



Consumer Goods

Ad_hoc :requests



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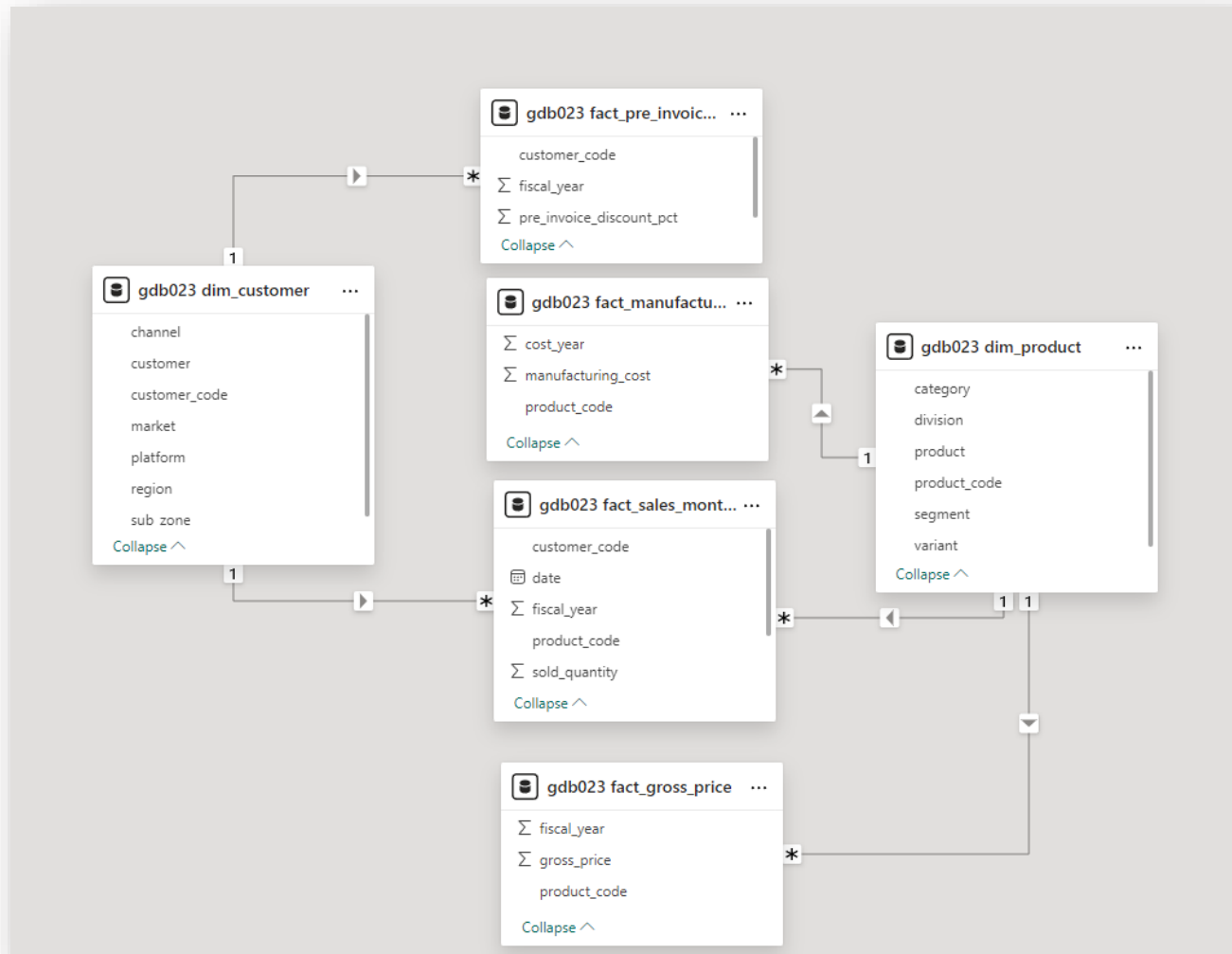


Objectives

- Atliq Hardwares (imaginary company) is one of the leading computer hardware producers in India and well expanded in other countries too.
- However, the management noticed that they do not get enough 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.



