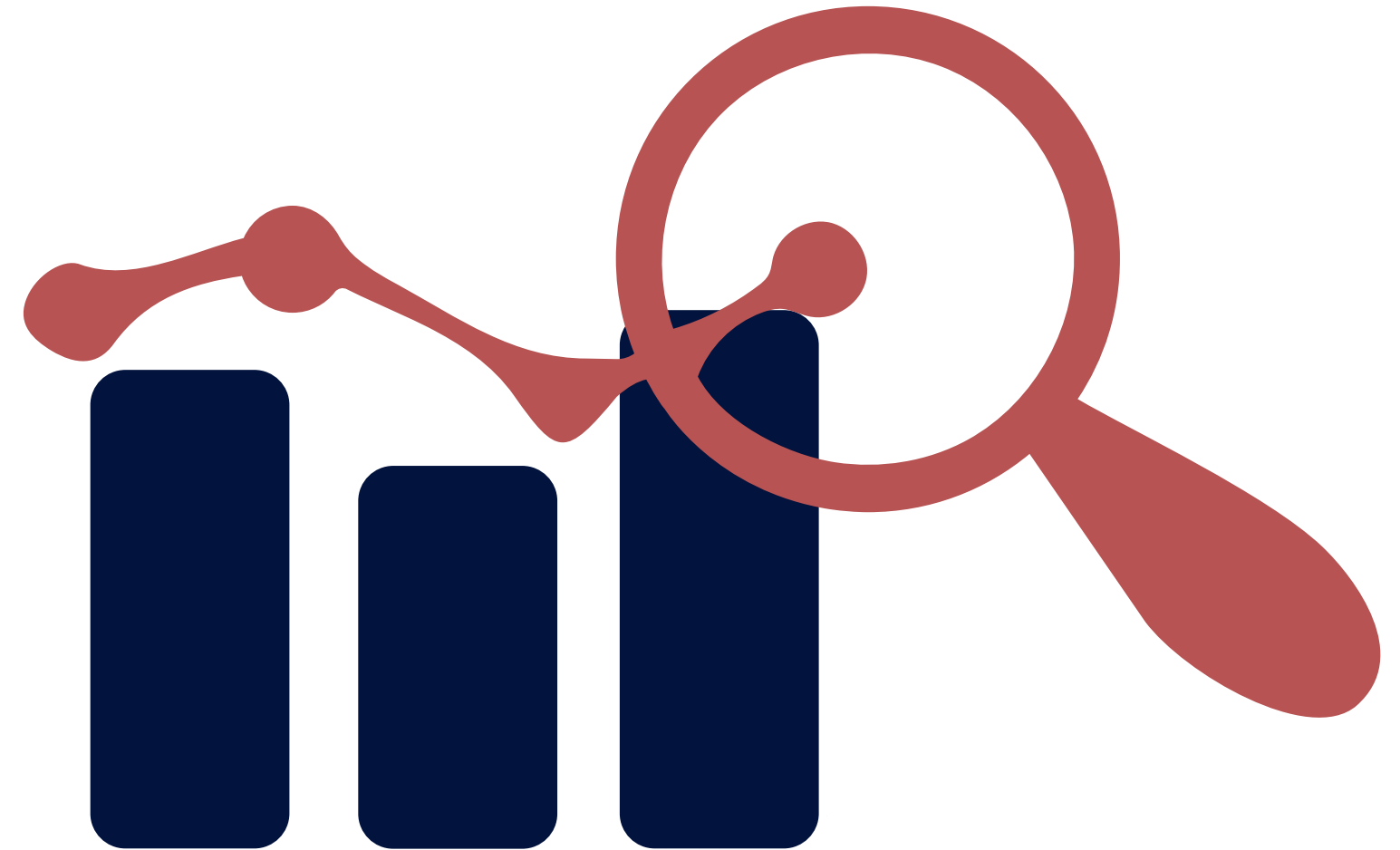




Consumer Goods ad-hoc Insights



Presented by Ibrahim Kaleel

TABLE OF CONTENTS

- About Company
- Objectives
- Input data
- Ad-hoc requests, sql queries & visualisations

ABOUT COMPANY

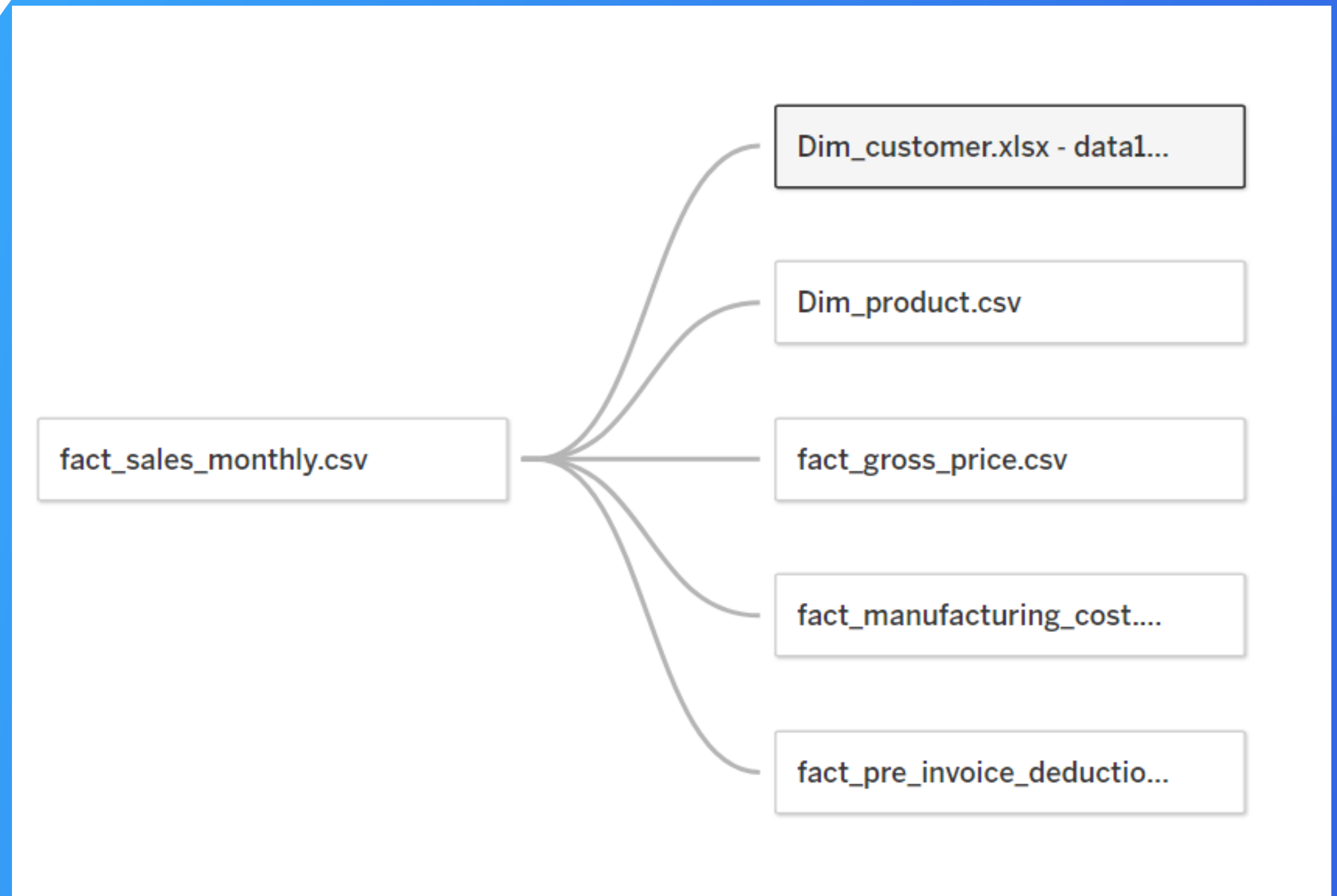
- Atliq Hardware is one of the leading computer hardware producers in india and its products are sold all aver the world
- manufactures product under 3 major divisions that are peripherals & accessories, Networking & storage and PC
- Products in Atliq are sold through "Retailers", "Direct", and "Distributors"

