ATLIQ TECHNOLOGIES

AD-HOC REQUESTS

RESUME PROJECT

#CHALLENGE_4

-ASHWIN RAMANAL

INTRODUTION

Atliq Technologies is one of the leading computer hardware producers in India and well expanded in other countries too.

Atliq Technologies has 74 customers, in 27 countries worldwide. Along with Asia Pacific (APAC) region, they also operate in Europe (EU), North America (NA) .

Atliq Hardware has 3 main division of products – Peripherals and Accessories (P & A), Network and Storage (N & S), and Personal Computer (PC).

REQUIRED KEY INSIGHTS

1. Atliq Exclusive operates in multiple markets in the APAC region.
2. The percentage increase in unique products for 2021 vs 2020 is required.
3. A report on the unique product counts for each segment is needed, sorted in descending order.
4. The segment with the highest increase in unique products for 2021 vs 2020 needs to be determined.
5. The products with the highest and lowest manufacturing costs are needed.
6. A report on the top 5 customers with the highest average pre-invoice discount percentage for FY 2021 in the Indian market is required.
7. A complete report of the Gross sales amount for the customer “Atliq Exclusive” for each month is needed.
8. The quarter with the maximum total sold quantity in 2020 needs to be determined, sorted by total sold quantity.
9. The channel that contributed the most to gross sales in FY 2021 and its percentage needs to be identified.
10. The top 3 products in each division with the highest total sold quantity in FY 2021, ranked in order, are needed.

REQUEST -1

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

```sql
SELECT DISTINCT `market` FROM `gdb023`.`dim_customer`
WHERE customer = 'Atliq Exclusive'
AND region = 'APAC';
```

OUTPUT:-

market
India
Indonesia
Japan
Philiphines
South Korea
Australia
Newzealand
Bangladesh

REQUEST-2

What is the percentage of unique product increase in 2021 vs. 2020? The final output contains these fields,

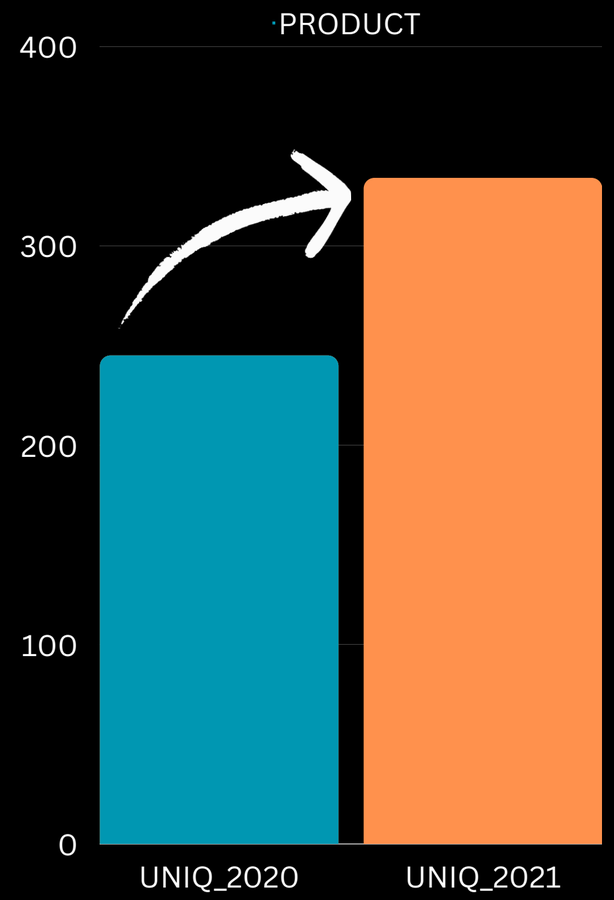
- unique_products_2020
- unique_products_2021
- percentage_chg

```sql
SELECT
    COUNT(DISTINCT CASE WHEN fiscal_year = 2020 THEN product_code END) AS unique_products_2020,
    COUNT(DISTINCT CASE WHEN fiscal_year = 2021  THEN product_code END) AS unique_products_2021,
    ((COUNT(DISTINCT CASE WHEN fiscal_year = 2021 THEN `product_code`END) - COUNT(DISTINCT CASE WHEN fiscal_year = 2020 THEN `product_code`END)) / COUNT(DISTINCT CASE WHEN fiscal_year = 2020 THEN `product_code`END) * 100) AS percentage_chg
FROM
    gdb023.fact_gross_price;
```