Tools Used, Data Modeling



Ad-hoc Requests



Codebasics SQL Challenge

Requests:

1. Provide the list of markets in which customer "Atliq Exclusive" operates its business in the APAC region.
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
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
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
5. Get the products that have the highest and lowest manufacturing costs. The final output should contain these fields,
product_code
product
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
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
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
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
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





Q1: Provide the list of markets in which customer "Atliq Exclusive" operates its business in the APAC region.

Query 1 Administration - Data Import/Res... dim_customer x dim_customer dim_product fact_sales_mont

Limit to 1000 rows

```
1 select distinct market from dim_customer
2 where region="APAC" and customer="Atliq Exclusive"
3 order by market asc
```

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

market
Australia
Bangladesh
India
Indonesia
Japan
Newzealand
Philippines
South Korea





Q2: What is the percentage of unique product increase in 2021 vs. 2020?

Ans: 36.33%

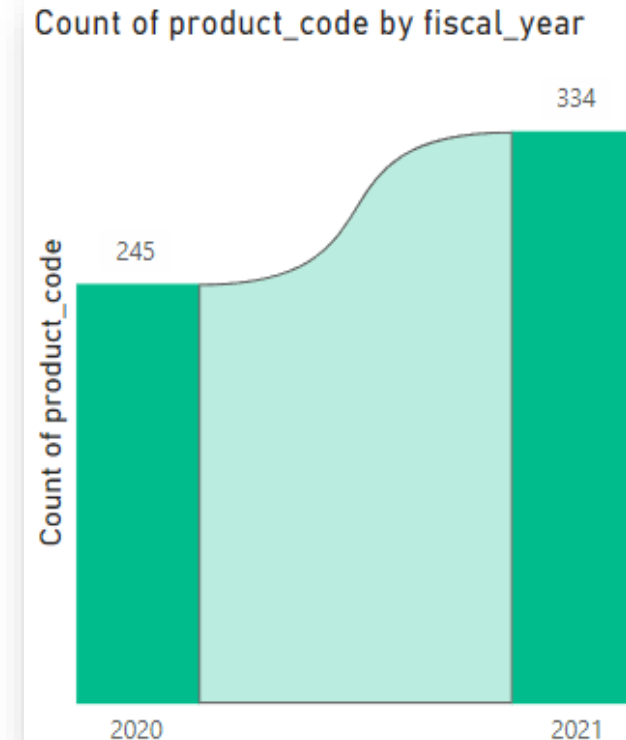
Query 1 Administration - Data Import/Res... dim_customer dim_customer dim_product x fact_sales_monthly fact_pre_invoice_deductions fact_manufacturin

Limit to 1000 rows

```
1 with unique_product as (select count(distinct case when m.cost_year=2020 then p.product_code End) as unique_product_2020,
2 count(distinct case when m.cost_year=2021 then p.product_code End) as unique_product_2021
3 from dim_product p
4 join fact_manufacturing_cost m on p.product_code=m.product_code)
5 select unique_product_2020,unique_product_2021,
6 round((unique_product_2021-unique_product_2020)*100/unique_product_2020,2) as pct_chg
7 from unique_product
```

Result Grid Filter Rows: Export: Wrap Cell Content:

	unique_product_2020	unique_product_2021	pct_chg
▶	245	334	36.33





Q3: Provide a report with all the unique product counts for each segment and sort them in descending order of product counts.