OBJECTIVES

- the management noticed that they do not get enough insights to make quick and smart data-informed decisions
- As a data analysts we have to gain business insights from the data provided.
- We have given 10 ad-hoc requests from the data analytics manager at Atliq hardwares

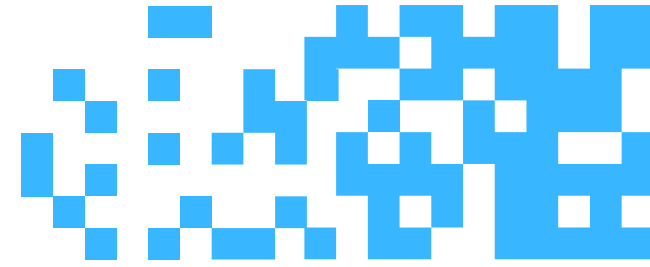
INPUT DATA

- 1.**dim_customer**: Contains customers data
- 2.**dim_product**: Contains data about products
- 3.**fact_sales_monthly**: Contains monthly sales data about each products
- 4.**fact_manufacturing_cost**: Contains data about expense of production of each product.
- 5.**fact_pre_invoice_deductions**: Contains pre-invoice deductions details for each product
- 6.**fact_gross_price**: Contains gross price details of each product



AD-HOC REQUESTS, QUERIES AND VISUALISATION





SQL QUERY AND OUTPUT

REQUEST 1

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

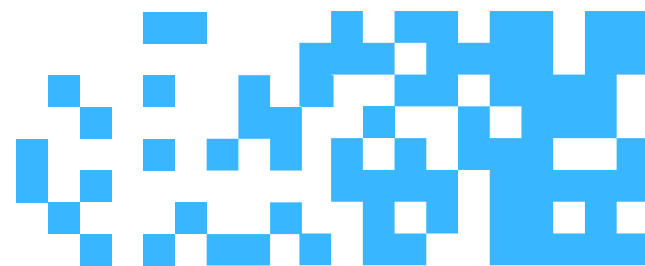
```
select distinct(market) from dim_customer  
where region = "APAC" and customer="Atliq Exclusive"
```

market
India
Indonesia
Japan
Philippines
South Korea
Australia
Newzealand
Bangladesh

VISUALISATION & INSIGHTS

in Apac region, 'Atliq Exclusive' operates its business in 8 major markets.





SQL QUERY AND OUTPUT

REQUEST 2

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

```
with cte as
```

```
(Select count( distinct product_code) as unique_products_2020
```

```
from fact_sales_monthly where fiscal_year = 2020),
```

```
cte1 as (Select count(distinct product_code) as unique_products_2021
```

```
from fact_sales_monthly where fiscal_year = 2021)
```

```
select unique_products_2020,unique_products_2021,
```

```
round((unique_products_2021-unique_products_2020)*100/unique_products_2020,2)
```

