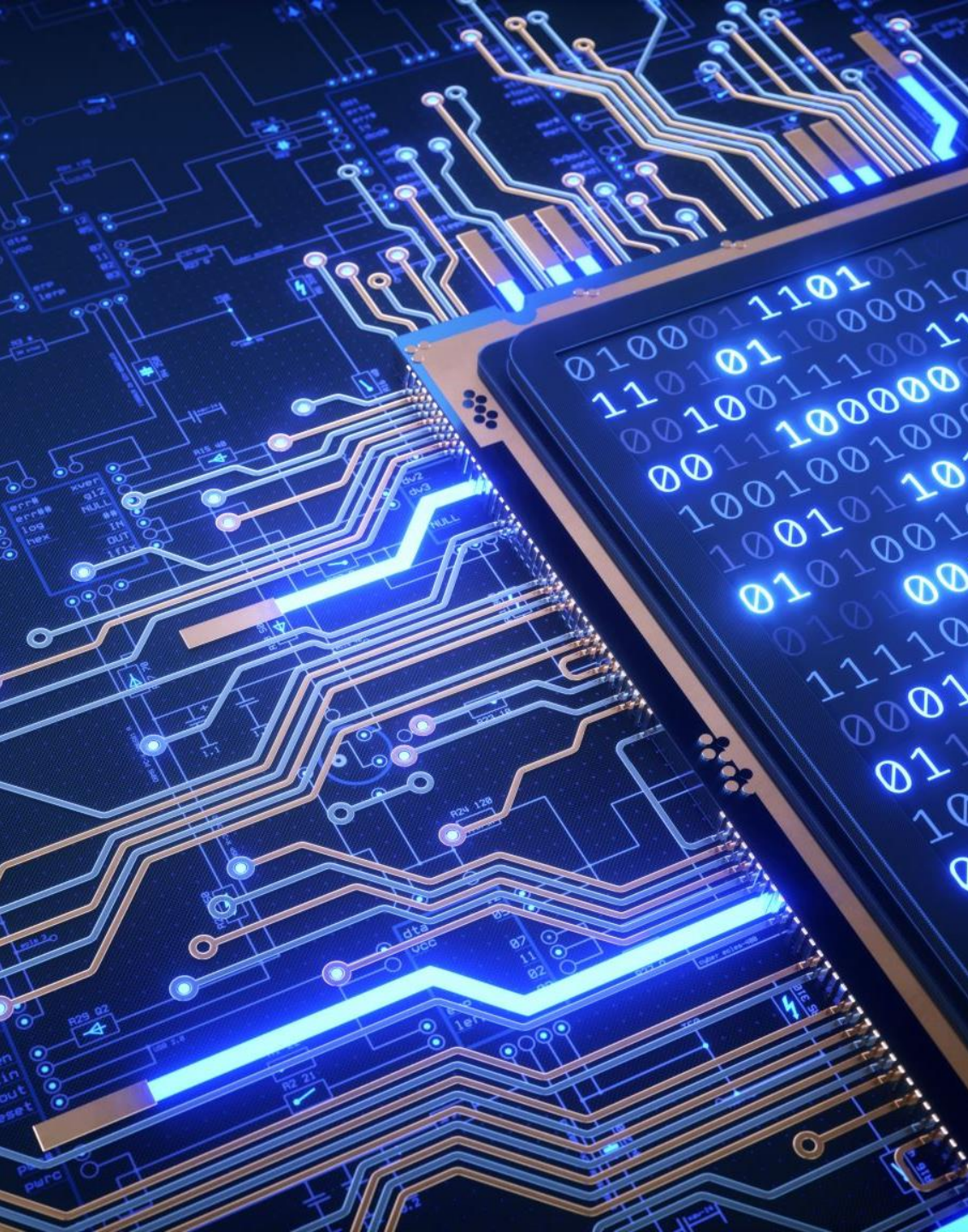




# About Atliq Hardware

- Atliq Hardwares (imaginary company) is one of the leading computer hardware producers in India and well expanded in other countries too.
- Company has spanned its business remarkably worldwide in 27 countries which are in Asia Pacific, Europe, North America and Latin America regions.

