#### Codebasics SQL Challenge

By João Pedro – [Github](https://github.com/jpbetanza/AtliQHardwares-adhoc-SQL-Requests)

Requests:

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

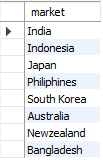
Answer:

SELECT DISTINCT market

FROM fact\_sales\_monthly INNER JOIN dim\_customer

ON fact\_sales\_monthly.customer\_code = dim\_customer.customer\_code

WHERE customer = "Atliq Exclusive" AND region = "APAC"



1. 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

Answer:

WITH

result1 (unique\_products\_2020) AS (

SELECT COUNT(DISTINCT product\_code) AS unique\_products\_2020

FROM fact\_sales\_monthly

WHERE fiscal\_year = "2020"

),

result2 (unique\_products\_2021) AS (

SELECT COUNT(DISTINCT product\_code) AS unique\_products\_2020

FROM fact\_sales\_monthly

WHERE fiscal\_year = "2021"

),

result3 (percentage\_chg) AS (

SELECT ROUND((((unique\_products\_2021/unique\_products\_2020)-1)\*100),2)

FROM result1 JOIN result2

)

SELECT \* FROM result1 JOIN result2 JOIN result3



1. 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

Answer:

WITH

count\_column (segment, product\_count) AS (

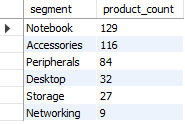
SELECT segment, COUNT(distinct product\_code)

FROM dim\_product

GROUP BY segment

)

SELECT \* FROM count\_column ORDER BY product\_count DESC



1. 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

Answer:

WITH

segment20\_sel (segment, product\_count\_2020) AS (

SELECT segment, count(DISTINCT fact\_gross\_price.product\_code)

FROM fact\_gross\_price JOIN dim\_product

ON fact\_gross\_price.product\_code=dim\_product.product\_code

WHERE fact\_gross\_price.fiscal\_year="2020"

GROUP BY segment

),

segment21\_sel (segment, product\_count\_2021) AS (

SELECT segment, count(DISTINCT fact\_gross\_price.product\_code)

FROM fact\_gross\_price JOIN dim\_product

ON fact\_gross\_price.product\_code=dim\_product.product\_code

WHERE fact\_gross\_price.fiscal\_year="2021"

GROUP BY segment

)

SELECT segment20\_sel.segment, product\_count\_2020, product\_count\_2021,

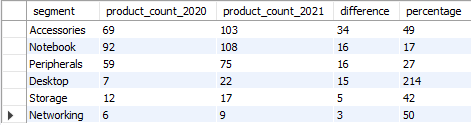
product\_count\_2021-product\_count\_2020 as difference,

ROUND(100\*((product\_count\_2021/product\_count\_2020)-1)) as percentage

FROM segment20\_sel INNER JOIN segment21\_sel

ON segment20\_sel.segment = segment21\_sel.segment

ORDER BY difference DESC



1. Get the products that have the highest and lowest manufacturing costs. The final output should contain these fields, product\_code product manufacturing\_cost

Answer:

WITH big\_table(product\_code, product, manufacturing\_cost) AS (

SELECT fact\_manufacturing\_cost.product\_code, product, manufacturing\_cost

FROM fact\_manufacturing\_cost INNER JOIN dim\_product

ON fact\_manufacturing\_cost.product\_code = dim\_product.product\_code

)

SELECT product\_code, product, ROUND(manufacturing\_cost,2) as manufacturing\_cost

FROM big\_table

WHERE manufacturing\_cost = (SELECT max(manufacturing\_cost) FROM big\_table)

UNION ALL

SELECT product\_code, product, ROUND(manufacturing\_cost,2) as manufacturing\_cost

FROM big\_table

WHERE manufacturing\_cost = (SELECT min(manufacturing\_cost) FROM big\_table)



1. 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

Answer:

SELECT dim\_customer.customer\_code, customer, ROUND(pre\_invoice\_discount\_pct\*100,2) AS average\_discount\_percentage

FROM fact\_pre\_invoice\_deductions INNER JOIN dim\_customer

ON fact\_pre\_invoice\_deductions.customer\_code = dim\_customer.customer\_code

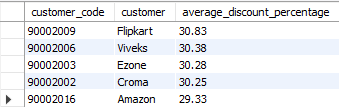
WHERE fiscal\_year="2021"

AND pre\_invoice\_discount\_pct>=(SELECT AVG(pre\_invoice\_discount\_pct) FROM fact\_pre\_invoice\_deductions where fiscal\_year="2021")

AND market = "India"

ORDER BY pre\_invoice\_discount\_pct DESC

LIMIT 5



1. 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

Answer:

SELECT month(date) as month,year(date) as year, round(sum(sold\_quantity\*gross\_price)) as Gross\_sales\_Amount

FROM fact\_sales\_monthly INNER JOIN fact\_gross\_price

ON fact\_gross\_price.product\_code=fact\_sales\_monthly.product\_code

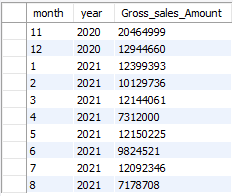
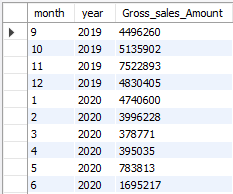
AND fact\_gross\_price.fiscal\_year=fact\_sales\_monthly.fiscal\_year

INNER JOIN dim\_customer

ON dim\_customer.customer\_code=fact\_sales\_monthly.customer\_code

WHERE dim\_customer.customer="Atliq Exclusive"

GROUP BY date ORDER BY year and month ASC



1. 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

Answer:

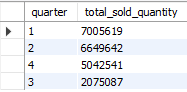
SELECT quarter(DATE\_ADD(date, INTERVAL 4 MONTH)) AS quarter, sum(sold\_quantity) AS

total\_sold\_quantity

FROM fact\_sales\_monthly

WHERE fiscal\_year="2020"

GROUP BY quarter ORDER BY total\_sold\_quantity DESC;



1. 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

Answer:

WITH tabela (channel, gross\_sales\_mln) AS (

SELECT channel, round(sum(sold\_quantity\*gross\_price)) AS gross\_sales\_mln

FROM fact\_sales\_monthly

INNER JOIN fact\_gross\_price

ON fact\_sales\_monthly.product\_code=fact\_gross\_price.product\_code

AND fact\_sales\_monthly.fiscal\_year=fact\_gross\_price.fiscal\_year

INNER JOIN dim\_customer

ON fact\_sales\_monthly.customer\_code=dim\_customer.customer\_code

WHERE year(date)="2021"

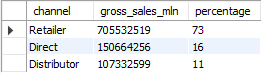
GROUP BY channel

)

SELECT channel, gross\_sales\_mln, ROUND(gross\_sales\_mln/(SELECT sum(gross\_sales\_mln) FROM tabela)\*100) AS percentage

FROM tabela

ORDER BY percentage DESC



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

Answer:

WITH tabela (division, product\_code, product, total\_sold\_quantity) AS (

SELECT division, fact\_sales\_monthly.product\_code, product, sum(sold\_quantity) AS total\_sold\_quantity

FROM fact\_sales\_monthly INNER JOIN dim\_product

ON fact\_sales\_monthly.product\_code=dim\_product.product\_code

WHERE fiscal\_year="2021"

GROUP BY fact\_sales\_monthly.product\_code, division, product

ORDER BY division DESC, total\_sold\_quantity DESC

)

SELECT \* FROM ( SELECT \*, ROW\_NUMBER() OVER (PARTITION BY division ORDER BY total\_sold\_quantity DESC) AS rank\_order FROM tabela)

RANKED

WHERE rank\_order<= 3;