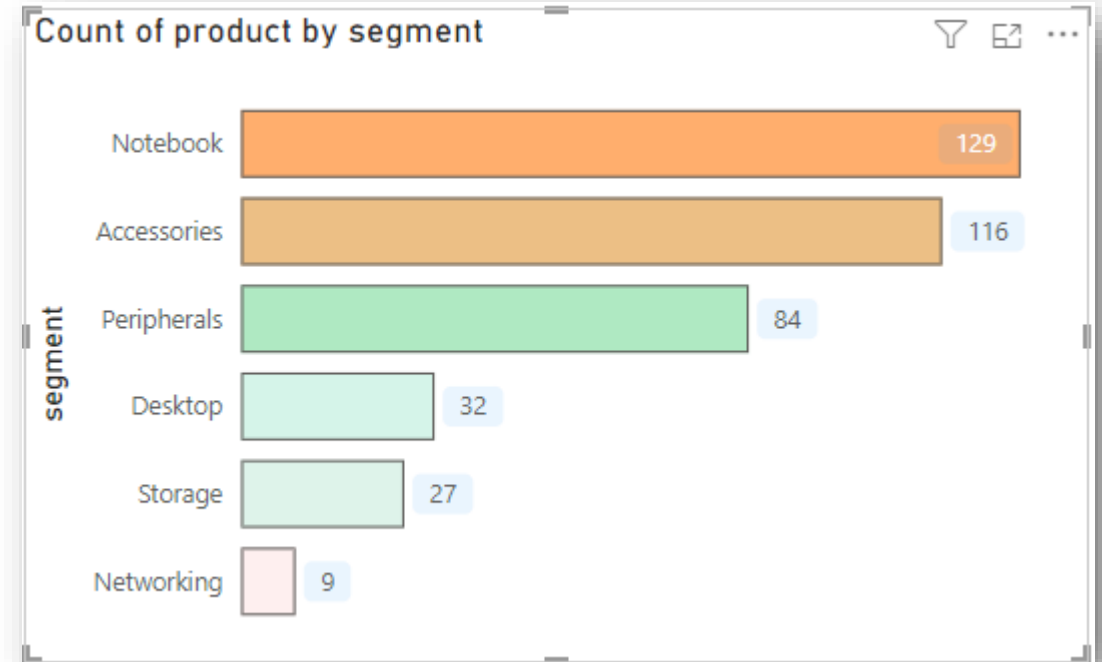
Query 1 Administration - Data Import/Res... dim_customer dim_customer dim_product fact_sales_monthly fact_

```
1 • SELECT segment, count(distinct (product_code)) as product_count FROM gdb023.dim_product
2 group by segment
3 order by product_count desc
```

Limit to 1000 rows

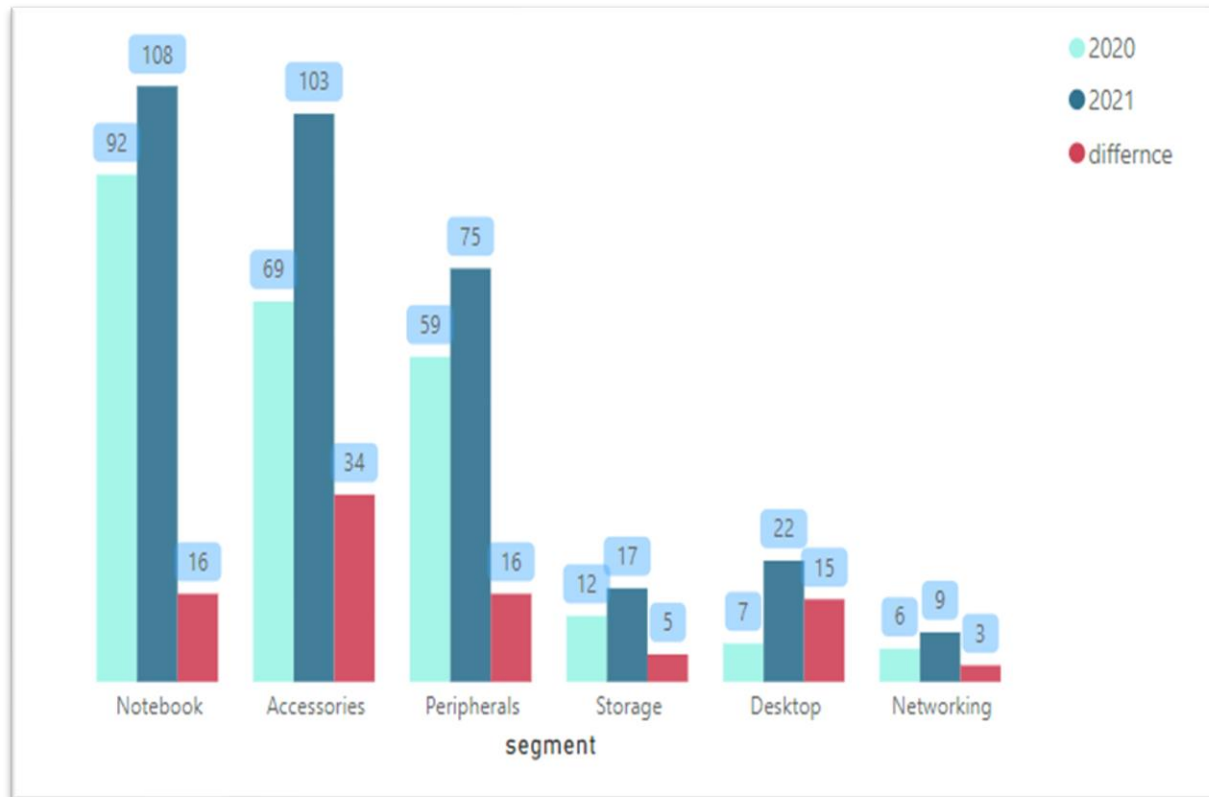
Result Grid Filter Rows: Export: Wrap Cell Content:

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





Q4:Follow-up: Which segment had the most increase in unique products in 2021 VS 2020?



Query 1 Administration - Data Import/Res... dim_customer dim_customer dim_product fact_sales_monthly fact_pre_inv

Limit to 1000 rows

```
1 with uniq_count as (select p.segment,
2   count(distinct case when g.fiscal_year=2020 then p.product_code END) as product_count_2020,
3   count(distinct case when g.fiscal_year=2021 then p.product_code END) as product_count_2021
4   from dim_product p
5   join fact_gross_price g on p.product_code=g.product_code
6   group by p.segment)
7   select *,(product_count_2021-product_count_2020) as difference from uniq_count
8   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



Q5: Get the products that have the highest and lowest manufacturing costs. The final output should contain these fields,

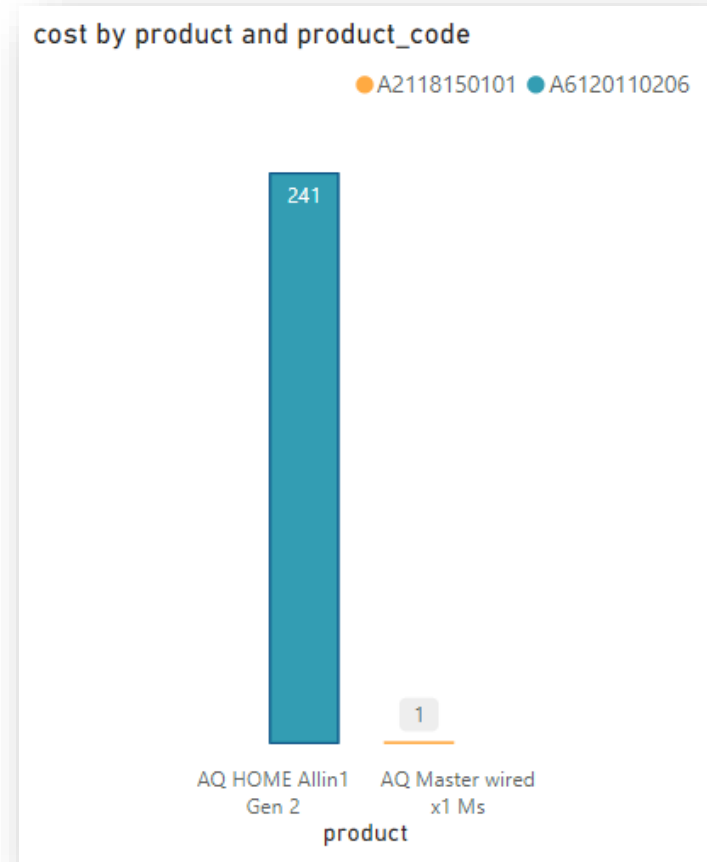
Query 1 Administration - Data Import/Res... dim_customer dim_customer dim_product fact_sales_monthly fac

Limit to 1000 rows

