

CODEBASICS SQL PROJECT CHALLENGE



**Ad_Hoc Insights
Consumer Goods**



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



```
1 • SELECT
2  DISTINCT market FROM dim_customer
3  WHERE customer="Atliq Exclusive" AND region = 'APAC';
```

Result Grid	
	market
▶	India
	Indonesia
	Japan
	Philippines
	South Korea
	Australia
	Newzealand
	Bangladesh



➤ Task 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 unique_products AS (  
    SELECT  
        fiscal_year,  
        COUNT(DISTINCT product_code) AS unique_products  
    FROM fact_gross_price  
    GROUP BY fiscal_year  
)
```

```
SELECT
```

```
    up_2020.unique_products AS unique_products_2020,
```

```
    up_2021.unique_products AS unique_products_2021,
```

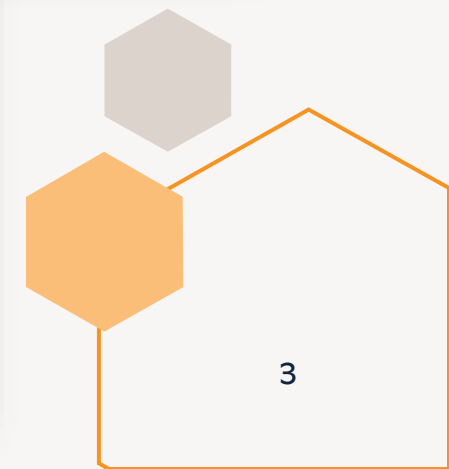
```
    ROUND(((up_2021.unique_products - up_2020.unique_products) * 100.0 / up_2020.unique_products), 2)
```

```
FROM unique_products up_2020
```

```
CROSS JOIN unique_products up_2021
```

```
WHERE up_2020.fiscal_year = 2020
```

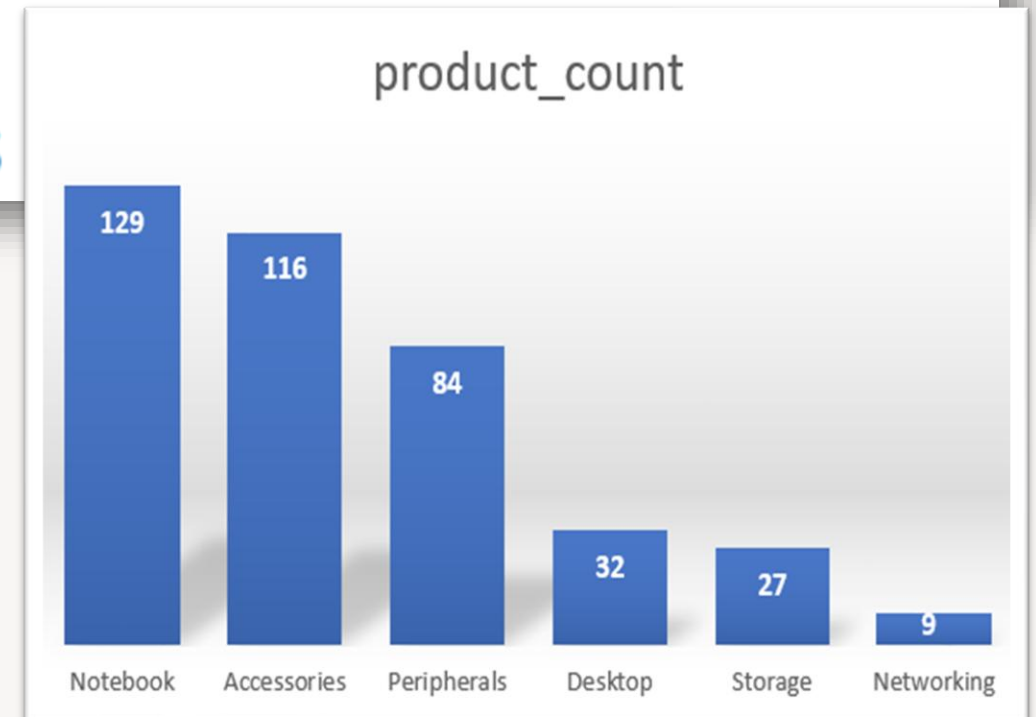
```
    AND up_2021.fiscal_year = 2021;
```



TASK-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

