



ATLIQ HARDWARE



DOMAIN: CONSUMER GOODS

*AD-HOC INSIGHTS FOR ATLIQ*

# TABLE SCHEMA

dim\_customer

consumer_code	customer	platform	channel	market	sub_zone	region
70027208	Atliq e Store	E-Commerce	Direct	Brazil	LATAM	LATAM
80001019	Neptune	Brick & Mortar	Distributor	China	ROA	APAC
80006154	Synthetic	Brick & Mortar	Distributor	Philippines	ROA	APAC
80006155	Novus	Brick & Mortar	Distributor	Philippines	ROA	APAC
80007195	Sage	Brick & Mortar	Distributor	South Korea	ROA	APAC
80007196	Leader	Brick & Mortar	Distributor	South Korea	ROA	APAC
90001020	Zone	Brick & Mortar	Retailer	China	ROA	APAC
90001021	Taobao	E-Commerce	Retailer	China	ROA	APAC
90002001	Reliance Digital	Brick & Mortar	Retailer	India	India	APAC
90002002	Croma	Brick & Mortar	Retailer	India	India	APAC
90002003	Ezone	Brick & Mortar	Retailer	India	India	APAC
90002004	Vijay Sales	Brick & Mortar	Retailer	India	India	APAC
90002005	Lotus	Brick & Mortar	Retailer	India	India	APAC
90002006	Viveks	Brick & Mortar	Retailer	India	India	APAC
90002007	Girias	Brick & Mortar	Retailer	India	India	APAC
90002008	Amazon	E-Commerce	Retailer	India	India	APAC
90002009	Flipkart	E-Commerce	Retailer	India	India	APAC
90002010	Ebay	E-Commerce	Retailer	India	India	APAC
90002011	Atliq Exclusive	Brick & Mortar	Retailer	India	India	APAC

dim\_product

product_code	division	segment	category	product	variant
A0118150101	P & A	Peripherals	Internal HD	AQ Dracula H	Standard
A0118150102	P & A	Peripherals	Internal HD	AQ Dracula H	Plus
A0118150103	P & A	Peripherals	Internal HD	AQ Dracula H	Premium
A0118150104	P & A	Peripherals	Internal HD	AQ Dracula H	Premium Plus
A0219150201	P & A	Peripherals	Internal HD	AQ WereWo	Standard
A0219150202	P & A	Peripherals	Internal HD	AQ WereWo	Plus
A0220150203	P & A	Peripherals	Internal HD	AQ WereWo	Premium
A0320150301	P & A	Peripherals	Internal HD	AQ Zion Saga	Standard

fact\_gross\_price

product_code	fiscal_year	gross_price
A0118150101	2020	16.2323
A0118150101	2021	19.0573
A0118150102	2020	19.8577
A0118150102	2021	21.4565
A0118150103	2020	22.1317
A0118150103	2021	21.7795
A0118150104	2020	20.7734
A0118150104	2021	22.9729

fact\_manufacturing\_cost

product_code	cost_year	manufacturing_cost
A0118150101	2020	5.0207
A0118150101	2021	5.5172
A0118150102	2020	5.718
A0118150102	2021	6.2835
A0118150103	2020	6.3264
A0118150103	2021	6.59

fact\_pre\_invoice\_deductions

customer_code	fiscal_year	pre_invoice_discount_pct
70002017	2020	0.0735
70002017	2021	0.0703
70002018	2020	0.2255
70002018	2021	0.2061
70003181	2020	0.0531
70003181	2021	0.0974

fact\_sales\_monthly

date	product_code	customer_code	sold_quantity	fiscal_year
9/1/19	A0118150101	70002017	137	2020
9/1/19	A0118150101	70002018	47	2020
9/1/19	A0118150101	70003181	57	2020
9/1/19	A0118150101	70003182	63	2020
9/1/19	A0118150101	70004069	9	2020
9/1/19	A0118150101	70004070	3	2020

# QUESTIONS

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?
3. Provide a report with all the unique product counts for each segment and sort them in descending order of product counts.
4. Which segment had the most increase in unique products in 2021 vs 2020?
5. Get the products that have the highest and lowest manufacturing costs.
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.
7. Get the complete report of the Gross sales amount for the customer "Atliq Exclusive" for each month.
8. In which quarter of 2020, got the maximum total\_sold\_quantity?
9. Which channel helped to bring more gross sales in the fiscal year 2021 and the percentage of contribution?
10. Get the Top 3 products in each division that have a high total\_sold\_quantity in the fiscal\_year 2021?

