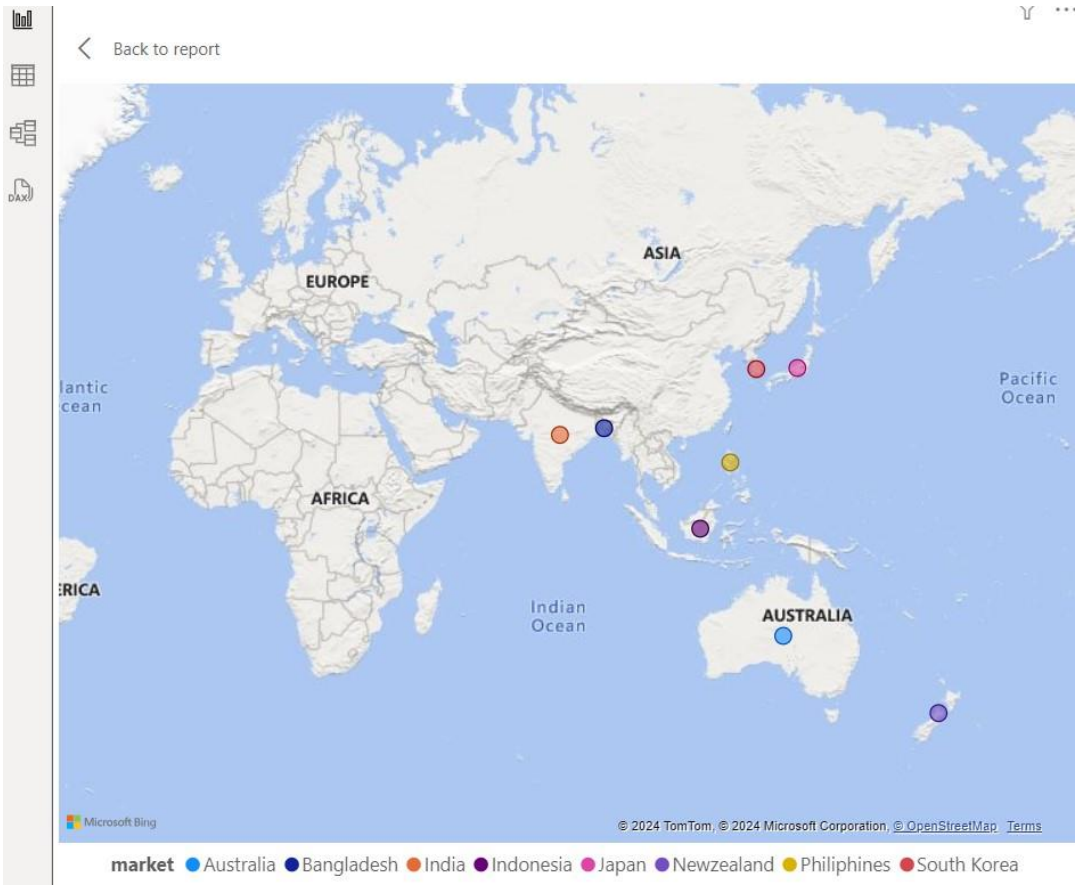
Adhoc Requests Solution

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

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

Result Grid

market
India
Indonesia
Japan
Philiphines
South Korea
Australia
Newzealand
Bangladesh



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

Ans:

SELECT COUNT (DISTINCT CASE WHEN fsm.fiscal_year = 2020 THEN dp.product_code END) AS unique_products_2020,