```
1 • SELECT
2     segment,
3     COUNT(DISTINCT product_code) AS product_count
4 FROM dim_product
5 GROUP BY segment
6 ORDER BY product_count DESC;
```

Result Grid		Filter Rows:
segment	product_count	
Notebook	129	
Accessories	116	
Peripherals	84	
Desktop	32	
Storage	27	
Networking	9	



TASK-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

```
1  WITH temp_table AS (  
2      SELECT  
3          p.segment, s.fiscal_year,  
4          COUNT(DISTINCT s.product_code) AS product_count  
5      FROM  
6      fact_sales_monthly s  
7      JOIN dim_product p ON s.product_code=p.product_code  
8      GROUP BY p.segment,s.fiscal_year  
9  )  
10 SELECT  
11 up_2020.segment,  
12 up_2020.product_count AS product_count_2020,  
13 up_2021.product_count AS product_count_2021,  
14 up_2021.product_count - up_2020.product_count AS difference  
15 FROM  
16     temp_table AS up_2020  
17 JOIN  
18     temp_table AS up_2021  
19 ON  
20     up_2020.segment = up_2021.segment AND up_2020.fiscal_year=2020 AND up_2021.fiscal_year=2021  
21 ORDER BY  
22 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

TASK-5 : Get the products that have the highest and lowest manufacturing costs.
The final output should contain these fields, product code , product , manufacturing cost

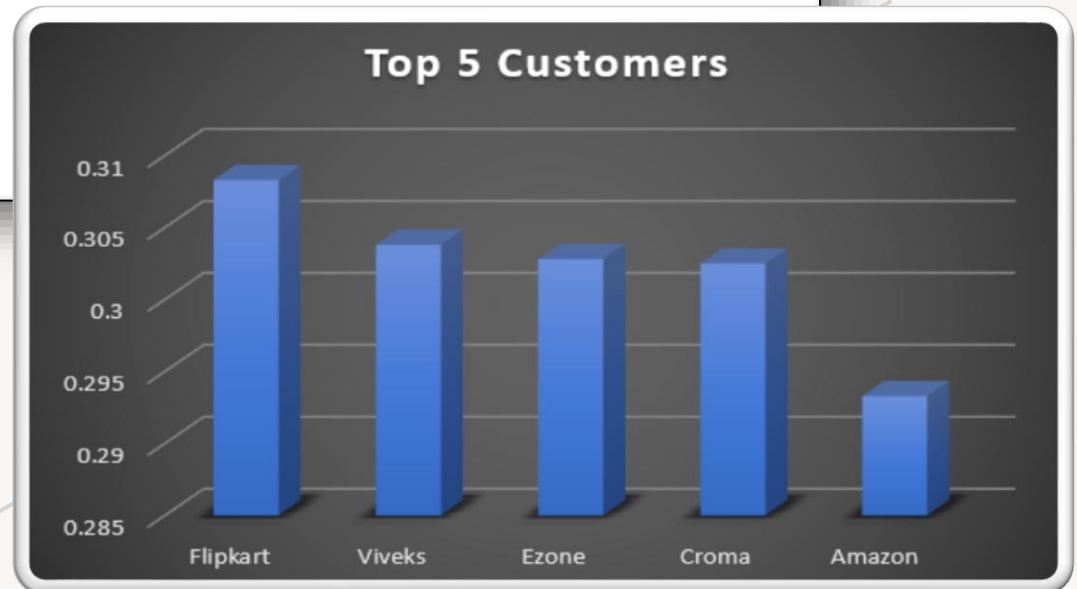
```
1 • SELECT m.product_code, CONCAT(product," (", variant, ")") AS product, cost_year, manufacturing_cost
2 FROM fact_manufacturing_cost m
3 JOIN dim_product p ON p.product_code=m.product_code
4 WHERE manufacturing_cost =
5 (SELECT min(manufacturing_cost) FROM fact_manufacturing_cost)
6 OR
7 (SELECT max(manufacturing_cost) FROM fact_manufacturing_cost)
8 ORDER BY manufacturing_cost DESC;
```