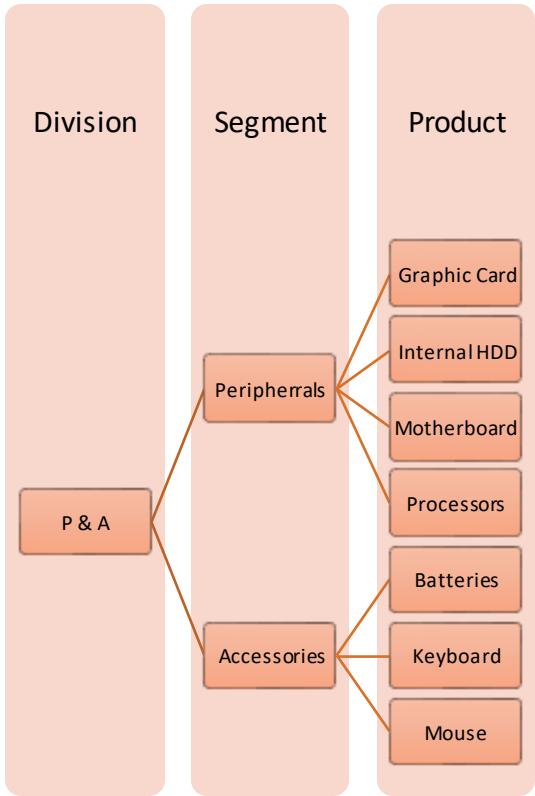
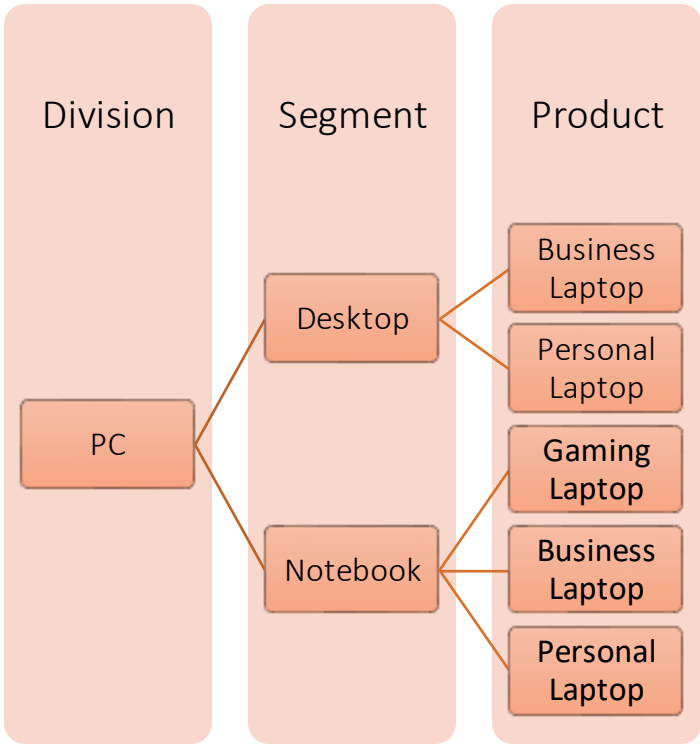
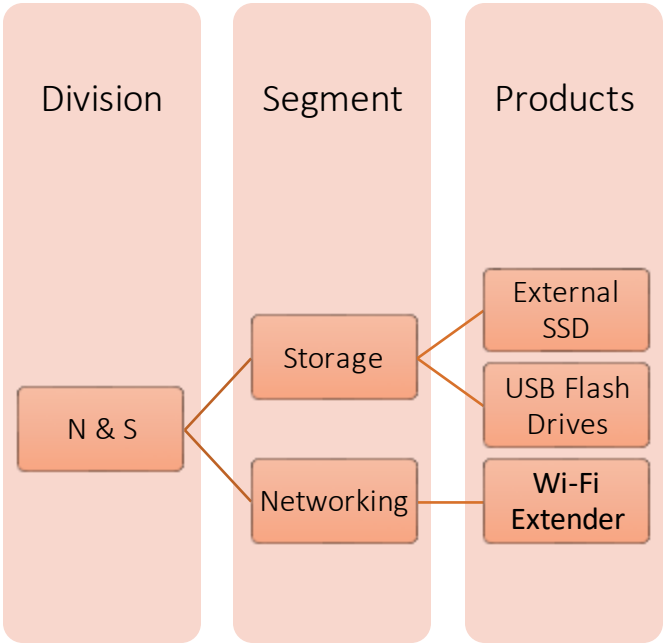




# Agenda

- The Management needs sufficient 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.

# Products Overview



## Request 1

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

### Query and Output

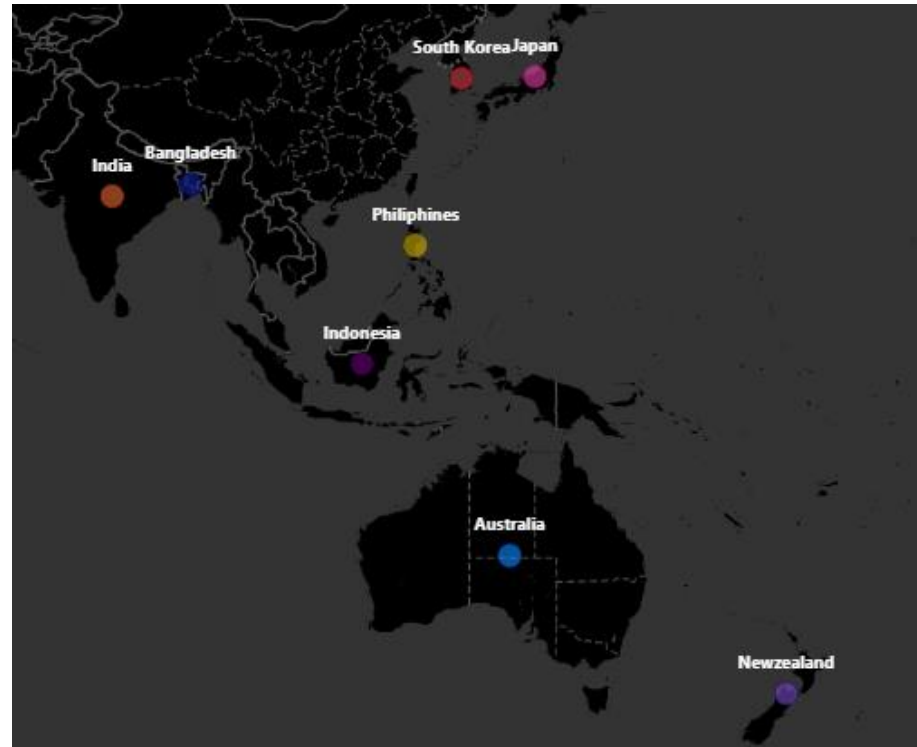
```
3  /*Req 1*/  
4  •  SELECT DISTINCT MARKET FROM dim_customer WHERE REGION = "APAC" AND CUSTOMER = "Atliq Exclusive";  
5
```

	MARKET
▶	India
	Indonesia
	Japan
	Philippines
	South Korea
	Australia
	Newzealand
	Bangladesh

## Insights

Atliq Exclusive operates business in 8 major markets in the APAC region. Two other major markets remaining are Pakistan and China.