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

## INPUT

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

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## OUTPUT

market  
varchar(45)

India  
Indonesia  
Japan  
Philippines  
South Korea  
Australia  
Newzealand  
Bangladesh



## QUESTION 2. What is the percentage of unique product increase in 2021 vs. 2020?

### INPUT

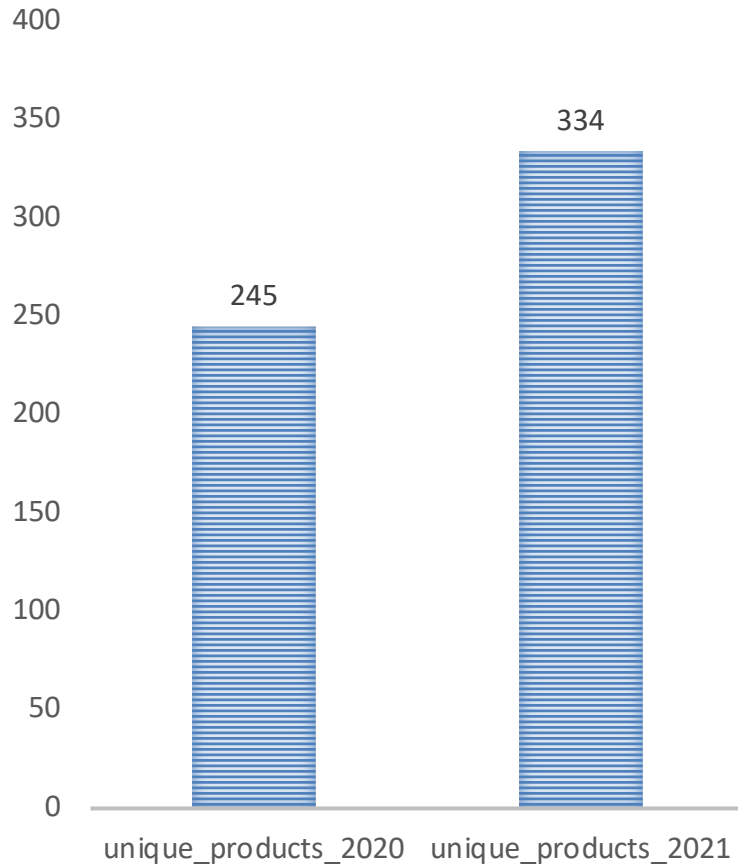
```
WITH products_2020 AS (  
    SELECT COUNT(DISTINCT product_code) AS "unique_products_2020"  
    FROM fact_sales_monthly  
    WHERE fiscal_year = 2020  
),  
products_2021 AS (  
    SELECT COUNT(DISTINCT product_code) AS "unique_products_2021"  
    FROM fact_sales_monthly  
    WHERE fiscal_year = 2021  
)  
SELECT  
    t1.unique_products_2020,  
    t2.unique_products_2021,  
    ROUND( (t2.unique_products_2021 - t1.unique_products_2020)  
        / t1.unique_products_2020 * 100, 2) AS "percentage_chg"  
FROM products_2020 t1  
CROSS JOIN products_2021 t2;
```

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### OUTPUT

unique_products_ bigint	unique_products_2021 bigint	percentage_chg newdecimal
245	334	36.33

## INSIGHTS



- Number of unique products was 245 in fiscal year 2020 and 334 in fiscal year 2021.
- The percentage of change from 2020 to 2021 is **36.33%**.
- A **positive** percentage means the number of unique products sold between 2020 and 2021 is increasing.