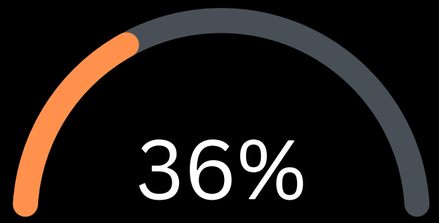
OUTPUT:-

	unique_products_2020	unique_products_2021	percentage_chg
▶	245	334	36.3265

REQUEST-2



As you can see in the chart, there was an increase in the number of unique products in 2021 compared to 2020. This can be seen by the higher bar for 2021 compared to 2020. The chart provides a clear visibility of the increase in the unique products of 2021 and unique products of 2020



REQUEST-3

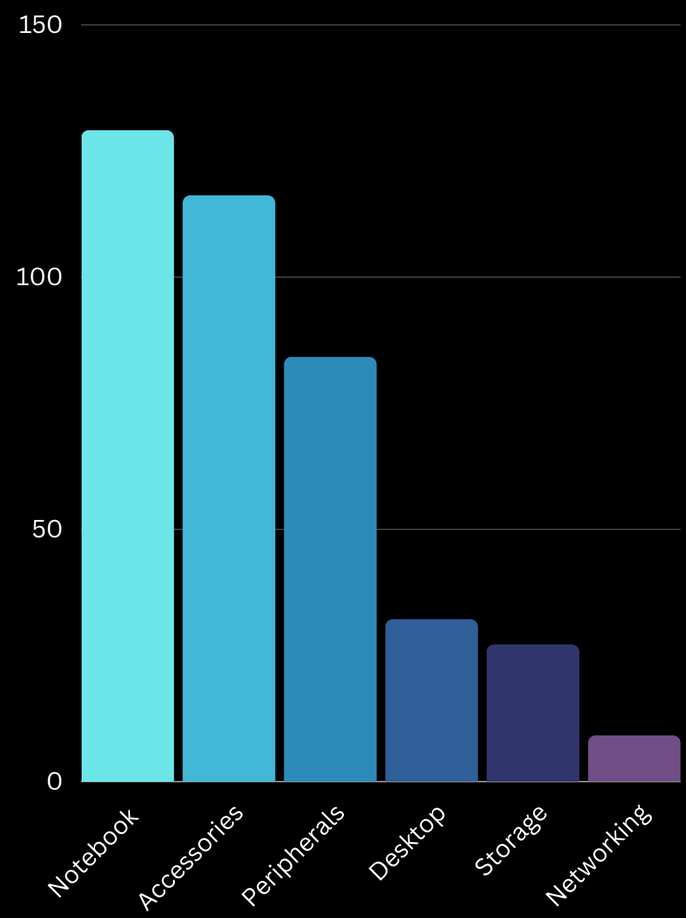
Provide a report with all the unique product counts for each segment and sort them in descending order of product counts. The final output contains 2 fields,

- segment
- product_count

```
SELECT segment,COUNT(DISTINCT product_code) as product_count
FROM `gdb023`.`dim_product`
GROUP BY
    segment
ORDER BY
    product_count DESC;
```