## Visual



## Request 2

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

### Query and Output

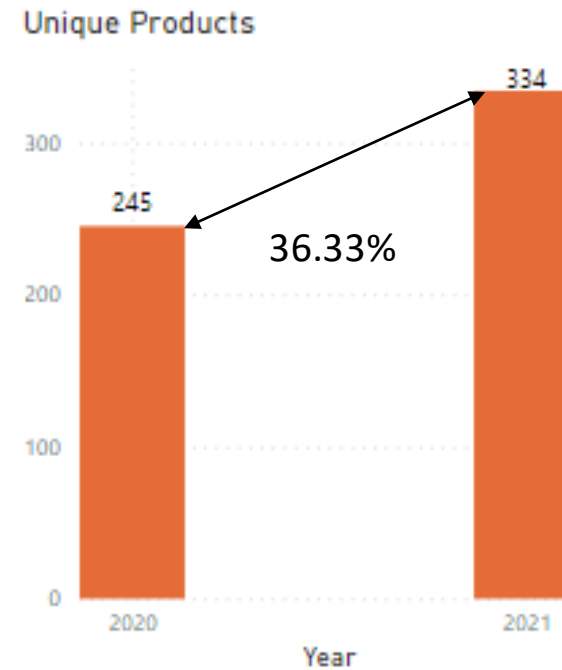
```
4      /*Req 2*/
5      WITH U1 AS
6      (
7          SELECT COUNT(DISTINCT PRODUCT_CODE) AS unique_product_2020, fiscal_year FROM FACT_SALES_MONTHLY
8          WHERE fiscal_year = "2020"
9      ),
10
11      U2 AS
12      (
13          SELECT COUNT(DISTINCT PRODUCT_CODE) AS unique_product_2021, fiscal_year FROM FACT_SALES_MONTHLY
14          WHERE fiscal_year = "2021"
15      )
16      SELECT U1.unique_product_2020, U2.unique_product_2021,
17          ROUND(((U2.unique_product_2021-U1.unique_product_2020)/(U1.unique_product_2020)),4)*100 AS percentage_chg
18      FROM U1 CROSS JOIN U2;
```

	unique_product_2020	unique_product_2021	percentage_chg
▶	245	334	36.3300

## Insights

A noteworthy surge of 36.33% in product numbers signifies the company's dedicated efforts in introducing a substantial array of new products to the market.

## Visuals





## Request 3

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

## Query and Output

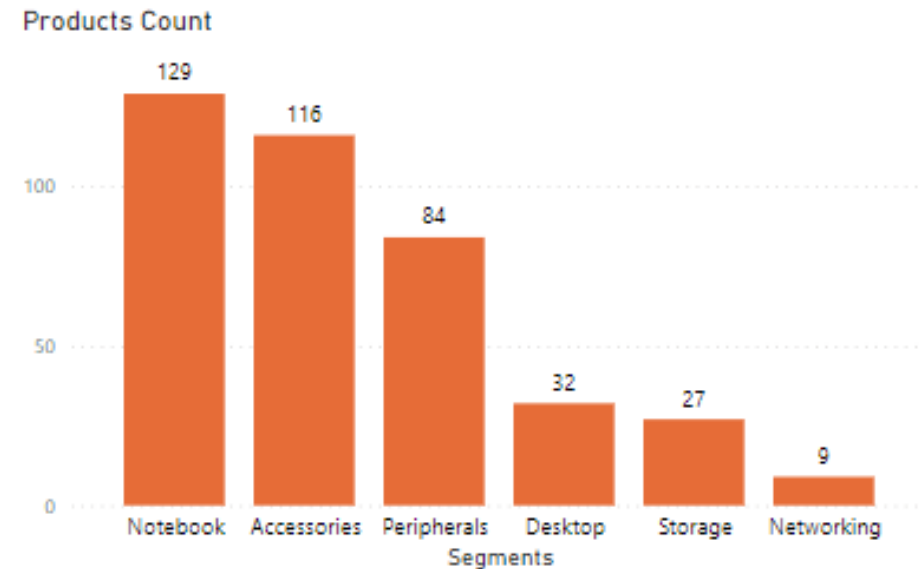
```
20 /*Req 3*/  
21 • SELECT segment, COUNT(DISTINCT product_code) AS product_count FROM dim_product  
22 GROUP BY segment ORDER BY product_count DESC;  
23  
24
```

Result Grid			Filter Rows:	Export:	Wrap Cell Content:
	segment	product_count			
▶	Notebook	129			
	Accessories	116			
	Peripherals	84			
	Desktop	32			
	Storage	27			
	Networking	9			

## Insights

The Networking segment exhibits the lowest product count, while the Notebook segment boasts the highest. This suggests a strategic focus on sales and marketing for the Networking segment, likely in response to its high demand.