```
1 with mfg as (select p.product_code,p.product,
2 m.manufacturing_cost from fact_manufacturing_cost m
3 join dim_product p on m.product_code=p.product_code)
4 select * from mfg
5 where manufacturing_cost=(select max(manufacturing_cost) from mfg)
6 or manufacturing_cost=(select min(manufacturing_cost) from mfg)
7 order by manufacturing_cost desc
8
```

Result Grid Filter Rows: Exports: Wrap Cell Content:

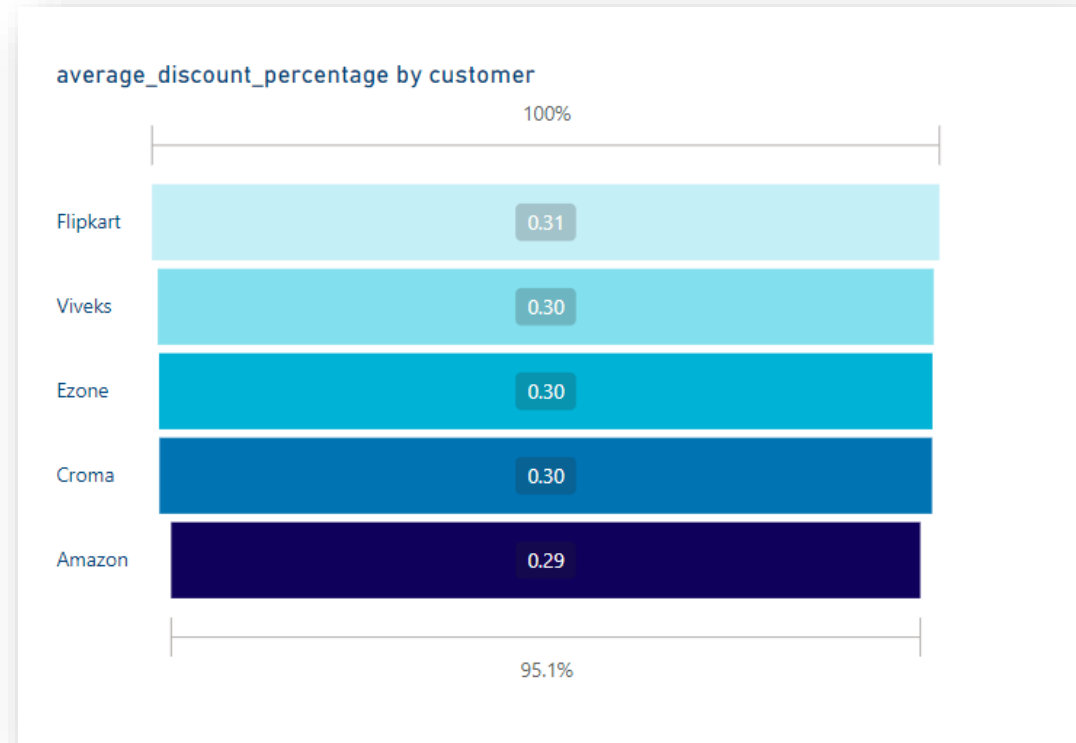
	product_code	product	manufacturing_cost
▶	A6120110206	AQ HOME Allin1 Gen 2	240.5364
	A2118150101	AQ Master wired x1 Ms	0.8920





Q6: 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

	customer_code	customer	avg_pid
▶	90002009	Flipkart	0.30830000
	90002006	Viveks	0.30380000
	90002003	Ezone	0.30280000
	90002002	Croma	0.30250000
	90002016	Amazon	0.29330000





Q6: 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

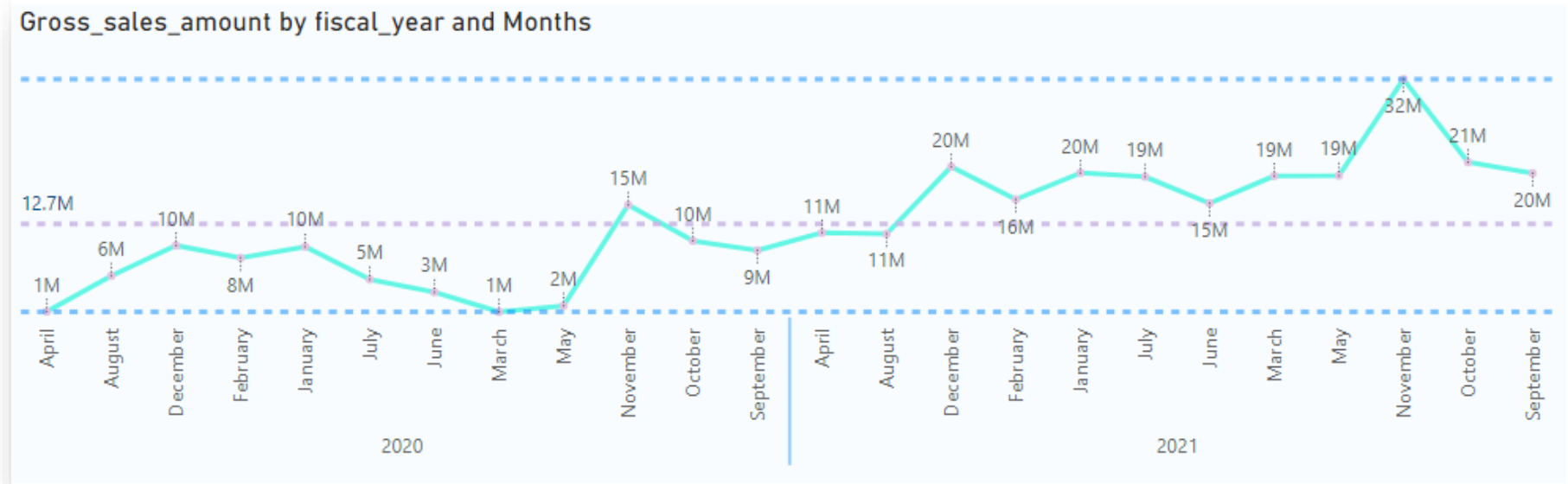
```
1 • with custoo as (SELECT c.customer_code,c.customer,p.fiscal_year,p.pre_invoice_discount_pct FROM gdb023.dim_customer c
2   join fact_pre_invoice_deductions p
3   on c.customer_code=p.customer_code
4   where p.fiscal_year=2021 and market = "India")
5   select customer_code,customer,avg(pre_invoice_discount_pct) as avg_pid
6   from custoo
7   group by customer_code,customer
8   order by avg_pid desc
9   limit 5
```