OUTPUT:-

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



REQUEST-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

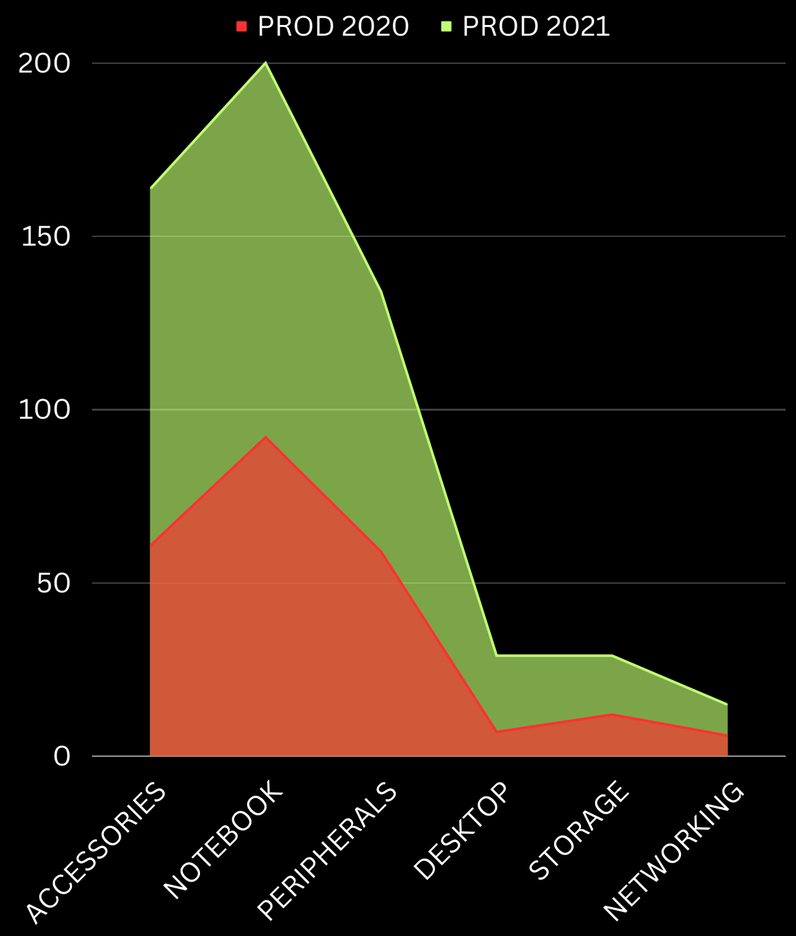
```sql
SELECT
    segment,
    COUNT(DISTINCT CASE WHEN fiscal_year= 2020 THEN dp.product_code END) as product_count_2020,
    COUNT(DISTINCT CASE WHEN fiscal_year= 2021 THEN dp.product_code END) as product_count_2021,
    COUNT(DISTINCT CASE WHEN fiscal_year= 2021 THEN dp.product_code END) - COUNT(DISTINCT CASE WHEN fiscal_year= 2020 THEN dp.product_code END) as difference
FROM `gdb023`.`dim_product` dp
INNER JOIN fact_gross_price fgp ON dp.product_code = fgp.product_code
GROUP BY segment
ORDER BY difference DESC;
```

REQUEST-4

OUTPUT:-

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

- Atliq Tech Company has demonstrated noteworthy advancements in the accessories segment, while the networking segment exhibited minimal deviation from its initial Products



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
    dp.product_code,
    dp.product,
    fmc.manufacturing_cost
FROM `gdb023`.`dim_product`dp
INNER JOIN fact_manufacturing_cost fmc ON dp.product_code = fmc.product_code
where
fmc.manufacturing_cost = (
SELECT max(fmc2.manufacturing_cost)
from fact_manufacturing_cost fmc2 )
or
fmc.manufacturing_cost =(
SELECT min(fmc3.manufacturing_cost)
from fact_manufacturing_cost fmc3
)
ORDER BY
fmc.manufacturing_cost desc
LIMIT 2;
```

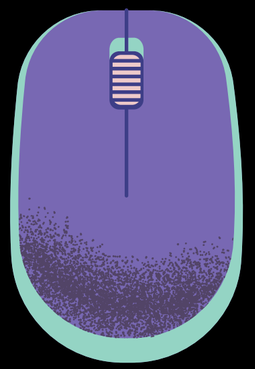
REQUEST-5

OUTPUT:-

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

- The manufacturing cost of the AQ HOME Alliin 1 Gen 2 product is higher than that of the AQ master Wired x1 product. This disparity in manufacturing costs could be due to various factors, such as differences in production processes, materials, or complexity of the product design.

- AQ HOME Alliin 1 Gen 2



- AQ master Wired x1

REQUEST-6

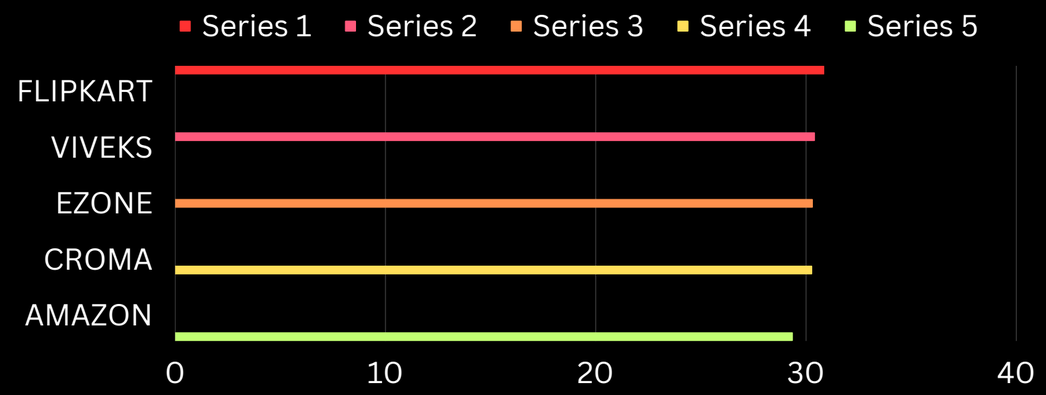
- Generate a report which contains the top 5 customers who received an average high pre_invoice_discount_pct for the fiscal year 2021 and in the Indian market. The final output contains these fields, customer_code customer average_discount_percentage