## Visuals



# Request 4

Follow-up: Which segment had the most increase in unique products in 2021 vs 2020?

## Query and Output

```
25  /*Req 4*/
26  • WITH US1 AS
27  (
28    SELECT dp.segment AS seg, COUNT(DISTINCT fsm.PRODUCT_CODE) AS unique_product_2020, fsm.fiscal_year
29    FROM FACT_SALES_MONTHLY AS fsm JOIN dim_product AS dp ON fsm.PRODUCT_CODE=dp.PRODUCT_CODE
30    WHERE fsm.fiscal_year = "2020"
31    GROUP BY dp.segment
32  ),
33
34  US2 AS
35  (
36    SELECT dp.segment AS seg, COUNT(DISTINCT fsm.PRODUCT_CODE) AS unique_product_2021, fsm.fiscal_year
37    FROM FACT_SALES_MONTHLY AS fsm JOIN dim_product AS dp ON fsm.PRODUCT_CODE=dp.PRODUCT_CODE
38    WHERE fsm.fiscal_year = "2021"
39    GROUP BY dp.segment
40  )
41  SELECT US2.seg AS segment, US1.unique_product_2020, US2.unique_product_2021,
42  ROUND(US2.unique_product_2021-US1.unique_product_2020) AS difference
43  FROM US1 JOIN US2 ON US1.seg = US2.seg
44  ORDER BY difference DESC LIMIT 3;
45
```

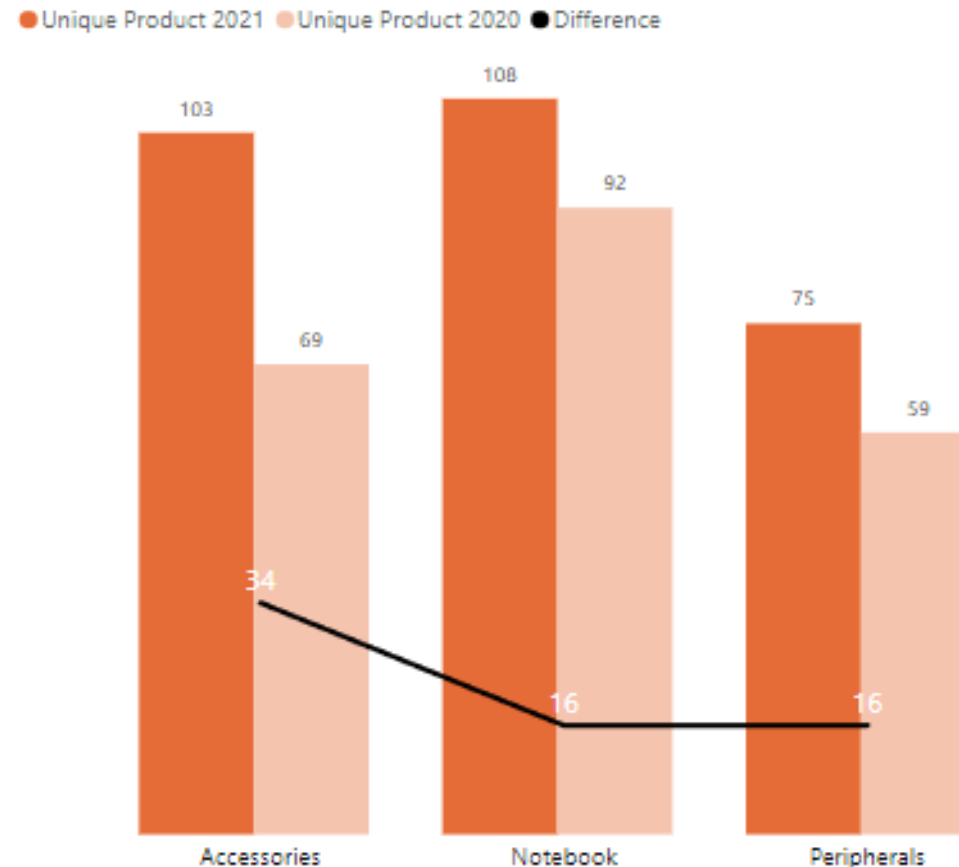
	segment	unique_product_2020	unique_product_2021	difference
►	Accessories	69	103	34
	Notebook	92	108	16
	Peripherals	59	75	16



# Insights

The Accessories segment stands out with the most significant increase in unique products. Not only did it experience the highest growth, but the difference is double compared to the second-highest segment in terms of unique product increase.

## Visuals



## Request 5

Get the products that have the highest and lowest manufacturing costs.