**QUESTION 3. Provide a report with all the unique product counts for each segment and sort them in descending order of product counts.**

INPUT

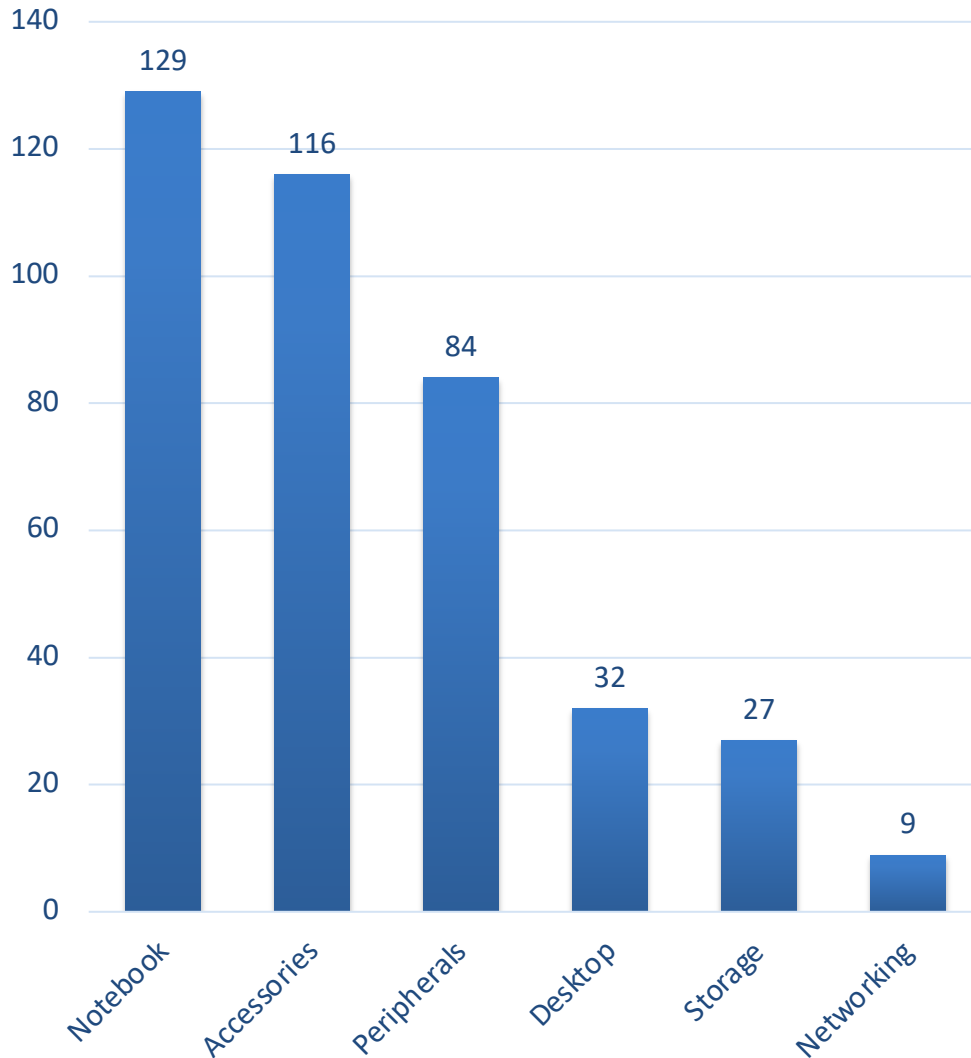
```
SELECT
    segment,
    COUNT(DISTINCT product_code) AS "product_count"
FROM dim_product
GROUP BY segment
ORDER BY 2 DESC;
```

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OUTPUT

* segment varchar(45)	product_count bigint
Notebook	129
Accessories	116
Peripherals	84
Desktop	32
Storage	27
Networking	9

## INSIGHTS



- Segment **Notebook** has the highest number of unique products (126), followed by Accessories (116) and Peripherals (84).
- A high number of unique products means the segment differentiate the products and offers more options to consumers.
- Segment **Networking** has the lowest number of unique products (9), which means there's less product types in networking.