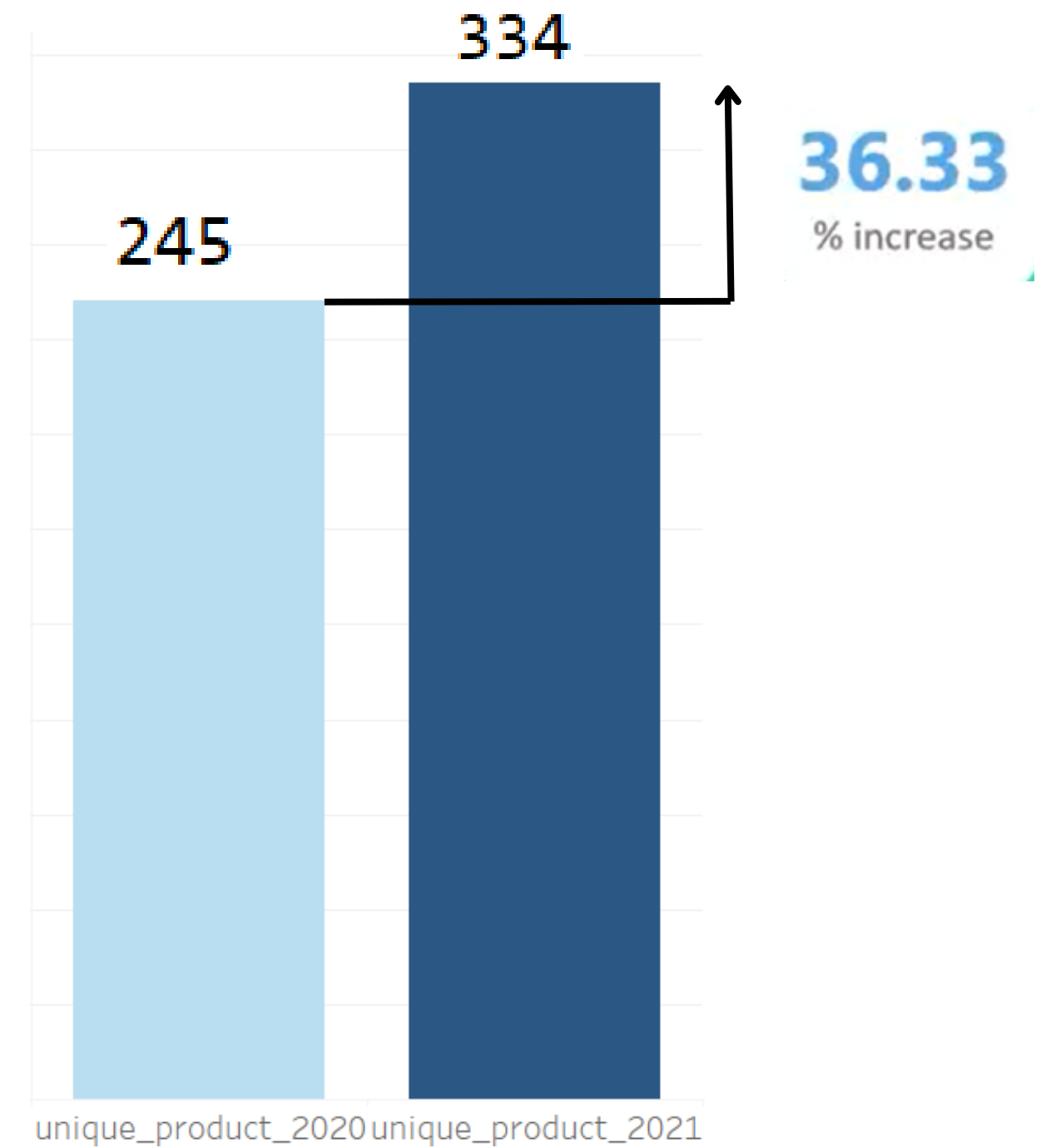
```
as percentage_difference
```

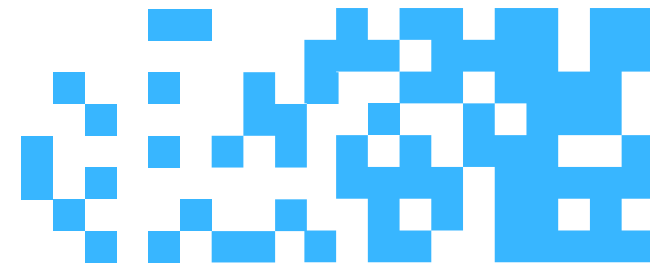
```
from cte cross join cte1
```

unique_products_2020	unique_products_2021	percentage_difference
245	334	36.33

VISUALISATION & INSIGHTS

- There was an increase in unique products from 245 in 2020 to 345 in 2021.
- This increase is about 89 products with growth rate of 36.33%.
- This was positive sign for growth of Atliq hardware





SQL QUERY AND OUTPUT

REQUEST 3

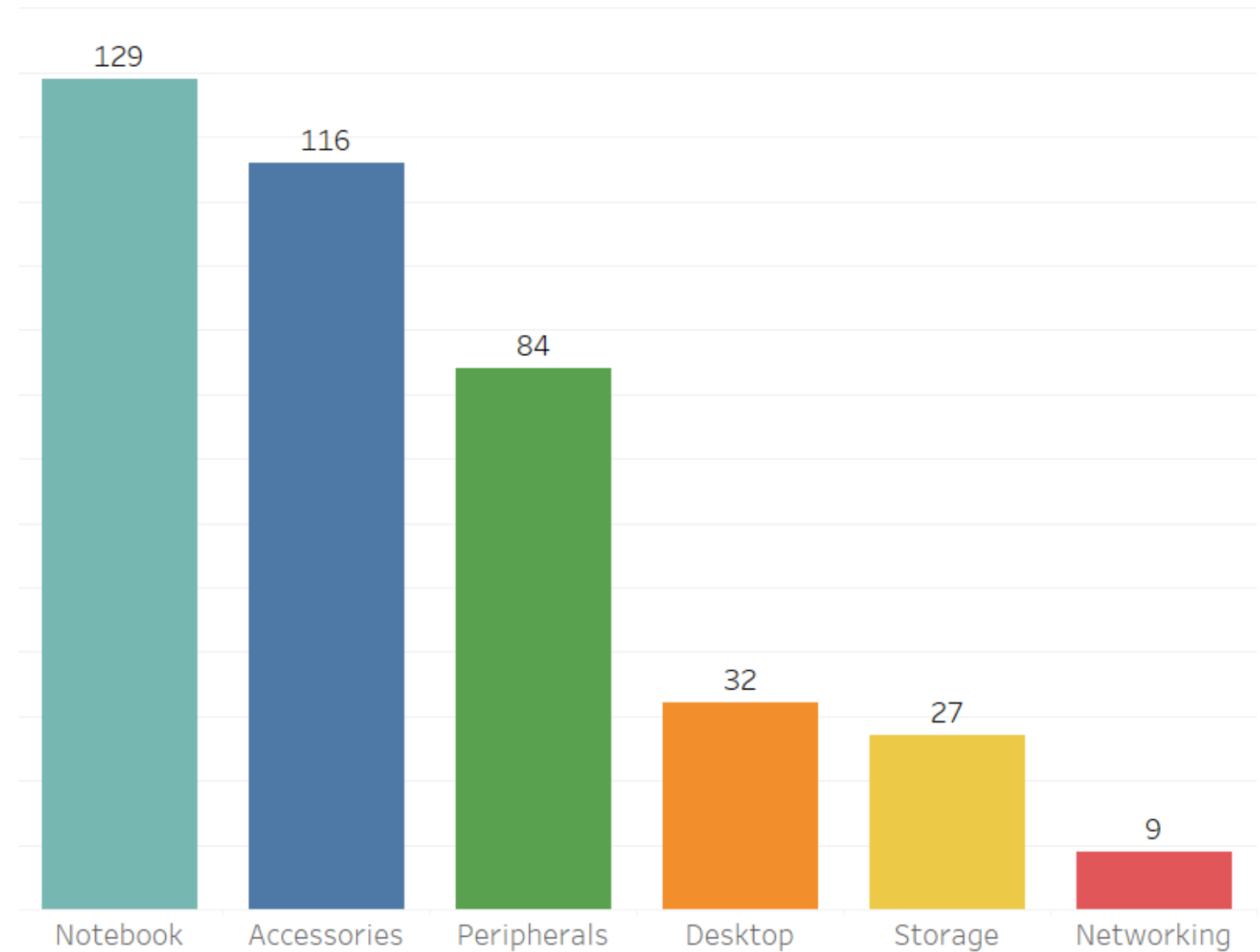
Provide a report with all the unique product counts for each segment and sort them in descending order of product counts. The final output contains 2 fields,
segment
product_count

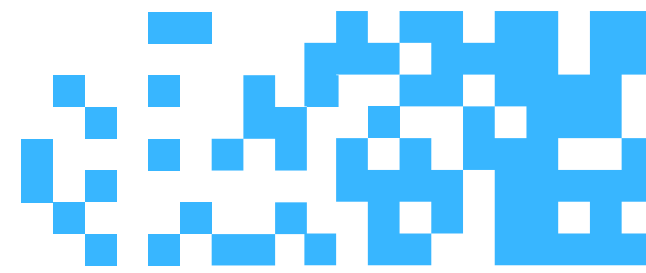
```
select segment, count(distinct product_code) as product_count from dim_product  
group by segment  
order by product_count DESC
```

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

VISUALISATION & INSIGHTS

This shows that the segments like Notebook, Accessories and peripherals with average of 109.6 produces more unique products compared to the segments desktop, storage and networking with average products of 22.6