```
select distinct dp.customer_code,
dp.customer,
AVG((fpd.pre_invoice_discount_pct) * 100) AS average_discount_percentage
from `gdb023`.`dim_customer`dp
INNER JOIN `fact_pre_invoice_deductions`fpd ON dp.customer_code = fpd.customer_code
INNER JOIN `fact_gross_price`fgp ON fpd.fiscal_year=fgp.fiscal_year
where
fgp.fiscal_year="2021" and
dp.market="India"
group by
dp.customer_code,
dp.customer
order by
average_discount_percentage desc
limit 5;
```

REQUEST-6

- OUTPUT:

	customer_code	customer	average_discount_percentage
▶	90002009	Flipkart	30.83000000
	90002006	Viveks	30.38000000
	90002003	Ezone	30.28000000
	90002002	Croma	30.25000000
	90002016	Amazon	29.33000000



- The query output presents the average discount extended to customers of Atliq Technologies, with Flipkart ranking as the highest discount bearer and Amazon as the last of the top five.

REQUEST-7

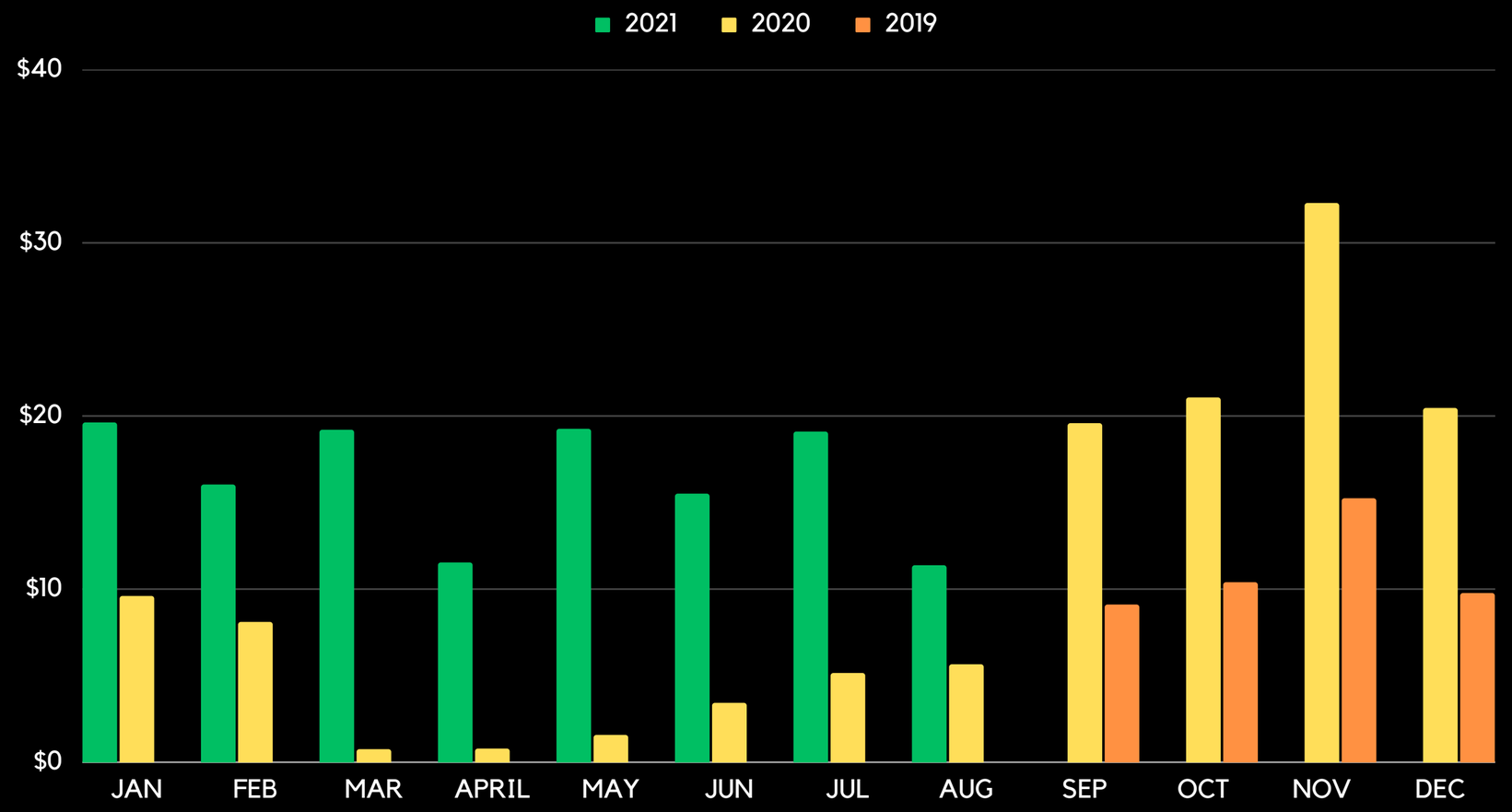
- Get the complete report of the Gross sales amount for the customer “Atliq Exclusive” for each month. This analysis helps to get an idea of low and high-performing months and take strategic decisions. The final report contains these columns: Month Year Gross sales Amount