# QUESTION 4. Which segment had the most increase in unique products in 2021 vs 2020?

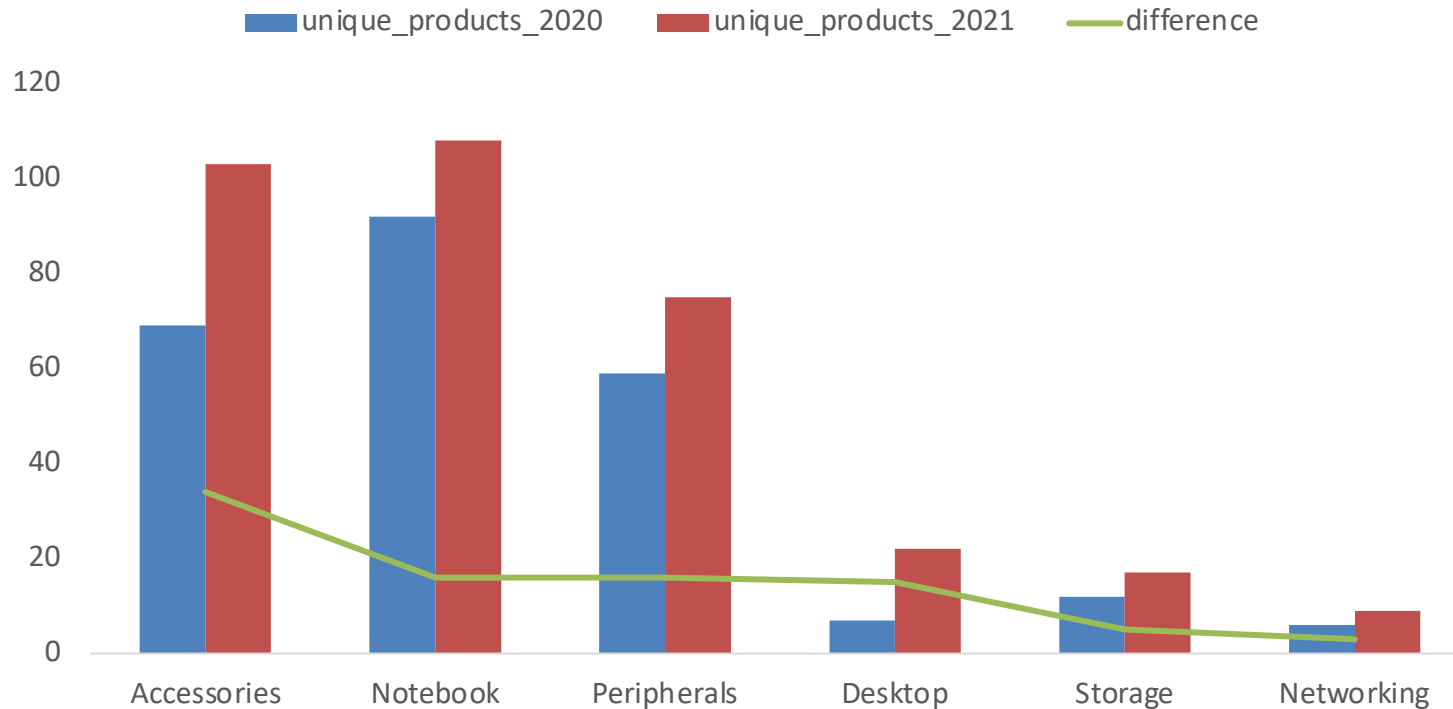
## INPUT

```
WITH tb AS (  
  SELECT  
    segment,  
    COUNT(  
      DISTINCT CASE  
        WHEN fiscal_year = 2020 THEN t1.product_code  
      END  
    ) AS "unique_products_2020",  
    COUNT(  
      DISTINCT CASE  
        WHEN fiscal_year = 2021 THEN t1.product_code  
      END  
    ) AS "unique_products_2021"  
  FROM fact_sales_monthly t1  
  JOIN dim_product t2 ON t1.product_code = t2.product_code  
  GROUP BY 1  
)  
SELECT  
  segment,  
  unique_products_2020,  
  unique_products_2021, (  
    unique_products_2021 - unique_products_2020  
  ) AS "difference"  
FROM tb  
ORDER BY 4 DESC;
```