SQL QUERY AND OUTPUT

REQUEST 4

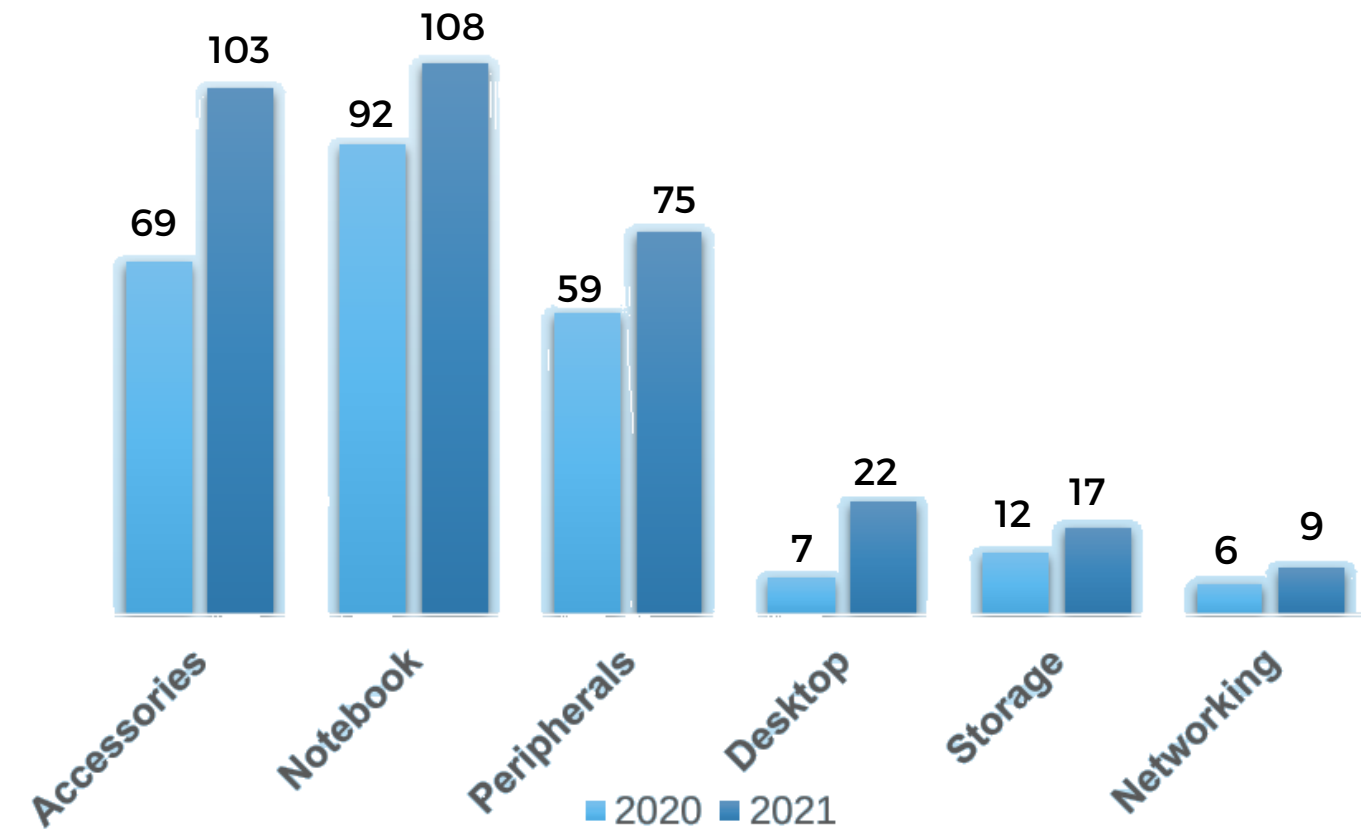
Which segment had the most increase in unique products in 2021 vs 2020? The final output contains these fields, segment, product_count_2020, product_count_2021, difference

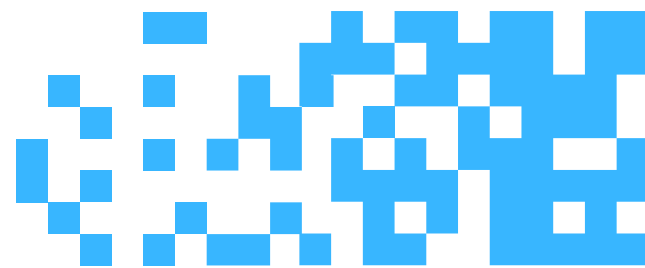
```
with cte as
(Select count(distinct f.product_code) as unique_product_2020,d.segment
 from fact_sales_monthly f
 join dim_product d on f.product_code=d.product_code WHERE f.fiscal_year=2020
 group by d.segment order by unique_product_2020),
cte1 as (Select count(distinct f.product_code) as unique_product_2021,d.segment
 from fact_sales_monthly f
 join dim_product d on f.product_code=d.product_code WHERE f.fiscal_year=2021
 group by d.segment order by unique_product_2021)
select cte.segment, cte.unique_product_2020, cte1.unique_product_2021,
(unique_product_2021-unique_product_2020) as difference
from cte join cte1 on cte.segment = cte1.segment
group by segment order by difference desc
```

segment	unique_product_2020	unique_product_2021	difference
Accessories	69	103	34
Peripherals	59	75	16
Notebook	92	108	16
Desktop	7	22	15
Storage	12	17	5
Networking	6	9	3

VISUALISATION & INSIGHTS

- In 2021, There was a significant increase in the products for the segments Accessories, Notebook, and peripherals
- Other segments such as Desktop, Storage and networking experienced minor increase in unique products.





SQL QUERY AND OUTPUT

REQUEST 5

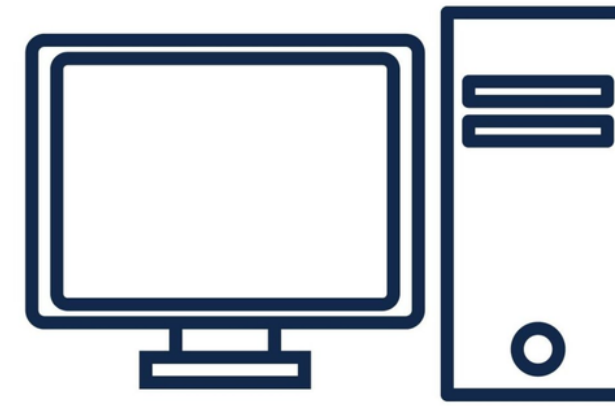
Get the products that have the highest and lowest manufacturing costs. The final output should contain these fields,
product_code
product manufacturing_cost

```
select f.product_code,product,concat("$"," ",manufacturing_cost)
as manufacturing_cost from fact_manufacturing_cost f
join dim_product d on f.product_code = d.product_code
where manufacturing_cost IN
((Select max(manufacturing_cost) from fact_manufacturing_cost),
(Select min(manufacturing_cost) from fact_manufacturing_cost))
order by manufacturing cost DESC
```

