CODEBASICS SQL PROJECT CHALLENGE

Ad_Hoc Insights

Consumer Goods

PRESENTED BY SIMA MISHRA

CODEBASICS SQL PROJECT CHALLENGE

TASK-1

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

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

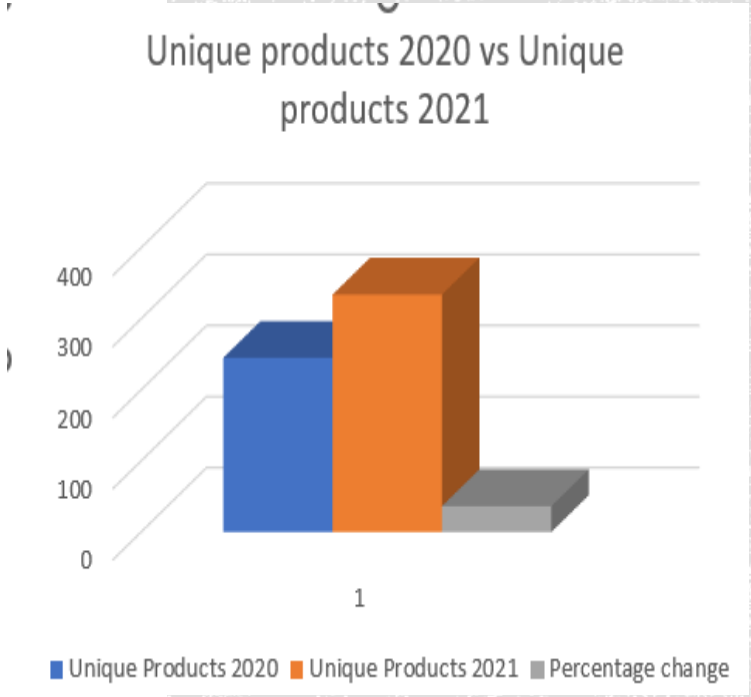
market
India
Indonesia
Japan
Philiphines
South Korea
Australia
Newzealand
Bangladesh

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)/up_2020.unique_products*100,2) AS percentage_change
FROM
    unique_products up_2020
CROSS JOIN
    unique_products up_2021
WHERE
    up_2020.fiscal_year=2020
AND up_2021.fiscal_year=2021;
```

unique_products_2020	unique_products_2021	percentage_change
245	334	36.33

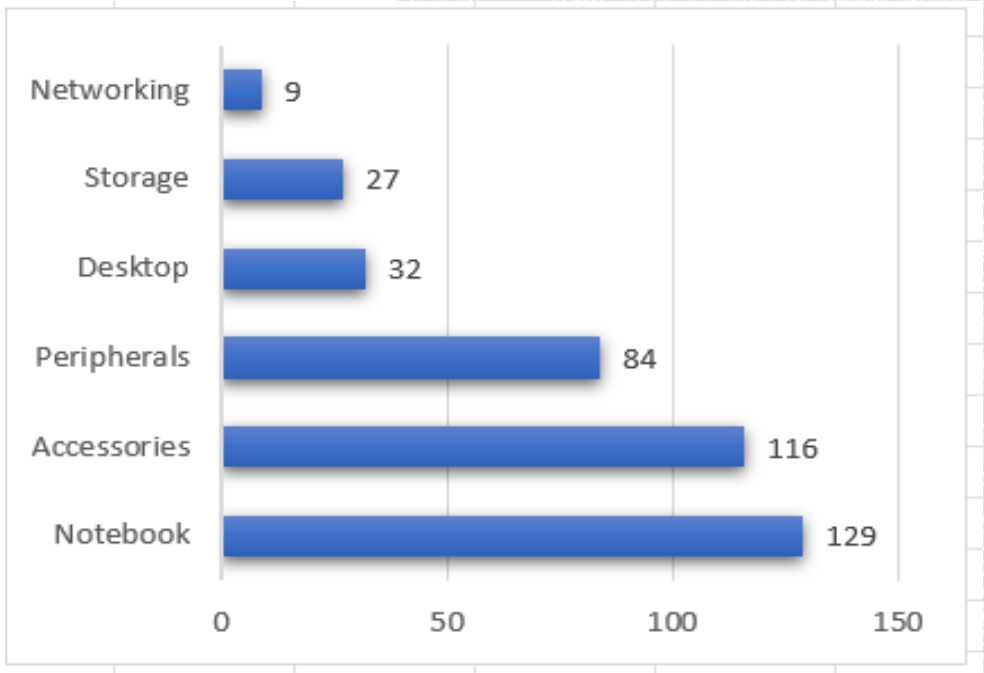


TASK-3

- 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

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

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