```
select
monthname(fsm.date)as month,
year(fsm.date) as year,
concat("$",round(sum(fsm.sold_quantity*gross_price)/1000000,2) ,'M')as sales_amount
from `gdb023`.`dim_customer`dc
inner join fact_sales_monthly fsm on fsm.customer_code=dc.customer_code
inner join fact_gross_price fgp on fsm.product_code = fgp.product_code
where
 dc.customer="Atliq Exclusive"
group by
monthname(fsm.date),year(fsm.date)
order by
year(fsm.date),
monthname(fsm.date)
```

REQUEST-7

- OUTPUT:

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



REQUEST-7

Key Insights of the output

- The sales data of Atliq Technologies showcases the revenue generated from December 2019 to August 2021. The company's sales figures fluctuated during this period, with the highest sales being recorded in November 2020, amounting to $32.247 million, while the lowest sales were in April 2020, with a meager $0.8 million

- During the first quarter of 2020, the COVID-19 pandemic impacted the company's sales, resulting in a decline in revenue.
- However, the sales figures bounced back and increased consistently from August 2020 to February 2021, with the highest sales recorded in February 2021, amounting to $15.987 million

REQUEST-8

In which quarter of 2020, got the maximum total_sold_quantity? The final output contains these fields sorted by the

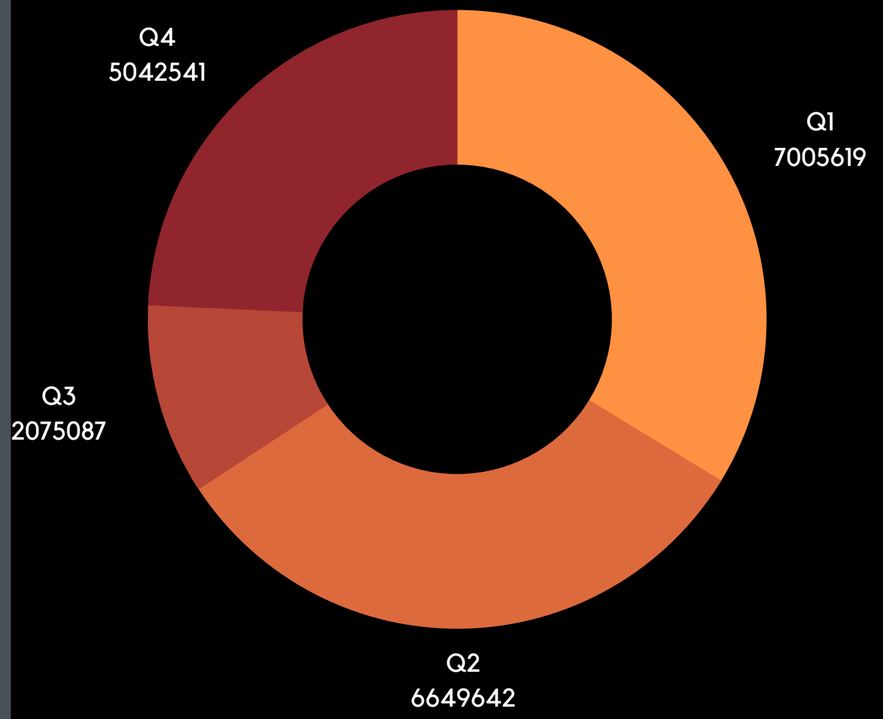
- total_sold_quantity,
- Quarter total_sold_quantit