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

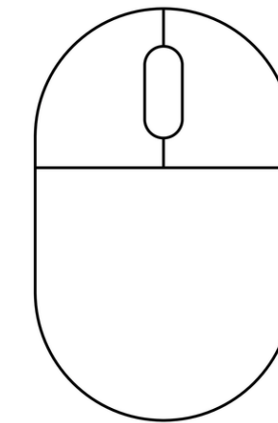
VISUALISATION & INSIGHTS

- AQ HOME Allin1 Gen 2 which is desktop, has highest manufacturing cost with \$240.5364
- AQ Master wired x1 Ms which mouse, has lowest manufacturing cost with \$0.8920



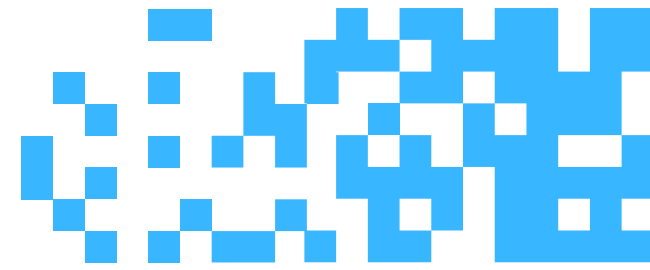
\$240.5364

AQ HOME Allin1 Gen2



\$0.8920

AQ Master wired x1 Ms



SQL QUERY AND OUTPUT

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. The final output contains these fields,

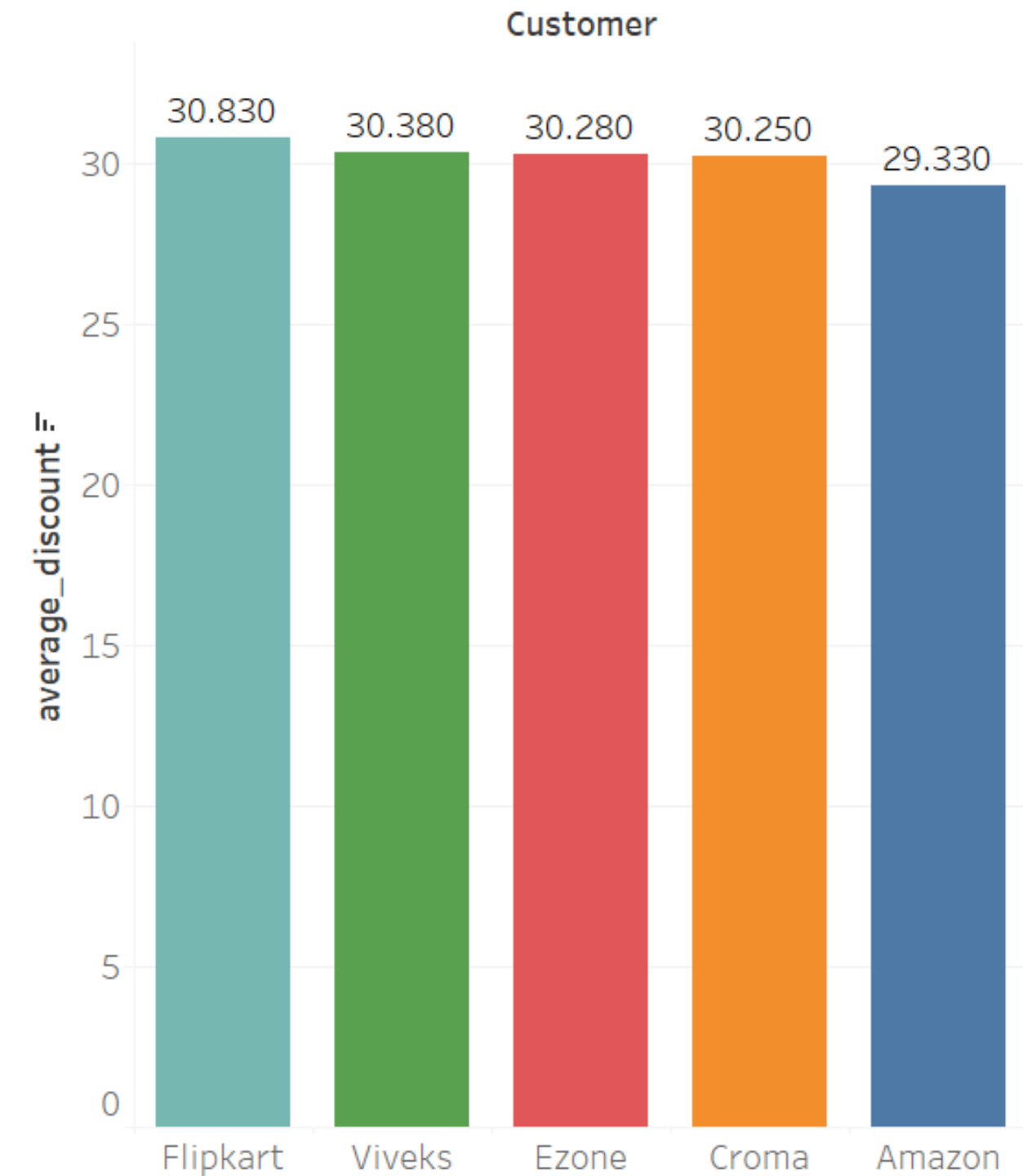
customer_code, customer
average_discount_percentage

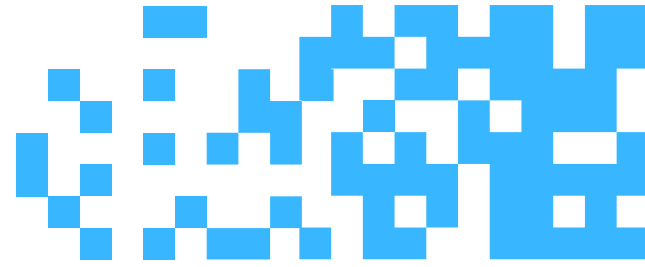
```
Select f.customer_code, customer,  
concat(Round(avg(pre_invoice_discount_pct)  
over(order by pre_invoice_discount_pct DESC)*100,2),"%") as avg_disc_perc  
from fact_pre_invoice_deductions f  
join dim_customer d on f.customer_code = d.customer_code  
where fiscal_year = 2021 and market = 'India'  
order by avg_disc_perc DESC LIMIT 5
```

customer_code	customer	avg_disc_perc
90002009	Flipkart	30.83%
90002006	Viveks	30.61%
90002003	Ezone	30.50%
90002002	Croma	30.44%
90002016	Amazon	30.21%

VISUALISATION & INSIGHTS

- In 2021 with 30.83%, flipkart had highest pre-invoice discount percentage which was offered in Indian market.
- top 5 list includes, viveks, Ezone, cromax and Amazon which has fewer difference percentage than Flipkart