### Query and Output

```
46      /*Req 5*/
47 •    SELECT DISTINCT dp.product_code, dp.product, fmc.manufacturing_cost FROM fact_manufacturing_cost AS fmc JOIN dim_product AS dp
48      ON fmc.product_code = dp.product_code WHERE fmc.manufacturing_cost IN
49      ((SELECT MAX(manufacturing_cost) FROM fact_manufacturing_cost
50      UNION
51      SELECT MIN(manufacturing_cost) FROM fact_manufacturing_cost)) ORDER BY fmc.manufacturing_cost;
52
53      /*Req 6*/
54 •    SELECT MAX(fpid.customer_code) AS customer_code, dc.customer, ROUND(AVG(fpid.pre_invoice_discount_pct),4)
```

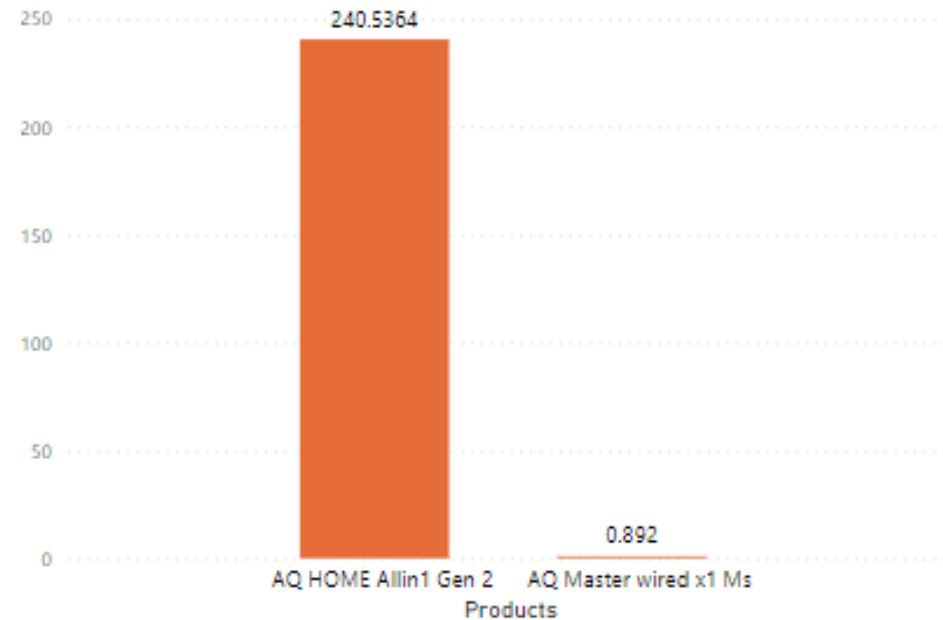
Result Grid	Filter Rows:	Export:	Wrap Cell Content:
product_code	product	manufacturing_cost	
A2118150101	AQ Master wired x1 Ms	0.8920	
A6120110206	AQ HOME Allin1 Gen 2	240.5364	

## Insights

The manufacturing cost is maximum for AQ Home Allin1 Gen 2, while AQ Master wired x1 Ms incurs the lowest manufacturing cost.

## Visuals

Manufacturing Cost





## 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.

### Query and Output

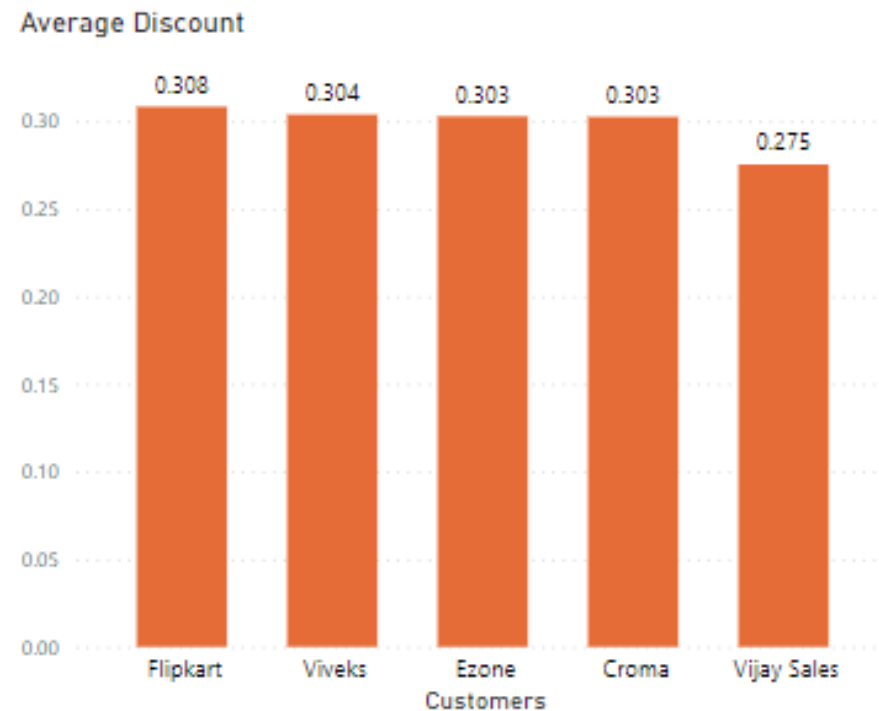
```
53  /*Req 6*/
54  •  SELECT MAX(fpid.customer_code) AS customer_code, dc.customer, ROUND(AVG(fpid.pre_invoice_discount_pct),4)
55     AS average_discount_percentage
56     FROM fact_pre_invoice_deductions AS fpid JOIN dim_customer AS dc
57     ON fpid.customer_code = dc.customer_code WHERE fpid.fiscal_year = "2021" AND dc.market = "India"
58     GROUP BY dc.customer
59     ORDER BY AVG(fpid.pre_invoice_discount_pct) DESC LIMIT 5;
```

	customer_code	customer	average_discount_percentage
►	90002009	Flipkart	0.3083
	90002006	Viveks	0.3038
	90002003	Ezone	0.3028
	90002002	Croma	0.3025
	90002004	Vijay Sales	0.2753

## Insights

The average pre invoice discount percentage for the fiscal year 2021 and in the Indian market for the top 5 customers varies from 27.5% to 30.8%.