Result Grid					Filter Rows:	Export:	Wrap Cell Content:
	product_code	product	cost_year	manufacturing_cost			
▶	A6120110206	AQ HOME Allin1 Gen 2 (Plus 3)	2021	240.5364			
	A6120110205	AQ HOME Allin1 Gen 2 (Plus 2)	2021	240.3065			
	A6119110204	AQ HOME Allin1 Gen 2 (Plus 1)	2021	238.7739			
	A6119110203	AQ HOME Allin1 Gen 2 (Standard 3)	2021	238.6207			
	A6119110202	AQ HOME Allin1 Gen 2 (Standard 2)	2021	238.2376			
	A6119110201	AQ HOME Allin1 Gen 2 (Standard 1)	2021	237.3180			
	A6019110108	AQ Home Allin1 (Premium 2)	2021	234.1762			
	A6019110107	AQ Home Allin1 (Premium 1)	2021	233.6399			
	A6018110106	AQ Home Allin1 (Plus 3)	2021	233.4866			
	A6018110105	AQ Home Allin1 (Plus 2)	2021	232.9502			
	A6018110104	AQ Home Allin1 (Plus 1)	2021	231.3410			
	A6018110103	AQ Home Allin1 (Standard 3)	2021	229.4253			
	A6018110102	AQ Home Allin1 (Standard 2)	2021	229.1188			
	A6018110101	AQ Home Allin1 (Standard 1)	2021	229.0421			
	A6018110103	AQ Home Allin1 (Standard 3)	2020	224.8368			
	A6018110101	AQ Home Allin1 (Standard 1)	2020	219.8805			
	A6018110104	AQ Home Allin1 (Plus 1)	2020	219.7739			
	A5821110108	AQ BZ Allin1 (Premium 2)	2021	219.1571			
	A5820110107	AQ BZ Allin1 (Premium 1)	2021	218.2376			
	A5820110106	AQ BZ Allin1 (Plus 3)	2021	215.8621			
	A6018110102	AQ Home Allin1 (Standard 2)	2020	215.3716			
	A5820110105	AQ BZ Allin1 (Plus 2)	2021	214.7893			
	A6018110105	AQ Home Allin1 (Plus 2)	2020	214.3142			

TASK-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.

```
1 • SELECT c.customer_code,  
2    c.customer,  
3    ROUND (AVG(pre_invoice_discount_pct), 4) AS average_discount_percentage  
4 FROM fact_pre_invoice_deductions d  
5 JOIN dim_customer c ON c.customer_code=d.customer_code  
6 WHERE c.market = "India" AND fiscal_year = "2021"  
7 GROUP BY customer_code  
8 ORDER BY average_discount_percentage DESC  
9 LIMIT 5;
```

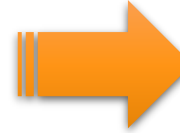
customer_code	customer	average_discount_percentage
90002009	Flipkart	0.3083
90002006	Viveks	0.3038
90002003	Ezone	0.3028
90002002	Croma	0.3025
90002016	Amazon	0.2933



TASK-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

```
1 • WITH temp_table AS (  
2  
3     SELECT customer,  
4         monthname(date) AS months,  
5         month(date) AS month_number,  
6         year(date) AS year,  
7         (sold_quantity* gross_price) AS gross_sales  
8     FROM fact_sales_monthly s  
9     JOIN fact_gross_price g ON g.product_code = s.product_code  
10    JOIN dim_customer c ON c.customer_code = s.customer_code  
11    WHERE customer = "Atliq Exclusive"  
12 )  
13 SELECT months, year, CONCAT(ROUND(sum(gross_sales)/1000000,2), "M") AS gross_sales FROM temp_table  
14 GROUP BY year, months  
15 ORDER BY year, month_number;
```



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

TASK-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

```
1 • WITH temp_table AS(  
2   SELECT *,  
3   CASE  
4     WHEN month(s.date) in (9,10,11) then "Q1"  
5     WHEN month(s.date) in (12,1,2) then "Q2"  
6     WHEN month(s.date) in (3,4,5) then "Q3"  
7     ELSE "Q4"  
8   END AS Quarter  
9   FROM fact_sales_monthly as s  
10  WHERE fiscal_year = 2020  
11 )  
12 SELECT Quarter, SUM(sold_quantity) AS total_sold_quantity  
13 FROM temp_table  
14 GROUP BY Quarter  
15 ORDER BY total_sold_quantity DESC;
```