## OUTPUT

segment varchar	unique_products_2020 bigint	unique_products_2021 bigint	difference bigint
Accessories	69	103	34
Notebook	92	108	16
Peripherals	59	75	16
Desktop	7	22	15
Storage	12	17	5
Networking	6	9	3

# INSIGHTS



- Segment **Accessories** has the most change in unique products (**34**) and Segment **Networking** has the least change in unique products (**3**) during fiscal year 2020 and 2021.
- It means that Accessory segment develop unique products efficiently than other segments.

QUESTION 5. Get the products that have the highest and lowest manufacturing costs.

INPUT

```
SELECT
  t1.product_code,
  product,
  manufacturing_cost
FROM (
  SELECT
    product_code,
    manufacturing_cost
  FROM
    fact_manufacturing_cost
  WHERE
    manufacturing_cost = (
      SELECT
        MAX(manufacturing_cost)
      FROM
        fact_manufacturing_cost
    )
  OR manufacturing_cost = (
    SELECT
      MIN(manufacturing_cost)
    FROM
      fact_manufacturing_cost
  )
) t1
JOIN dim_product t2 ON t1.product_code = t2.product_code;
```

OUTPUT

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

## INSIGHTS

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

- Product "AQ Master wired x1 Ms " has the least manufacturing cost (0.8920) and product "AQ HOME Allin1 Gen 2 " has the highest manufacturing cost (240.5364).
- **Manufacturing cost** is the total cost incurred for the production of a product. This cost includes direct costs like raw materials, labor, and overhead expenses that are directly associated with the production process.
- Higher manufacturing cost represents the production cost of a product is high. In the meanwhile, a high manufacturing cost cause the product expensive for sell.

**QUESTION 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.**

## INPUT

```
SELECT
  t1.customer_code,
  customer,
  ROUND(
    AVG(pre_invoice_discount_pct),
    4
  ) AS "average_discount_percentage"
FROM
  fact_pre_invoice_deductions t1
  LEFT JOIN dim_customer t2 ON t1.customer_code = t2.customer_code
WHERE
  market = "India"
  AND fiscal_year = 2021
GROUP BY 1, 2
ORDER BY 3 DESC
LIMIT 5;
```

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## OUTPUT

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

## INSIGHTS

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

- Top 5 customers who received an average high pre invoice discount percentage for the fiscal year 2021 and in the Indian market are **Flipkart, Viveks, Ezone, Croma and Amazon**.
- The "**pre\_invoice\_discount\_pct**" column contains the percentage of pre-invoice deductions for each product. **Pre-invoice deductions** are discounts that are applied to the gross price of a product before the invoice is generated, and typically applied to large orders or long-term contracts.