Q7: 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.

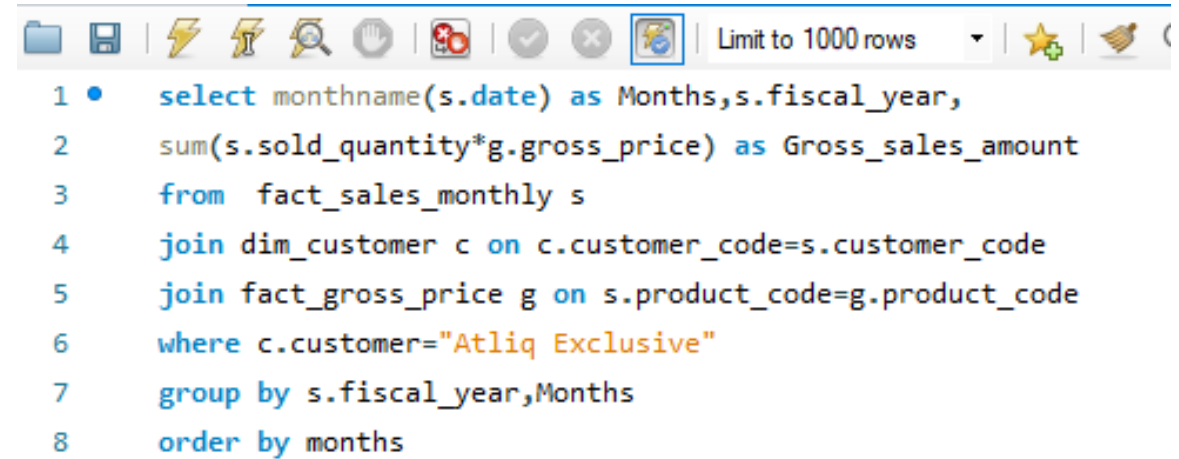


Months	fiscal_year	Gross_sales_amount
April	2020	800071.9543
April	2021	11483530.3032
August	2020	5638281.8287
August	2021	11324548.3409
December	2020	9755795.0577
December	2021	20409063.1769
February	2020	8083995.5479
February	2021	15986603.8883
January	2020	9584951.9393
January	2021	19570701.7102
July	2020	5151815.4020
July	2021	19044968.8164
June	2020	3429736.5712
June	2021	15457579.6626
March	2020	766976.4531
March	2021	19149624.9239
May	2020	1586964.4768
May	2021	19204309.4095
November	2020	15231894.9669
November	2021	32247289.7946
October	2020	10378637.5961
October	2021	21016218.2095





Q7: 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.



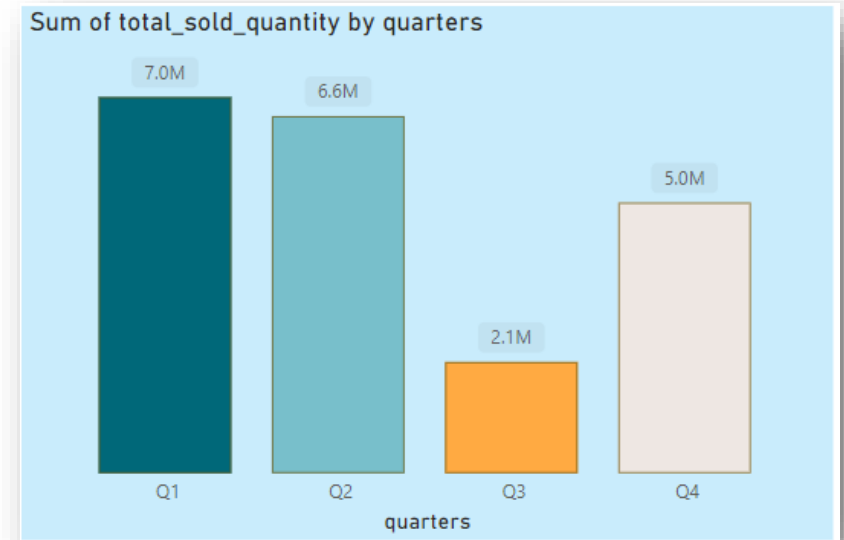
```
1 • select monthname(s.date) as Months,s.fiscal_year,  
2    sum(s.sold_quantity*g.gross_price) as Gross_sales_amount  
3    from fact_sales_monthly s  
4    join dim_customer c on c.customer_code=s.customer_code  
5    join fact_gross_price g on s.product_code=g.product_code  
6    where c.customer="Atliq Exclusive"  
7    group by s.fiscal_year,Months  
8    order by months
```





Q8: In which quarter of 2020, got the maximum total_sold_quantity?

	quarters	total_sold_quantity
▶	Q1	7005619
	Q2	6649642
	Q4	5042541
	Q3	2075087