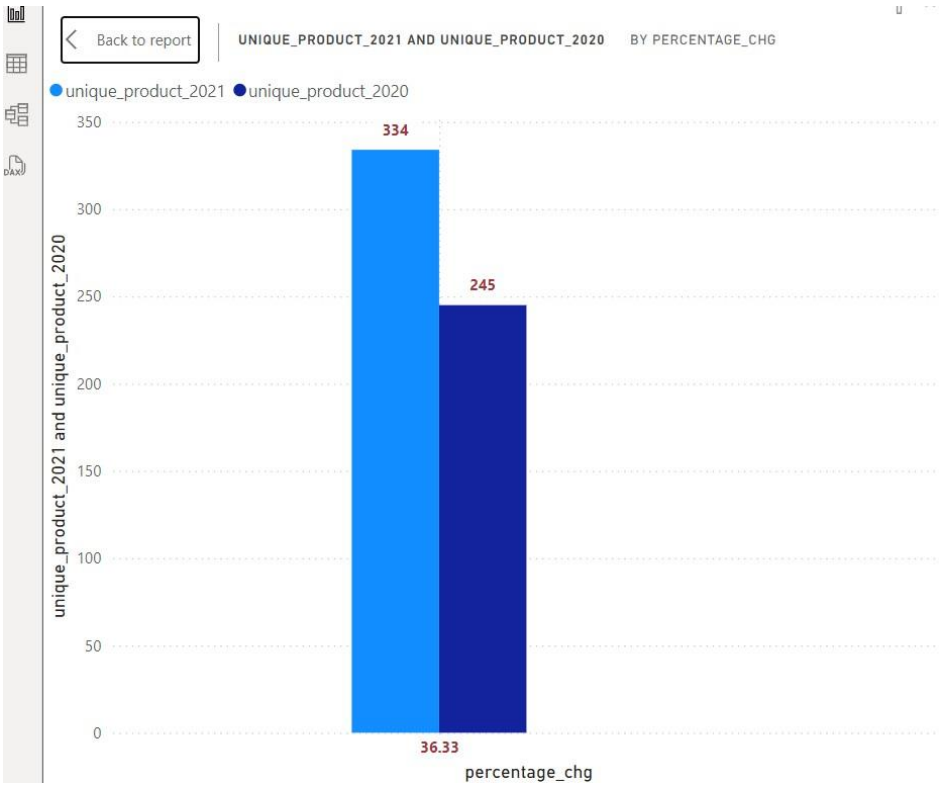
COUNT (DISTINCT CASE WHEN fsm.fiscal_year = 2021 THEN dp.product_code END) AS unique_products_2021,

(COUNT (DISTINCT CASE WHEN fsm.fiscal_year = 2021 THEN dp.product_code END) - COUNT(DISTINCT CASE WHEN fsm.fiscal_year = 2020 THEN dp.product_code END))*100 / COUNT (DISTINCT CASE WHEN fsm.fiscal_year = 2020 THEN dp.product_code END) AS percentage_chg

FROM dim_product dp JOIN fact_sales_monthly fsm ON dp.product_code = fsm.product_code WHERE fsm.fiscal_year IN (2020, 2021);

Result Grid | Filter Rows: | Export:

	unique_products_2020	unique_products_2021	percentage_chg
▶	245	334	36.3265



Insight: 36.33% increase in unique product is a great indicator of growth of the company

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

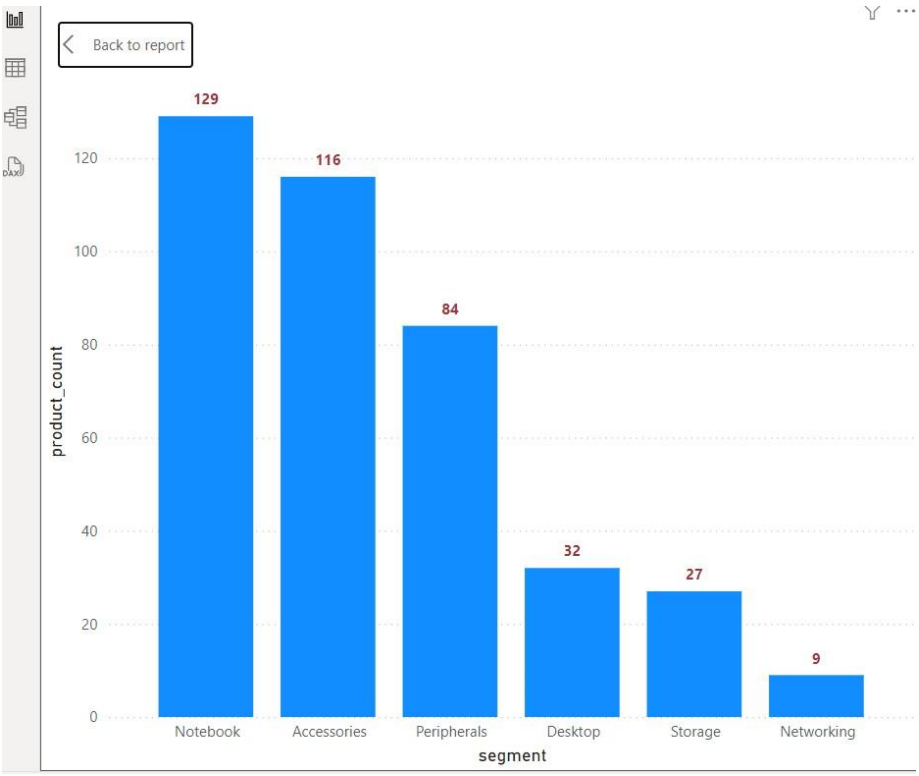
Ans:

select segment, count(product_code) as product_count from dim_product group by segment

order by count(product_code) desc;

Result Grid | Filter Rows:

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



Insight: Clearly Notebook, Accessories and Peripherals show better product count than Desktop, Storage and Networking segment. So, we can increase no.of unique products in Notebook, Accessories and Peripheral Segments.

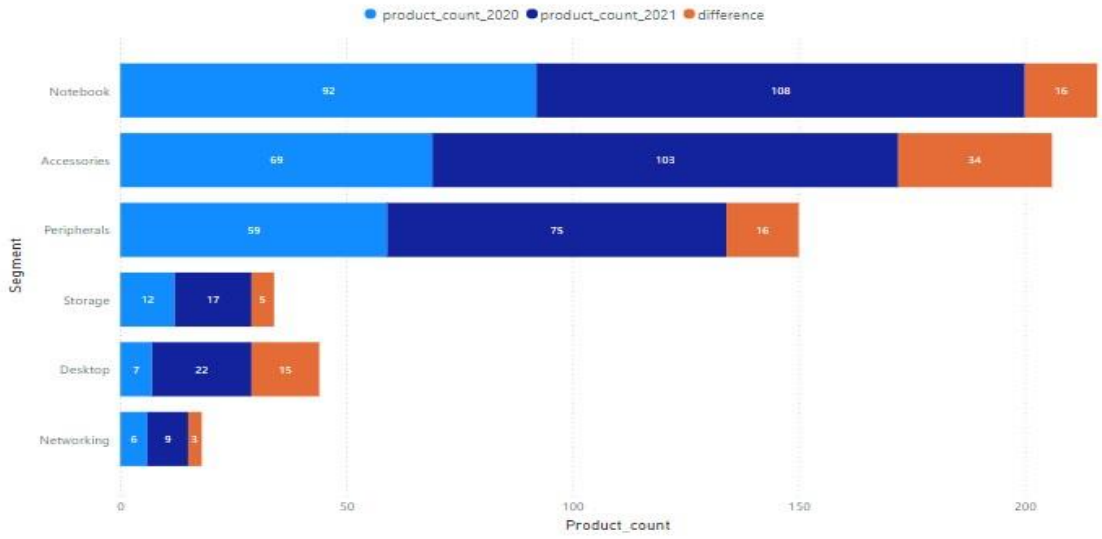
4. Follow-up: Which segment had the most increase in unique products in 2021 vs 2020? The final output contains these fields: segment, product_count_2020, product_count_2021, difference.

Ans:

```
with cte1 AS (

select segment,count(distinct case when fiscal_year='2020' then dp.product_code END) AS product_count_2020,

count(distinct case when fiscal_year='2021' then dp.product_code END) AS product_count_2021

from dim_product as dp join fact_sales_monthly as fsm ON dp.product_code= fsm.product_code group by segment)

select segment, product_count_2020, product_count_2021, (product_count_2021-product_count_2020) as difference from cte1 order by difference desc;
```

Result Grid | Filter Rows: | Export: | Wrap Cell Content:

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



Insight: 34 new products added to accessories, networking and storage segment got least amount of new unique products.