```sql
WITH temp_table AS (
      SELECT
          p.segment, s.fiscal_year,
          COUNT(DISTINCT s.product_code) AS product_count
      FROM
          fact_sales_monthly s
      JOIN dim_product p ON s.product_code=p.product_code
      GROUP BY p.segment,s.fiscal_year
)
SELECT
     up_2020.segment,
     up_2020.product_count AS product_count_2020,
     up_2021.product_count AS product_count_2021,
     up_2021.product_count - up_2020.product_count AS difference
FROM
    temp_table AS up_2020
JOIN
    temp_table AS up_2021
ON
   up_2020.segment= up_2021.segment AND up_2020.fiscal_year=2020 AND up_2021.fiscal_year=2021
ORDER BY
   difference DESC;
```

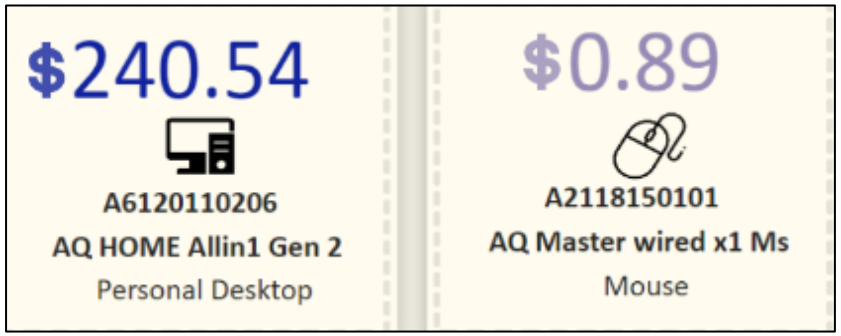
segment	product_count_2020	product_count_2021	difference
Accessories	69	103	34
Notebook	92	108	16
Peripherals	59	75	16
Desktop	7	22	15
Storage	12	17	5
Networking	6	9	3

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