SQL QUERY AND OUTPUT

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. The final report contains these columns:

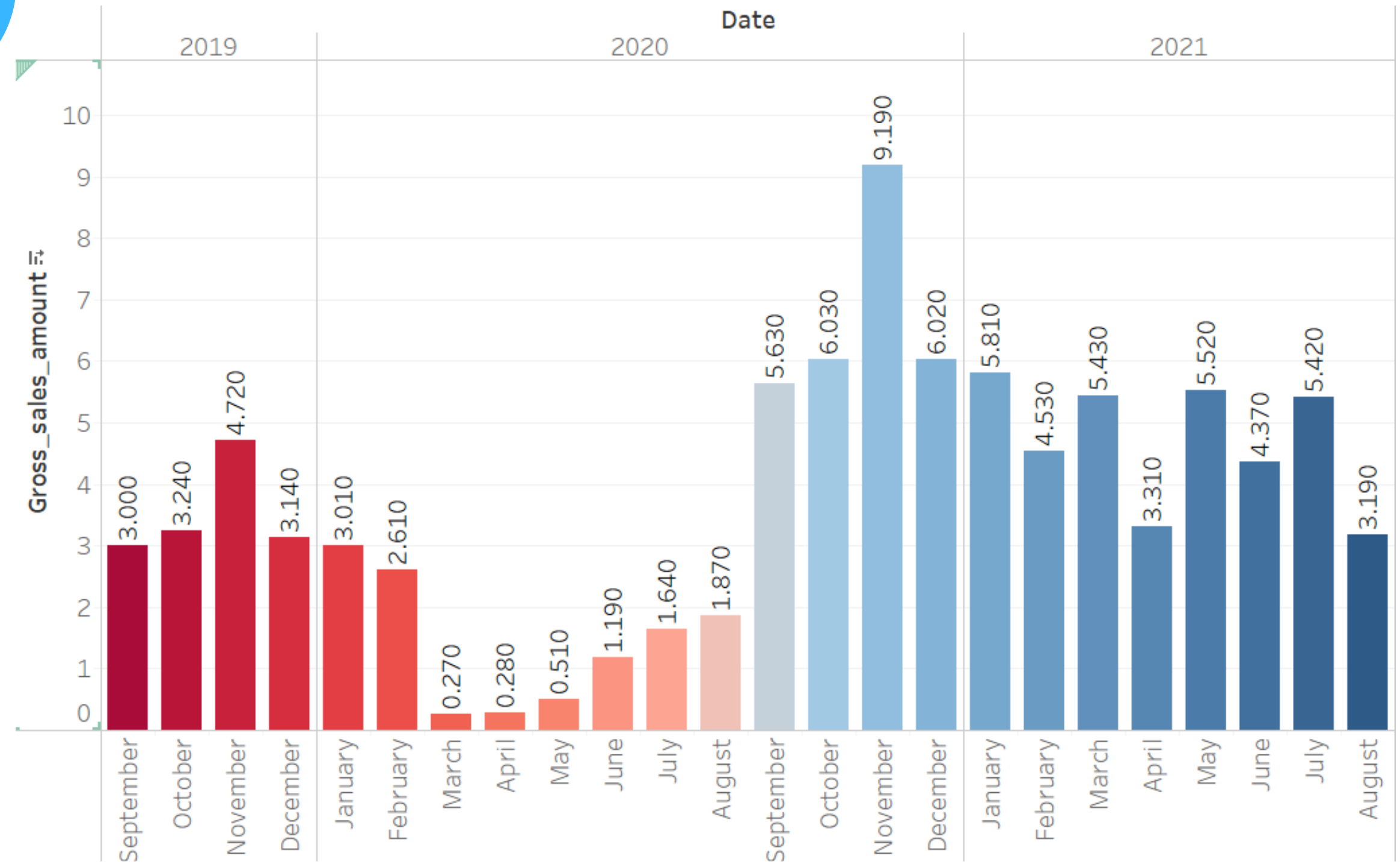
Month, Year, Gross sales Amount

```
select monthname(date) as month,Extract(year from date) as year,  
concat(round(sum(sold_quantity*g.gross_price)/1000000,2)," ","M") as gross_sales_amt_in_millions  
from fact_sales_monthly f join dim_customer d on f.customer_code=d.customer_code  
join fact_gross_price g on f.product_code = g.product_code  
where d.customer = "Atliq Exclusive" group by month,year
```

month	year	gross_sales_amt_in_millions
February	2020	8.08 M
March	2020	0.77 M
April	2020	0.80 M
May	2020	1.59 M
June	2020	3.43 M
July	2020	5.15 M
August	2020	5.64 M
September	2020	19.53 M
October	2020	21.02 M
November	2020	32.25 M
December	2020	20.41 M
January	2021	19.57 M
February	2021	15.99 M
March	2021	19.15 M
April	2021	11.48 M
May	2021	19.20 M
June	2021	15.46 M
July	2021	19.04 M
August	2021	11.32 M

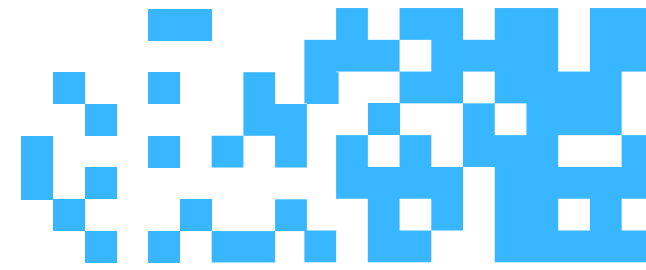
VISUALISATION & INSIGHTS

- This analysis shows that in march 2020 the Atliq Exclusive recorded lowest sales, which can be considered because of covid19.
- Then sales gradually increased and November 2021 recorded highest sales.