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

Ans:

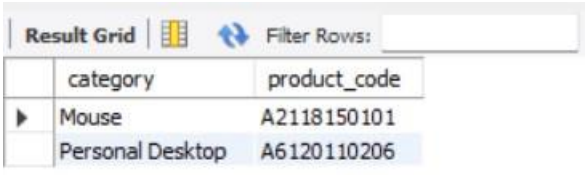
```
select dim_product.product_code,product,manufacturing_cost from fact_manufacturing_cost as fmc

left join dim_product on dim_product.product_code= fmc.product_code where

manufacturing_cost=(select min(manufacturing_cost) from fact_manufacturing_cost) or

manufacturing_cost=(select max(manufacturing_cost) from fact_manufacturing_cost);
```

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

Insight: After running an additional query I found that the mouse with product_code'A2118150101' has lowest manufacturing cost and Personal Desktop with product_code 'A6120110206' has highest manufacturing cost.

Additional Query:

```
select category, product_code from dim_product where product_code='A2118150101'

union

select category, product_coe from dim_product where product_code='A6120110206';
```



category	product_code
Mouse	A2118150101
Personal Desktop	A6120110206

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

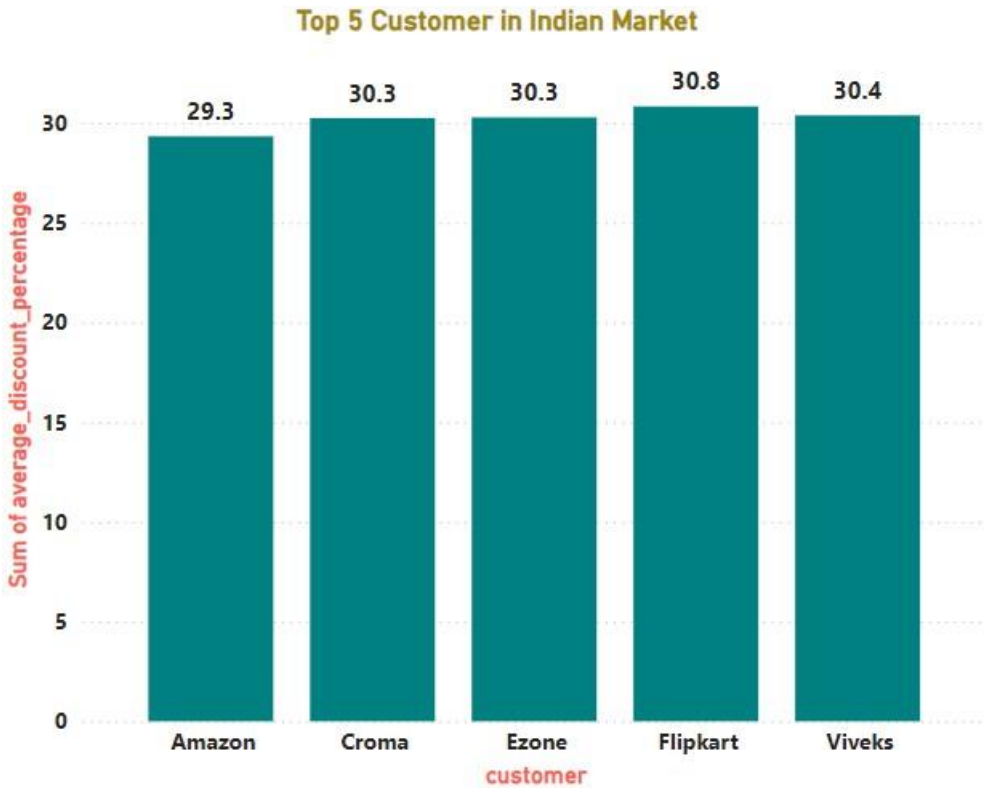
Ans:

select dc.customer_code,dc.customer,round(avg(pre_invoice_discount_pct)*100,2) as average_discount_percentage from dim_customer dc

left join fact_pre_invoice_deductions as fpid on dc.customer_code=fpid.customer_code where fiscal_year=2021 and market= "india" group by dc.customer_code, dc.customer order by average_discount_percentage desc limit 5;

Result Grid | Filter Rows: | Export:

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



Insight: Flipkart got the highest pre invoice discount percentage i.e.30.83%

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

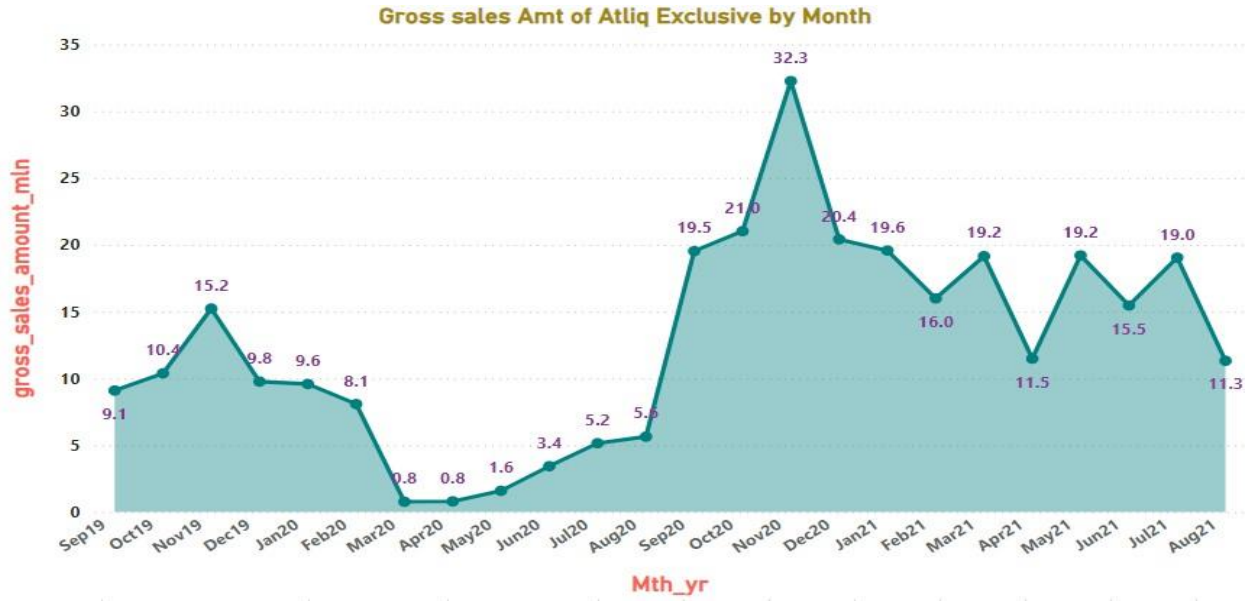
Ans:

select monthname(date) as month ,year(date) as year,
round(sum(gross_price*sold_quantity)/1000000,2) as gross_sales_amount_mln from
fact_sales_monthly as fsm left join fact_gross_price as fgp on fsm.product_code=fgp.product_code

left join dim_customer on dim_customer.customer_code= fsm.customer_code where customer="Atliq Exclusive" group by month,year order by year;

Result Grid | Filter Rows:

month	year	gross_sales_amount_mln
September	2019	9.09
October	2019	10.38
November	2019	15.23
December	2019	9.76
January	2020	9.58
February	2020	8.08
March	2020	0.77
April	2020	0.80
May	2020	1.59
June	2020	3.43
July	2020	5.15
August	2020	5.64
September	2020	19.53
October	2020	21.02
November	2020	32.25
December	2020	20.41
January	2021	19.57
February	2021	15.99
March	2021	19.15
April	2021	11.48
May	2021	19.20
June	2021	15.46
July	2021	19.04
August	2021	11.32



Insight: Highest sales in Nov 2020(32.3mln) and lowest sales in Mar2020(0.8mln). From Mar2020 to Aug 2020 sales are very low(COVID restrictions). From sept2020 onwards sales increased sufficiently because of removal of COVID restrictions and Festive season in India (Sept 2020 to Jan 2021).