```
SELECT m.product_code,CONCAT(product,"(",variant,")") AS product , cost_year,manufacturing_cost
FROM fact_manufacturing_cost m
JOIN dim_product p ON p.product_code=m.product_code
WHERE manufacturing_cost =
  (SELECT min(manufacturing_cost) FROM fact_manufacturing_cost)
  OR
  (SELECT max(manufacturing_cost) FROM fact_manufacturing_cost)
ORDER BY manufacturing_cost DESC;
```

product_code	product	cost_year	manufacturing_cost
A6121110208	AQ HOME Allin1 Gen 2(Premiu...	2022	263.4207
A6120110205	AQ HOME Allin1 Gen 2(Plus 2)	2022	259.5310
A6119110204	AQ HOME Allin1 Gen 2(Plus 1)	2022	255.4881
A6120110207	AQ HOME Allin1 Gen 2(Premiu...	2022	253.6644
A6120110206	AQ HOME Allin1 Gen 2(Plus 3)	2022	252.5632
A6119110201	AQ HOME Allin1 Gen 2(Standar...	2022	251.5571
A6119110202	AQ HOME Allin1 Gen 2(Standar...	2022	250.1494
A6119110203	AQ HOME Allin1 Gen 2(Standar...	2022	248.1655
A5921110205	AQ BZ Allin1 Gen 2(Plus 2)	2022	247.8161
A6018110103	AQ Home Allin1(Standard 3)	2022	247.7793
A5921110208	AQ BZ Allin1 Gen 2(Premium 2)	2022	246.7862
A6019110108	AQ Home Allin1(Premium 2)	2022	245.8851
A6019110107	AQ Home Allin1(Premium 1)	2022	245.3218
A6018110104	AQ Home Allin1(Plus 1)	2022	245.2215
A5921110207	AQ BZ Allin1 Gen 2(Premium 1)	2022	244.0912
A5921110202	AQ BZ Allin1 Gen 2(Standard 2)	2022	240.5517
A6120110206	AQ HOME Allin1 Gen 2(Plus 3)	2021	240.5364
A6120110205	AQ HOME Allin1 Gen 2(Plus 2)	2021	240.3065

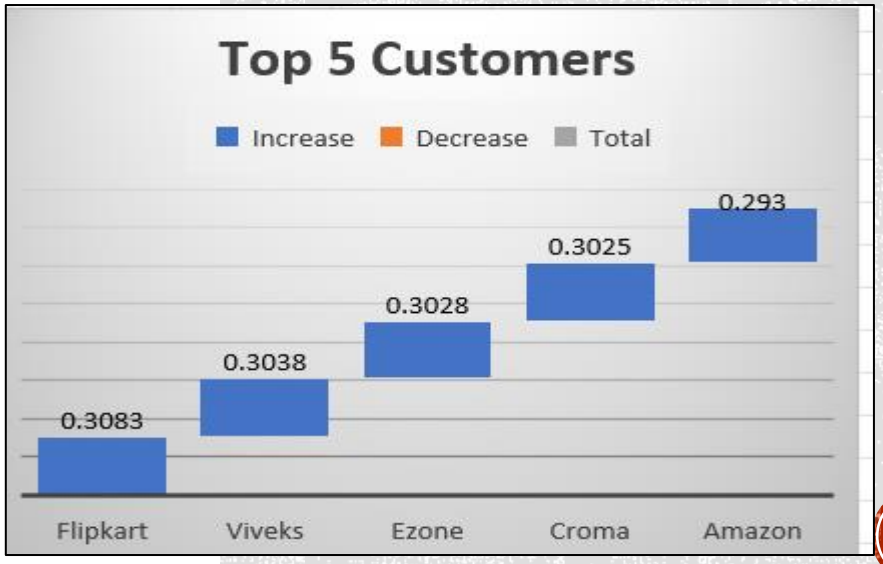


TASK-6

- 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.

```
SELECT c.customer_code,
       c.customer,
       ROUND(AVG(pre_invoice_discount_pct),4) AS average_discount_percentage
FROM fact_pre_invoice_deductions d
JOIN dim_customer c ON c.customer_code=d.customer_code
WHERE c.market = "India" AND fiscal_year = "2021"
GROUP BY customer_code
ORDER BY average_discount_percentage DESC
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

```
WITH temp_table AS (
    SELECT customer,
           monthname(date) AS months,
           month(date) AS month_number,
           year(date) AS year,
           (sold_quantity * gross_price) AS gross_sales
    FROM fact_sales_monthly s
    JOIN fact_gross_price g ON g.product_code = s.product_code
    JOIN dim_customer c ON c.customer_code = s.customer_code
    WHERE customer = "Atliq Exclusive"
   )
   SELECT months,year,CONCAT(ROUND(sum(gross_sales)/1000000,2),"M") AS gross_sales FROM temp_table
   GROUP BY year,months
   ORDER BY year,month_number;
```