REQUEST 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

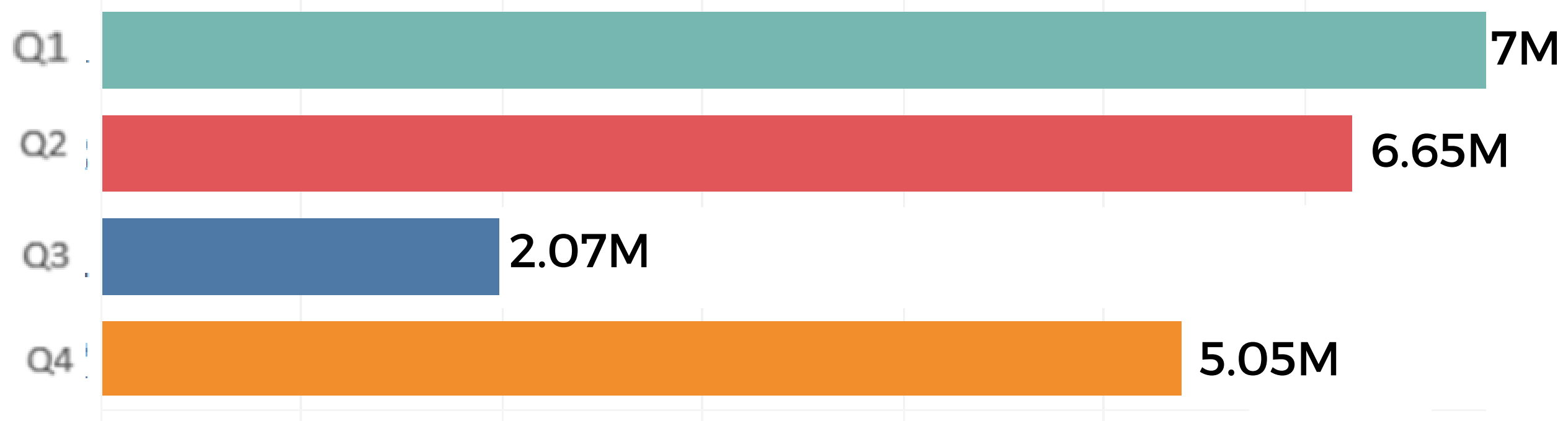


SQL QUERY AND OUTPUT

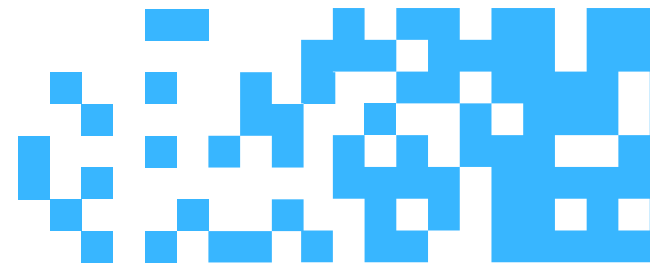
```
select case
when month(date) In (9,10,11) Then "Q1"
when month(date) IN (12,1,2) then "Q2"
when month(date) IN (3,4,5) then "Q3"
when month(date) IN (6,7,8) then "Q4"
End as Quarter ,format(Sum(sold_quantity), "#0,000,000") as total_sold_quantit
from fact_sales_monthly
where fiscal_year = 2020
group by Quarter
order by total_sold_quantity Desc
```

Quarter	total_sold_quantity
Q1	7,005,619
Q2	6,649,642
Q4	5,042,541
Q3	2,075,087

VISUALISATION & INSIGHTS



- In 2020, Quarter 1 recorded highest total sold quantity with more than 7 million items sold.
- Quarter 3 experienced lowest quantity sold, these is because of covid19 pandemic.
- later in quarter 4 the sales started to increase to more than 5 million which is considered to be good sign as sales are catching up as before.



SQL QUERY AND OUTPUT

REQUEST 9

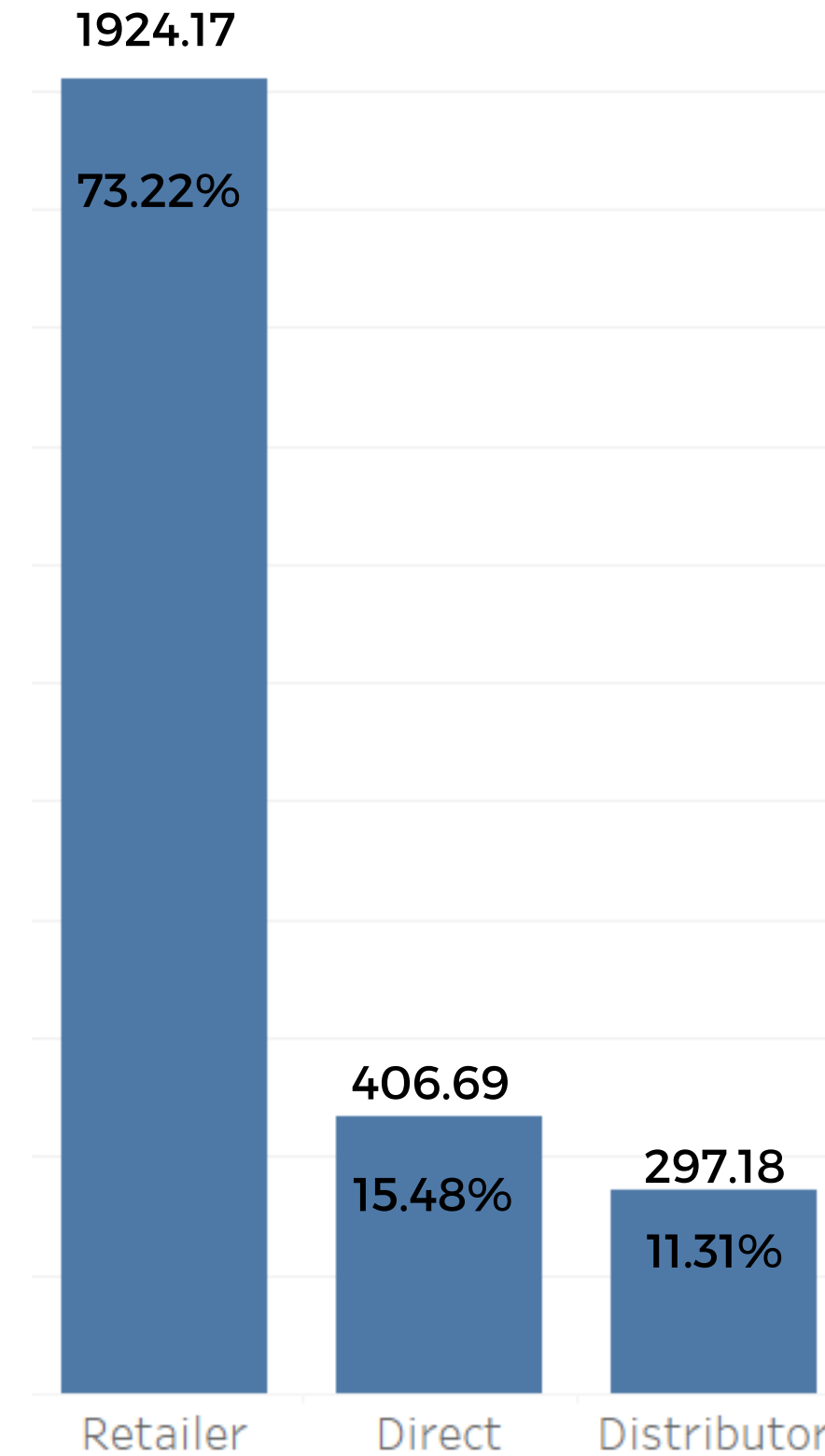
Which channel helped to bring more gross sales in the fiscal year 2021 and the percentage of contribution? The final output contains these fields,
channel
gross_sales_mln
percentage