```
1  with cte1 as (select *,month(date_add(date,interval 4 MONTH)) as months from fact_sales_monthly)
2  select case when (months/3)<=1 then "Q1"
3  when months/3 >1 and months/3 <=2 then "Q2"
4  when months/3 >2 and months/3 <=3 then "Q3"
5  when months/3 >3 and months/3 <=4 then "Q4" End quarters , sum(sold_quantity) as total_sold_quantity
6  from cte1
7  where fiscal_year=2020
8  group by quarters
9  order by total_sold_quantity desc
```



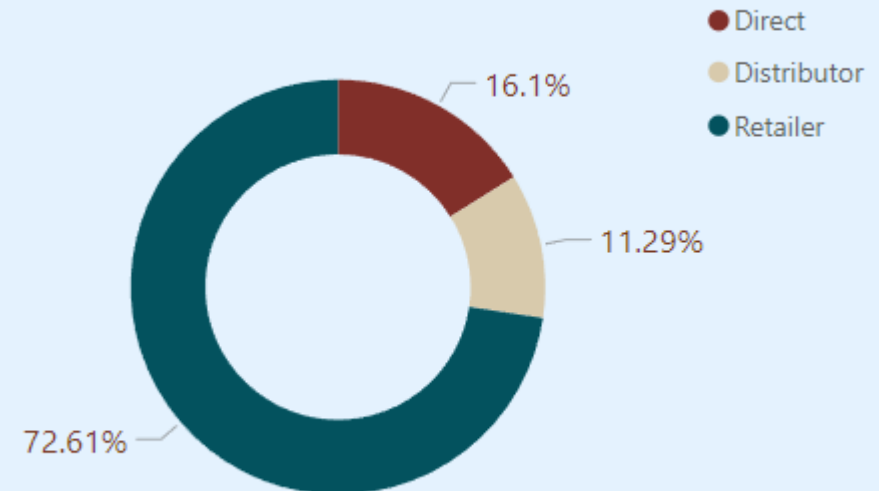


Q9: Which channel helped to bring more gross sales in the fiscal year 2021 and the percentage of contribution?