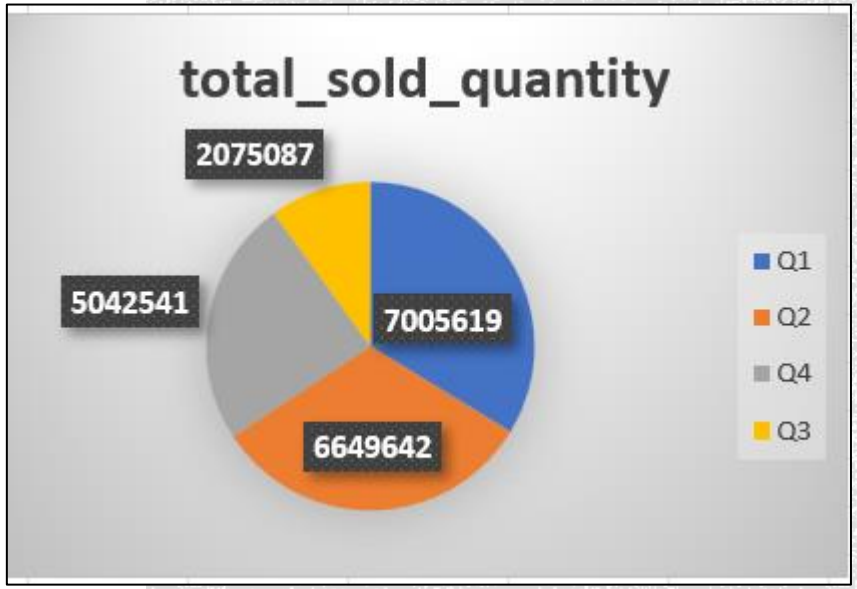
months	year	gross_sales
September	2017	2.35M
October	2017	2.46M
November	2017	3.77M
December	2017	2.39M
January	2018	2.29M
February	2018	1.99M
March	2018	2.22M
April	2018	1.39M
May	2018	2.31M
June	2018	1.98M
July	2018	2.22M
August	2018	1.50M
September	2018	7.86M
October	2018	8.50M
November	2018	12.36M
December	2018	8.36M
January	2019	7.61M
February	2019	6.22M

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

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

Quarter	total_sold_quantity
Q1	7005619
Q2	6649642
Q4	5042541
Q3	2075087

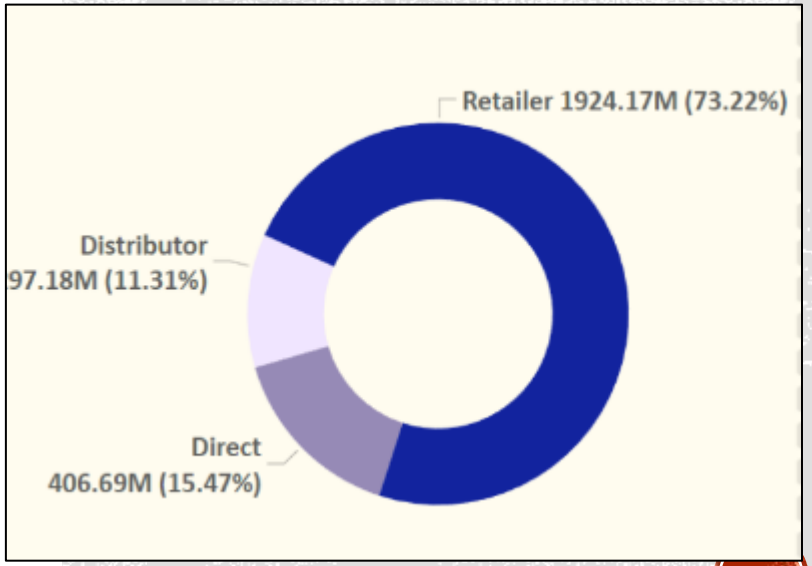


TASK-9

- 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

```
WITH temp_table AS(
   SELECT c.channel,
   ROUND(SUM(s.sold_quantity*g.gross_price)/1000000,2) AS gross_sales_mln
   FROM dim_customer c
   JOIN fact_sales_monthly s
     ON c.customer_code=s.customer_code
   JOIN fact_gross_price g
     ON g.product_code=s.product_code
     AND g.fiscal_year=s.fiscal_year
     WHERE s.fiscal_year = 2021
 GROUP BY channel
 ORDER BY gross_sales_mln DESC )
 SELECT *,
       CONCAT(ROUND(gross_sales_mln*100/SUM(gross_sales_mln) over(),2),"%") AS percentage
     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

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

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