## Visuals



## 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.

### Query and Output

```
61  /*Req 7*/
62  • SELECT MONTHNAME(fsm.date) AS Month, YEAR(fsm.date) AS Year, SUM(fsm.sold_quantity*fgp.gross_price) AS Gross_Sales_Amount
63  FROM fact_sales_monthly AS fsm JOIN fact_gross_price AS fgp
64  ON fsm.product_code = fgp.product_code AND fsm.fiscal_year = fgp.fiscal_year
65  JOIN dim_customer AS dc ON dc.customer_code = fsm.customer_code
66  WHERE dc.customer = "Atliq Exclusive"
67  GROUP BY Month, Year ORDER BY month(Month);
```

	Month	Year	Gross_Sales_Amount
►	September	2019	4496259.6724
	October	2019	5135902.3467
	November	2019	7522892.5608
	December	2019	4830404.7285
	January	2020	4740600.1605
	February	2020	3996227.7661
	March	2020	278720.0700

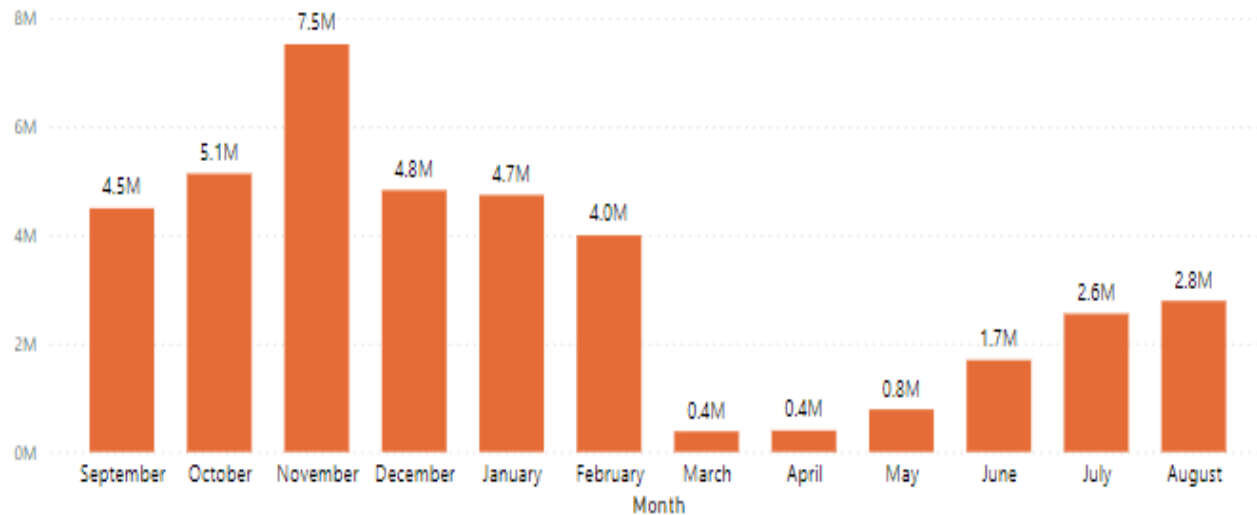


## Insights

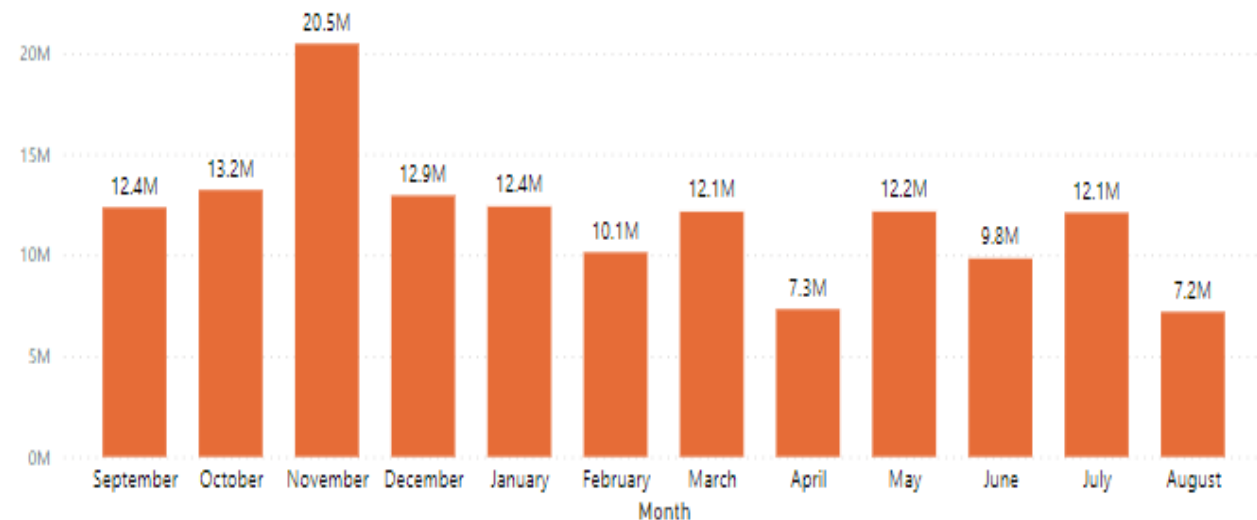
November 2020 marked the pinnacle of monthly sales for the company, while March 2020 recorded the lowest gross sales, possibly due to the initial impact of the first wave of COVID-19. However, the company swiftly rebounded and, within six months, achieved its highest-ever gross sales in this 2 years.