## QUESTION 7. Get the complete report of the Gross sales amount for the customer “Atliq Exclusive” for each month.

### INPUT

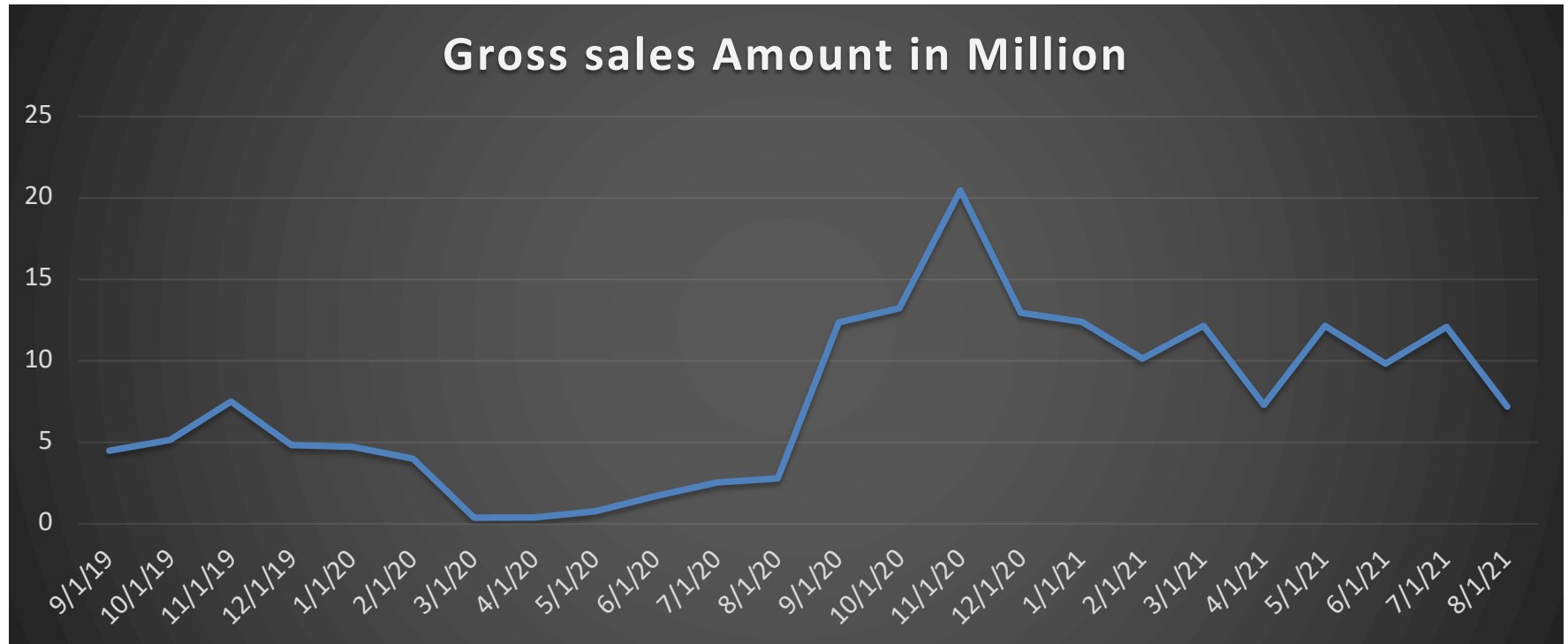
```
SELECT
  MONTHNAME(date) "Month",
  YEAR(date) "Year",
  ROUND(
    SUM(sold_quantity * gross_price) / 1000000,
    2
  ) AS "Gross sales Amount in Million"
FROM (
  SELECT
    t1.date,
    t1.customer_code,
    t1.sold_quantity,
    t2.gross_price
  FROM
    fact_sales_monthly t1
    JOIN fact_gross_price t2 ON t1.product_code = t2.product_code
    AND t1.fiscal_year = t2.fiscal_year
) tb
WHERE customer_code IN (
  SELECT customer_code
  FROM dim_customer
  WHERE
    customer = "Atliq Exclusive"
)
GROUP BY 1, 2;
```

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### OUTPUT

Month varchar	Year int	Gross sales Amount in Million newdecimal
September	2019	4.50
October	2019	5.14
November	2019	7.52
December	2019	4.83
January	2020	4.74
February	2020	4.00
March	2020	0.38
April	2020	0.40
May	2020	0.78
June	2020	1.70
July	2020	2.55
August	2020	2.79
September	2020	12.35
October	2020	13.22
November	2020	20.46
December	2020	12.94
January	2021	12.40
February	2021	10.13
March	2021	12.14
April	2021	7.31
May	2021	12.15
June	2021	9.82
July	2021	12.09
August	2021	7.18

## INSIGHTS



- The highest gross sales amount (**20.46 Million**) for the customer “Atliq Exclusive” was in **November 2020**; the lowest gross sales amount (**0.38**) for the customer “Atliq Exclusive” was in **March 2020**.