```sql
select
case
when month(fsm.date) in (9,10,11) then "Q1"
when month(fsm.date) in (12,1,2) then "Q2"
when month(fsm.date) in (3,4,5) then "Q3"
when month(fsm.date) in (6,7,8) then "Q4" end as quarter ,
sum(fsm.sold_quantity) as Total_Sales
from `fact_sales_monthly` fsm
where
fsm.fiscal_year=2020
group by
quarter
order by
Total_sales Desc;
```

- OUTPUT:

	quarter	Total_Sales
▶	Q1	7005619
	Q2	6649642
	Q4	5042541
	Q3	2075087

REQUEST-8



Key Insights of the output

- Q1 had the highest sales figures of all the quarters with sales of 7005619.
- Q2 had the second-highest sales figures with 6649642.
- Q3 had the lowest sales figures of all the quarters with 2075087.
- Q4 had sales of 5042541, which is lower than Q1 and Q2 but higher than Q3.
- The company generated a total sales of 20,932,889 in fiscal year 2020 despite the challenges posed by the COVID-19 pandemic

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

  - Query:

```sql
WITH SUB_Q AS (
  SELECT a.channel, ROUND(SUM(b.gross_price * c.sold_quantity / 1000000), 3) AS gross_sales_mln
  FROM dim_customer a
  JOIN fact_sales_monthly c ON a.customer_code = c.customer_code
  JOIN fact_gross_price b ON b.product_code = c.product_code
  WHERE c.fiscal_year = 2021
  GROUP BY channel
)
SELECT *, (gross_sales_mln * 100) / SUM(gross_sales_mln) OVER() AS percentage
FROM SUB_Q
ORDER BY percentage DESC;
```

REQUEST-9

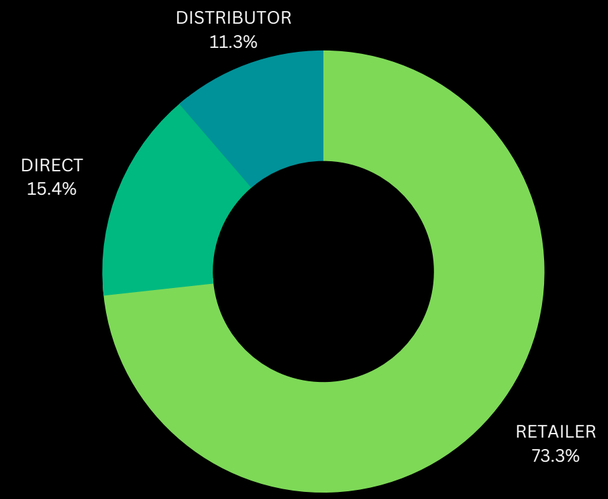
- Query Explaination:

1. The subquery SUB_Q calculates the gross sales in millions for each channel by joining three tables (dim_customer, fact_sales_monthly, and fact_gross_price) and filtering records for the year 2021.
2. The main query selects all columns from SUB_Q and adds a new column percentage that calculates the percentage of gross sales for each channel by dividing its gross sales by the total gross sales across all channels.
3. The OVER() function is used to apply the SUM() aggregation function over the entire result set, which provides the total gross sales for all channels.