## Visuals

Gross Sales Amount for Fiscal Year 2020



Gross Sales Amount for Fiscal Year 2021



## Request 8

In which quarter of 2020, got the maximum total\_sold\_quantity?

### Query and Output

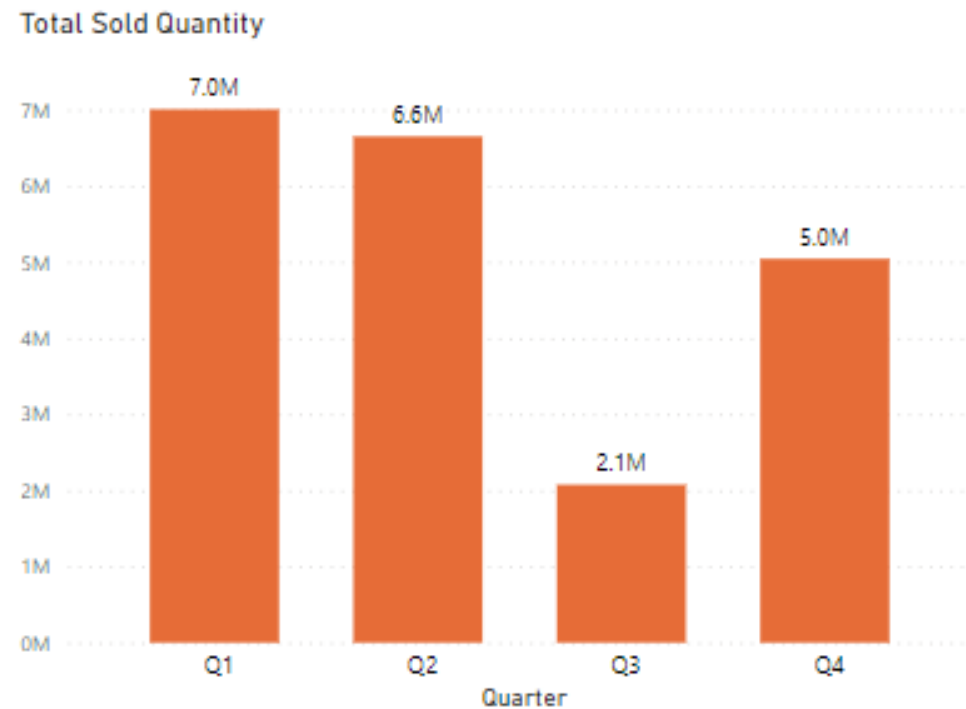
```
69  /*Req 8*/  
70  • SELECT CONCAT("Q",CEILING((MONTH(DATE_ADD(date, INTERVAL 4 MONTH)))/3)) AS Quarter,SUM(sold_quantity) AS total_sold_quantity  
71  FROM fact_sales_monthly WHERE fiscal_year = "2020"  
72  GROUP BY Quarter ORDER BY total_sold_quantity DESC;
```

	Quarter	total_sold_quantity
►	Q1	7005619
	Q2	6649642
	Q4	5042541
	Q3	2075087

## Request 8

For the fiscal year 2020 Company sold maximum quantities of product in First Quarter.

### Query and Output



## Request 9

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

### Query and Output

```
74  /*Req 9*/
75  • WITH ch AS
76  (
77    SELECT dc.channel as chan,
78    ROUND((SUM(fgp.gross_price*fsm.sold_quantity)/1000000),2)
79    AS gross_sales_mln
80    FROM fact_sales_monthly AS fsm JOIN fact_gross_price AS fgp ON
81    fsm.product_code = fgp.product_code AND fsm.fiscal_year = fgp.fiscal_year
82    JOIN dim_customer AS dc ON fsm.customer_code = dc.customer_code
83    WHERE fsm.fiscal_year = "2021"
84    GROUP BY dc.channel
85  )
86  SELECT DISTINCT ch.chan AS channel,ch.gross_sales_mln,
87  ROUND((ch.gross_sales_mln*100000000)/(SUM(fgp.gross_price*fsm.sold_quantity) OVER ()),2) AS percentage
88  FROM fact_sales_monthly AS fsm JOIN fact_gross_price AS fgp ON
89  fsm.product_code = fgp.product_code AND fsm.fiscal_year = fgp.fiscal_year
90  JOIN dim_customer AS dc ON fsm.customer_code = dc.customer_code
91  JOIN ch ON ch.chan = dc.channel
92  WHERE fsm.fiscal_year = "2021"
93  ORDER BY ch.gross_sales_mln DESC;
--
```

	channel	gross_sales_mln	percentage
▶	Retailer	1219.08	73.23
	Direct	257.53	15.47
	Distributor	188.03	11.30