```
1 with cte1 as (SELECT c.channel,round(sum(s.sold_quantity*g.gross_price)/1000000,2) as gross_sales_mln FROM gdb023.dim_customer c
2 join fact_sales_monthly s on c.customer_code=s.customer_code
3 join fact_gross_price g on g.product_code=s.product_code
4 where g.fiscal_year=2021
5 group by c.channel
6 order by gross_sales_mln desc)
7 select channel,gross_sales_mln,round(gross_sales_mln/sum(gross_sales_mln) over()*100,2) AS percentage from cte1
8
```

	channel	gross_sales_mln	percentage
▶	Retailer	1606.39	72.61
	Direct	356.12	16.10
	Distributor	249.86	11.29

percentage by channel





Q10: Get the Top 3 products in each division that have a high total_sold_quantity in the fiscal_year 2021?

```
1
2 • WITH CTE1 AS(select division,p.product,sum(s.sold_quantity) as totally ,
3   rank() over(partition by division order by sum(s.sold_quantity) desc) as ranking from fact_sales_monthly s
4   join dim_product p on s.product_code=p.product_code
5   where fiscal_year=2021
6   group by p.product,division
7   order by totally desc)
8   select * from CTE1
9   where ranking in (1,2,3)
```

	division	product	totally	ranking
▶	P & A	AQ Gamers Ms	2477098	1
	P & A	AQ Maxima Ms	2461991	2
	P & A	AQ Master wireless x1 Ms	2448784	3
	N & S	AQ Pen Drive DRC	2034569	1
	N & S	AQ Digit SSD	1240149	2
	N & S	AQ Clx1	1238683	3
	PC	AQ Digit	135092	1
	PC	AQ Gen Y	135031	2
	PC	AQ Elite	134431	3