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

Ans:

```
with cte AS (

select sum(sold_quantity) as total_sold_qty,

case

when month(date) between 3 and 5 then 'Q3'

when month(date) between 6 and 8 then 'Q4'

when month(date) between 9 and 11 then 'Q1'

else 'Q2'

end as quarter

from fact_sales_monthly where fiscal_year=2020 group by quarter)

select quarter,total_sold_qty from cte;
```

Result Grid | Filter Rows:

quarter	total_sold_qty
Q1	7005619
Q2	6649642
Q3	2075087
Q4	5042541

Insight: Total sold Qty in Q1 of 2020(Dec, Jan, Feb) was highest, in Q3 of 2020 (Mar, Apr, May) low due to COVID. Again Q4 Total Sold Qty Increased due to increase in sales of products for online classes.

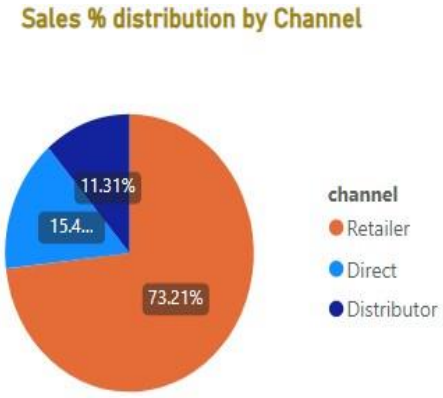
9. Which channel helped to bring more gross sales in the fiscal year 2021 and the percentage of contribution? The final output contains these fields: channel, gross_sales_mln, percentage

Ans:

```
with cte1 as(

select dc.channel,

round(sum(gross_price* sold_quantity)/1000000,2) as gross_sales_mln from dim_customer as dc join fact_sales_monthly as fsm

on dc.customer_code= fsm.customer_code join fact_gross_price as fgp

on fgp.product_code= fsm.product_code where fsm.fiscal_year='2021' group by dc.channel)

select channel,gross_sales_mln,

CONCAT(ROUND(gross_sales_mln*100/sum(gross_sales_mln) OVER(),2),'%') as percentage from cte1 order by percentage desc;
```

Result Grid | Filter Rows:

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



Insight: Clearly Retailers are the best channel to carry out sales.

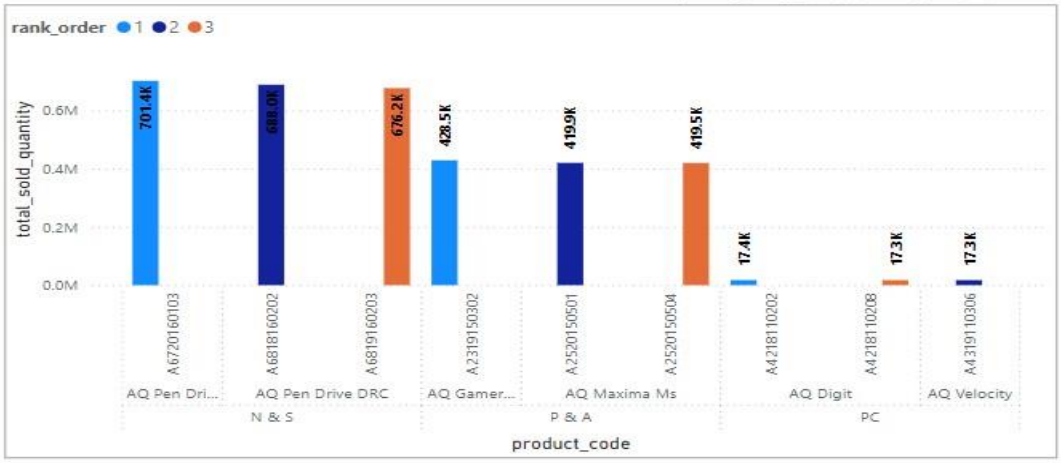
10. Get the Top 3 products in each division that have a high total_sold_quantity in the fiscal_year 2021? The final output contains these fields: division, product_code, product, total_sold_quantity, rank_order

Ans:

```
WITH cte AS (
SELECT DIVISION,fsm.product_code, 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 as dp join fact_sales_monthly as fsm
on dp.product_code = fsm.product_code where fiscal_year=2021 group by division, fsm.product_code,
product
)
select * from cte where rank_order<=3;
```

Result Grid | Filter Rows: | Export: | Wrap Cell Content:

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



Insight: From N&S division top product was Pendrive, From P& A division top product was Mouse and from PC division top product was personal computer.

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