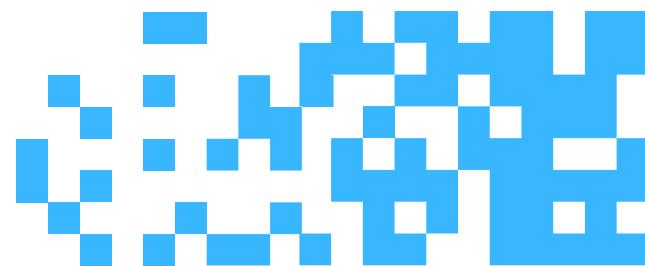
```
with cte as(  
  select distinct d.channel, round(sum(sold_quantity*g.gross_price)/1000000,2) as gross_sales_mln  
  from fact_sales_monthly f join dim_customer d on f.customer_code=d.customer_code  
  join fact_gross_price g on f.product_code = g.product_code  
  where f.fiscal_year = 2021  
  group by channel),  
cte1 as(select sum(gross_sales_mln) as total_sales from cte)  
select cte.*,concat(round((gross_sales_mln*100)/sum(total_sales),2),"%") as percentage from cte  
join cte1 group by channel  
order by gross_sales_mln DESC
```

channel	gross_sales_mln	percentage
Retailer	1924.17	73.22%
Direct	406.69	15.48%
Distributor	297.18	11.31%

VISUALISATION & INSIGHTS

- The retailer channel recorded the highest gross sales with a contribution of 73.22%
- followed by Direct channel and Distributor channel.
- From this we can conclude that Atliq Exclusive focused on B2B business model.





SQL QUERY AND OUTPUT

REQUEST 10

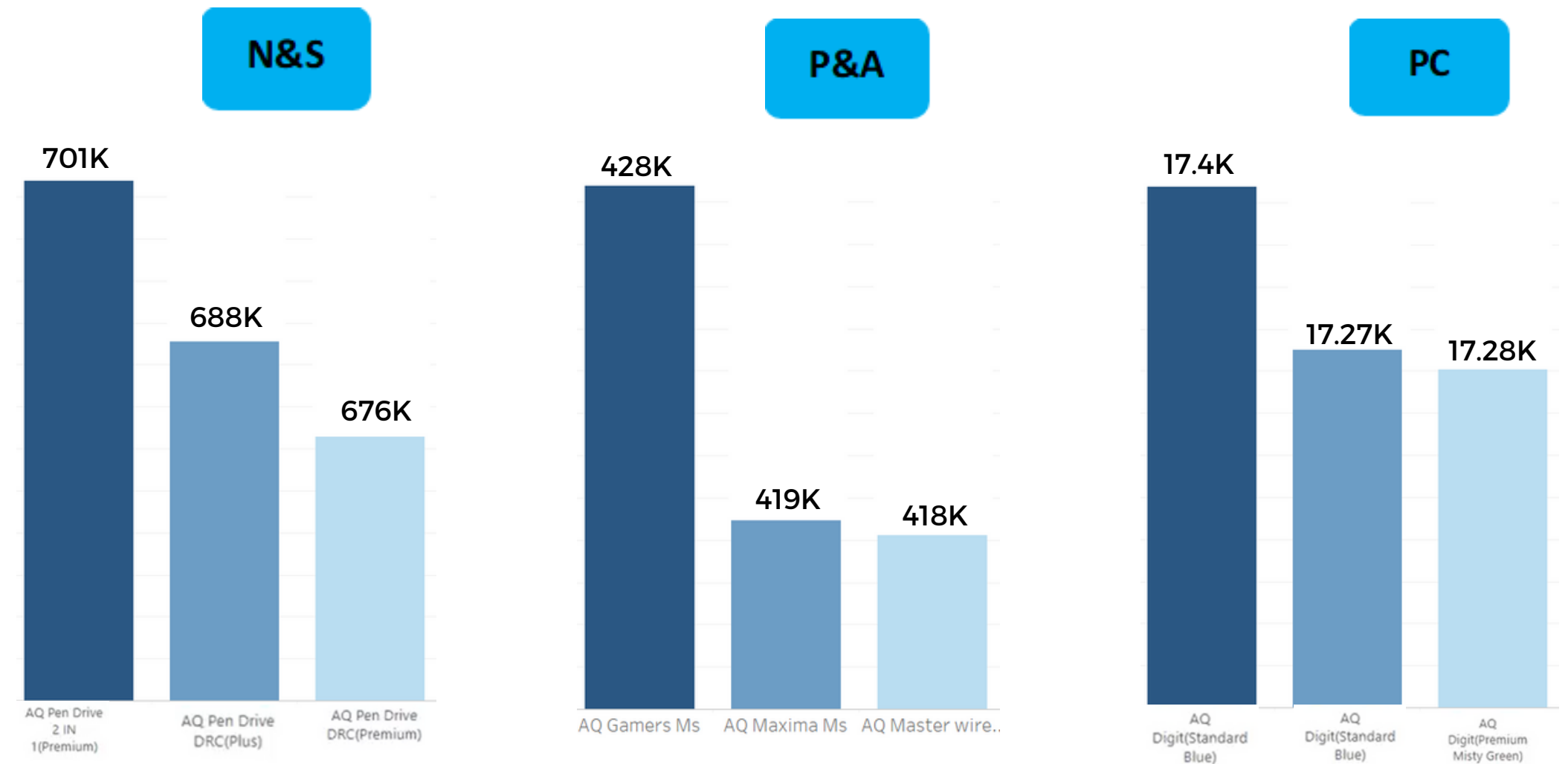
Get the Top 3 products in each division that have a high total_sold_quantity in the fiscal_year 2021? The final output contains these fields, division, product_code, product, total_sold_quantity, rank_order

```
with cte as
(Select division,f.product_code, d.product,format(sum(sold_quantity),"#000,000") as total_sold_quantity,
dense_rank() over(partition by division order by sum(sold_quantity) DESC) as rank_order
from fact_sales_monthly f join dim_product d on f.product_code=d.product_code
where fiscal_year = 2021
group by d.product,d.product_code,division
order by total_sold_quantity desc ) ,
cte1 as(select * from cte)
select * from cte1 where rank_order<=3
```

division	product_code	product	total_sold_quantity	rank_order
N & S	A6720160103	AQ Pen Drive 2 IN 1	701,373	1
N & S	A6818160202	AQ Pen Drive DRC	688,003	2
N & S	A6819160203	AQ Pen Drive DRC	676,245	3
P & A	A2319150302	AQ Gamers Ms	428,498	1
P & A	A2520150501	AQ Maxima Ms	419,865	2
P & A	A2520150504	AQ Maxima Ms	419,471	3
PC	A4218110202	AQ Digit	17,434	1
PC	A4319110306	AQ Velocity	17,280	2
PC	A4218110208	AQ Digit	17,275	3

VISUALISATION & INSIGHTS

- The top 3 selling products in N&S were pendrives, which were sold around 701k in quantity.
- The top 3 selling products in N&S were mice, which were sold around 420k in quantity.
- The top 3 selling products in PC were personal computers, which were sold around 17k in quantity.





THANK YOU