## QUESTION 8. In which quarter of 2020, got the maximum total\_sold\_quantity?

### INPUT

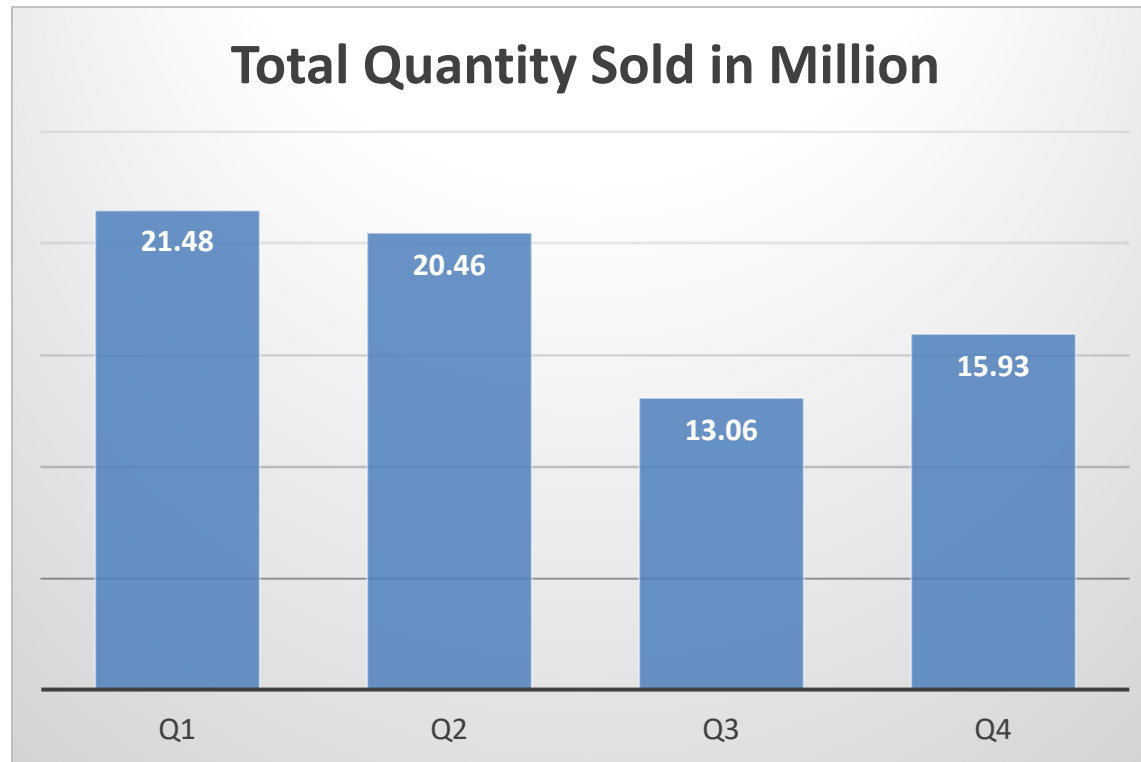
```
WITH tb AS (  
  SELECT (  
    CASE  
      WHEN MONTH(date) IN (9, 10, 11) THEN "Q1"  
      WHEN MONTH(date) IN (12, 1, 2) THEN "Q2"  
      WHEN MONTH(date) IN (3, 4, 5) THEN "Q3"  
      ELSE "Q4"  
    END  
  ) AS "Quarter",  
  sold_quantity  
  FROM  
    fact_sales_monthly  
)  
SELECT  
  Quarter,  
  ROUND(SUM(sold_quantity)/1000000,2) AS "total_sold_quantity_in_millions"  
FROM tb  
GROUP BY 1;
```

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### OUTPUT

Quarter varchar	total_sold_quantity_in_millions newdecimal
Q1	21.48
Q2	20.46
Q3	13.06
Q4	15.93

## INSIGHTS



- **Q1** of 2020 has the highest total quantity sold (**21.48 Million**) and **Q3** of 2020 has the lowest total quantity sold (**13.06 Million**).