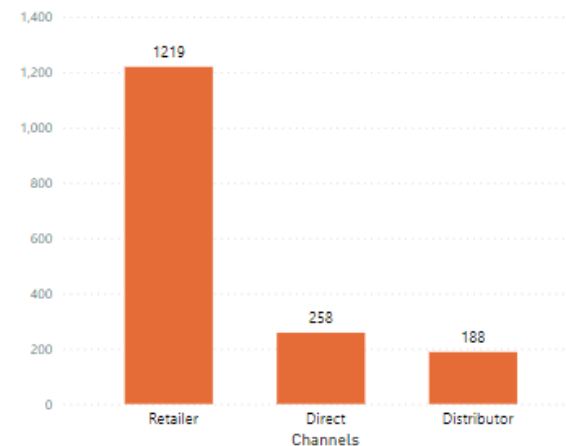


# Insights

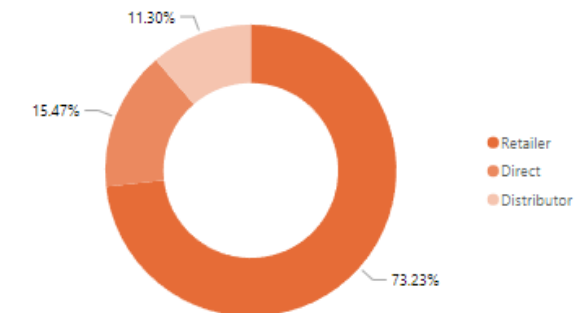
In 2021, the Retailer channel played a substantial role in the gross sales, contributing 73.23%. On the other hand, Distributors contributed the least at 11.30%, but it's noteworthy that the difference between the Distributor and Direct channels is minimal and shouldn't be overlooked.

## Visuals

Gross Sales in Millions



Contribution in Percentage



## Request 10

Get the Top 3 products in each division that have a high total\_sold\_quantity in the fiscal\_year 2021?

### Query and Output

```
95      /*Req 10*/
96      SELECT * FROM (
97          WITH prd AS
98          (
99              SELECT DISTINCT dp.division, dp.product, dp.product_code,
100              SUM(fsm.sold_quantity) OVER(PARTITION BY dp.product) AS total_sold_quantity
101              FROM fact_sales_monthly AS fsm JOIN dim_product AS dp
102              ON fsm.product_code = dp.product_code
103              WHERE fsm.fiscal_year = "2021"
104          )
105          SELECT DISTINCT dp.division, dp.product, dp.product_code, prd.total_sold_quantity,
106          DENSE_RANK() OVER(PARTITION BY prd.division ORDER BY prd.total_sold_quantity DESC) AS rn
107          FROM fact_sales_monthly AS fsm JOIN dim_product AS dp
108          ON fsm.product_code = dp.product_code
109          JOIN prd ON prd.product_code = dp.product_code
110          WHERE fsm.fiscal_year = "2021"
111      ) x WHERE x.rn < 4;
112
```

	division	product	product_code	total_sold_quantity	rn
▶	N & S	AQ Pen Drive DRC	A6819160203	2034569	1
	N & S	AQ Pen Drive DRC	A6818160202	2034569	1
	N & S	AQ Pen Drive DRC	A6818160201	2034569	1
	N & S	AQ Digit SSD	A6218160101	1240149	2
	N & S	AQ Digit SSD	A6218160102	1240149	2

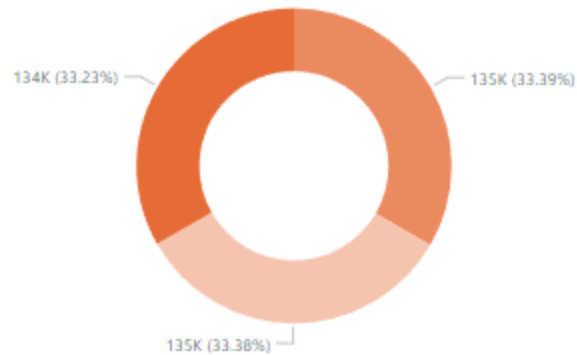
# Insights

The Top 3 bestselling products for PC, P & A and N & S are laptops, mouse and pen drives respectively.

## Visuals

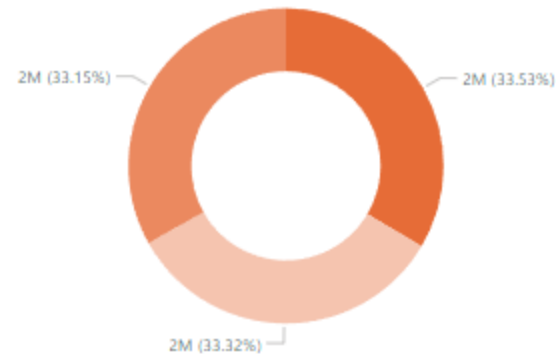
Top 3 Products for PC

Products ● AQ Digit ● AQ Gen Y ● AQ Elite



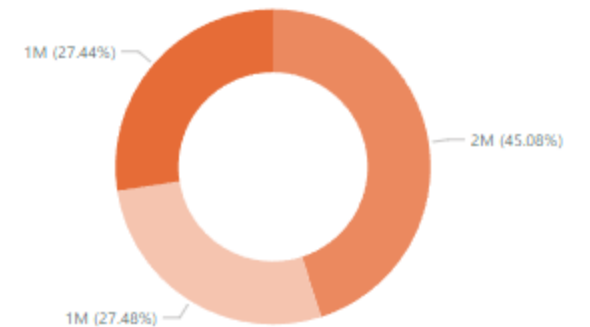
Top 3 Products for P & A

Products ● AQ Gamers Ms ● AQ Maxima Ms ● AQ Master wireless x1 Ms



Top 3 Products for N & S

Products ● AQ Pen Drive DRC ● AQ Digit SSD ● AQ Clx1







Thank You!