4. The final result set is sorted in descending order by the percentage column.

REQUEST-9

- OUTPUT :

	channel	gross_sales_mln	percentage
▶	Retailer	1924.170	73.2171171
	Direct	406.687	15.4749579
	Distributor	297.176	11.3079250



1. The majority of sales are coming from the retailer channel, with a gross sales amount of 1924.170.
2. The distributor channel accounts for a smaller portion of sales, with only 11.3% of the total sales.
3. The direct channel has a slightly higher percentage of sales compared to the distributor channel, at 15.5%.
4. Overall, the retailer channel seems to be the most important in terms of driving gross sales, while the distributor and direct channels play a smaller role for the fiscal year 2021 .

REQUEST-10

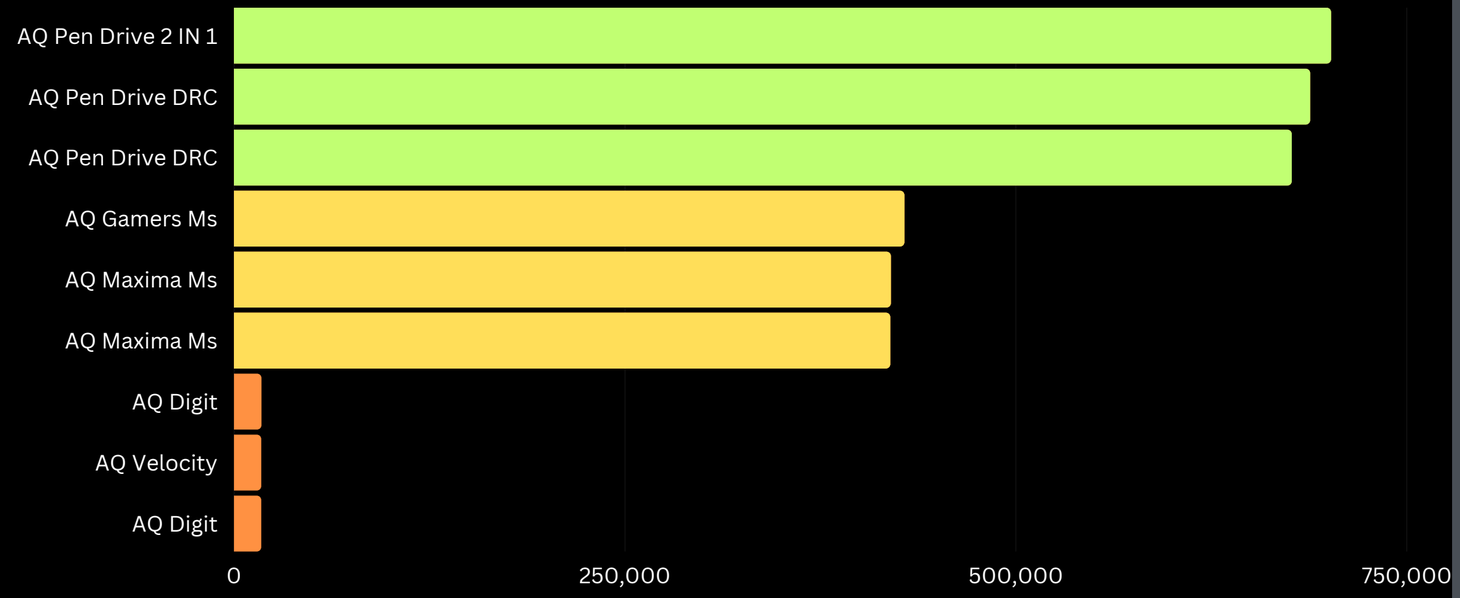
- Get the Top 3 products in each division that have a high total_sold_quantity in the fiscal_year 2021? The final output contains these fields,
- division
- product_code
- product
- total_sold_quantity
- rank_order

```sql
SELECT division, product_code, product, total_sales, rank_order
FROM (SELECT dp.division, dp.product_code, dp.product, SUM(fsm.sold_quantity) AS total_sales,
          RANK() OVER (PARTITION BY dp.division ORDER BY SUM(fsm.sold_quantity) DESC) AS rank_order
  FROM dim_product dp
  INNER JOIN fact_sales_monthly fsm ON dp.product_code = fsm.product_code
  WHERE fsm.fiscal_year = 2021
  GROUP BY dp.division, dp.product_code, dp.product
) AS sales_rank
WHERE rank_order <= 3
ORDER BY division, rank_order, total_sales DESC;
```

REQUEST-10

- OUTPUT :

division	product_code	product	total_sales	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



1. The report provides the top 3 products with high total sold quantity for each division in FY 2021.
2. The divisions are N & S, P & A, and PC.
3. For N & S division, AQ Pen Drive 2 IN 1 has the highest total sold quantity.
4. For the PC division, AQ Digit has the highest total sold quantity.
5. For the P&A division , AQ Gamers Ms holds rank 1 in total sales for the fiscal year 2021

Thank you!

ASHWIN