QUESTION 9. Which channel helped to bring more gross sales in the fiscal year 2021 and the percentage of contribution?

INPUT

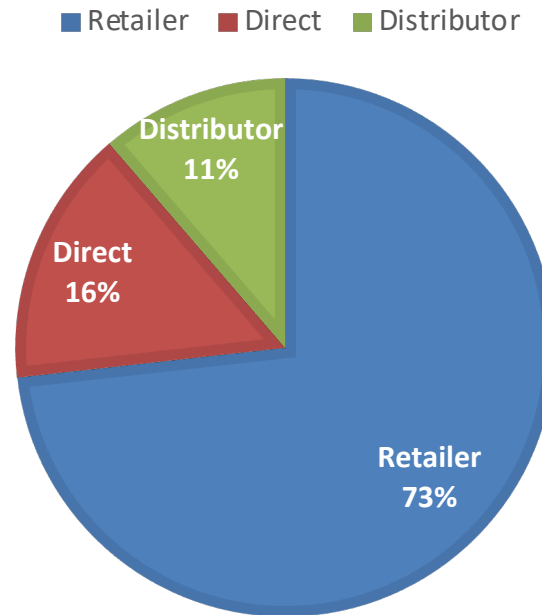
```
WITH tb AS (
  SELECT
    channel,
    ROUND(
      SUM(sold_quantity * gross_price)/1000000,
      2
    ) AS "gross_sales_in_millions"
  FROM
    fact_sales_monthly t1
    JOIN dim_customer t2 ON t1.customer_code = t2.customer_code
    JOIN fact_gross_price t3 ON t1.product_code = t3.product_code
    AND t1.fiscal_year = t3.fiscal_year
  WHERE
    t1.fiscal_year = 2021
  GROUP BY 1
)
SELECT
  channel,
  gross_sales_in_millions,
  ROUND(
    gross_sales_in_millions / SUM(gross_sales_in_millions) OVER () * 100,
    2
  ) AS "percentage"
FROM tb
ORDER BY 3 DESC;
```

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OUTPUT

channel varchar	gross_sales_in_millions newdecimal	percentage newdecimal
Retailer	1219.08	73.23
Direct	257.53	15.47
Distributor	188.03	11.30

## PERCENTAGE OF GROSS SALES BY CHANNELS



- **Retailer** was the main channel helped to bring more gross sales in the fiscal year 2021, about **73%** of the gross sales was generated from retailers.



## QUESTION 10. Get the Top 3 products in each division that have a high total\_sold\_quantity in the fiscal\_year 2021?

### INPUT

```
WITH tb AS (  
  SELECT  
    product_code,  
    SUM(sold_quantity) AS "total_sold_quantity"  
  FROM  
    fact_sales_monthly  
  WHERE  
    fiscal_year = 2021  
  GROUP BY 1  
) , tb2 AS (  
  SELECT  
    division,  
    tb.product_code,  
    product,  
    total_sold_quantity,  
    RANK() OVER (  
      PARTITION BY division  
      ORDER BY  
        total_sold_quantity DESC  
    ) AS "rank_order"  
  FROM tb  
  JOIN dim_product t2 ON tb.product_code = t2.product_code  
)  
SELECT *  
FROM tb2  
WHERE rank_order <= 3;
```

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### OUTPUT

division varchar	product_code varchar	product varchar	total_sold_quantity newdecimal	rank_order bigint
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

## INSIGHTS

division varchar	product_code varchar	product varchar	total_sold_quantity newdecimal	rank_order bigint
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

- In the division of N&S, the top 3 products with the highest total quantity sold are **AQ Pen Drive 2 IN 1** and **AQ Pen Drive DRC**.
- In the division of P&A, the top 3 products with the highest total quantity sold are from **AQ Gamers Ms** and **AQ Maxima Ms**.
- In the division of PC, the top 3 products with the highest total quantity sold are from **AQ Digit** and **AQ Velocity**.

*THANK  
YOU!*

FOR SPENDING YOUR DAY WITH US



ATLIQ HARDWARE