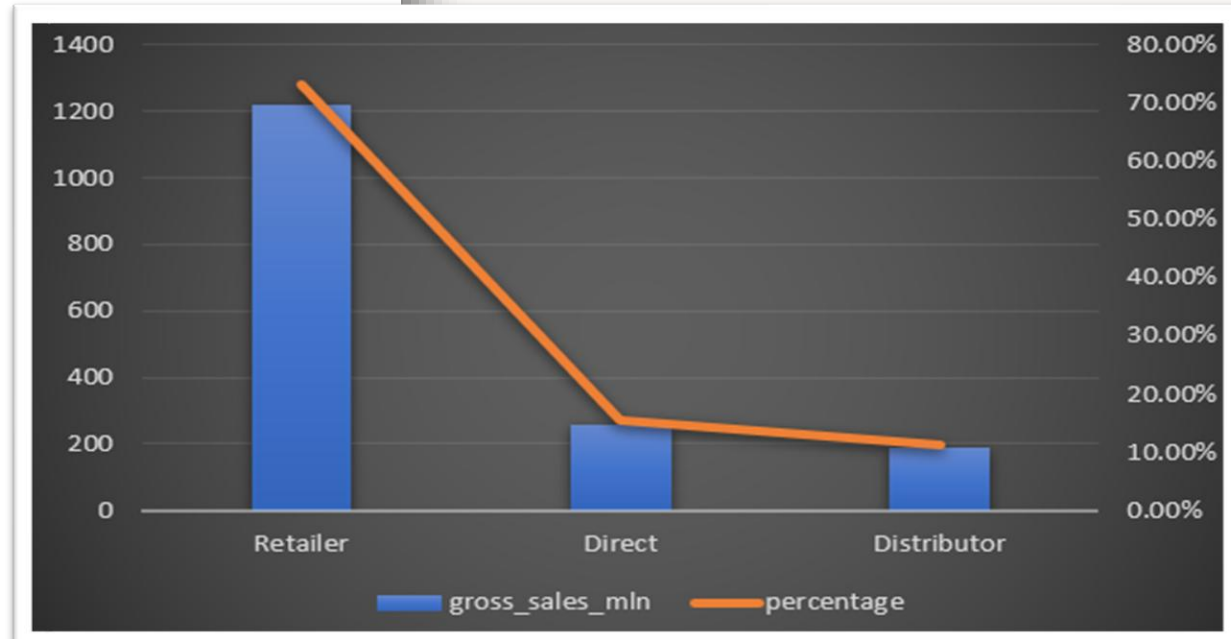
Result Grid		Filter Rows:
	Quarter	total_sold_quantity
▶	Q1	7005619
	Q2	6649642
	Q4	5042541
	Q3	2075087



TASK-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

```
1 • WITH temp_table AS(
2   SELECT c.channel,
3   ROUND(SUM(s.sold_quantity*g.gross_price)/1000000,2) AS gross_sales_mln
4   FROM dim_customer c
5   JOIN fact_sales_monthly s
6   ON c.customer_code=s.customer_code
7   JOIN fact_gross_price g
8   ON g.product_code=s.product_code
9   AND g.fiscal_year=s.fiscal_year
10  WHERE s.fiscal_year = 2021
11  GROUP BY channel
12  ORDER BY gross_sales_mln DESC )
13  SELECT *,
14  CONCAT(ROUND(gross_sales_mln*100/SUM(gross_sales_mln) over(), 2), "%") AS percentage
15  FROM temp_table;
```

	channel	gross_sales_mln	percentage
▶	Retailer	1219.08	73.23%
	Direct	257.53	15.47%
	Distributor	188.03	11.30%



TASK-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

```
1 • WITH temp_table AS (  
2   select division,  
3   s.product_code,  
4   concat(p.product, "(",p.variant,")") AS product,  
5   sum(sold_quantity) AS total_sold_quantity,  
6   rank() OVER (partition by division order by sum(sold_quantity) desc) AS rank_order  
7 FROM  
8 fact_sales_monthly s  
9 JOIN dim_product p  
0 ON s.product_code = p.product_code  
1 WHERE fiscal_year = 2021  
2 GROUP BY product_code  
3 )  
4 SELECT * FROM temp_table  
5 WHERE rank_order IN (1,2,3);
```

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(Premium)	701373	1
	N & S	A6818160202	AQ Pen Drive DRC(Plus)	688003	2
	N & S	A6819160203	AQ Pen Drive DRC(Premium)	676245	3
	P & A	A2319150302	AQ Gamers Ms(Standard 2)	428498	1
	P & A	A2520150501	AQ Maxima Ms(Standard 1)	419865	2
	P & A	A2520150504	AQ Maxima Ms(Plus 2)	419471	3
	PC	A4218110202	AQ Digit(Standard Blue)	17434	1
	PC	A4319110306	AQ Velocity(Plus Red)	17280	2
	PC	A4218110208	AQ Digit(Premium Misty Green)	17275	3



Thank you

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