Consumer Goods Ad_Hoc Insights

Codebasics SQL Challenge

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Request 1:

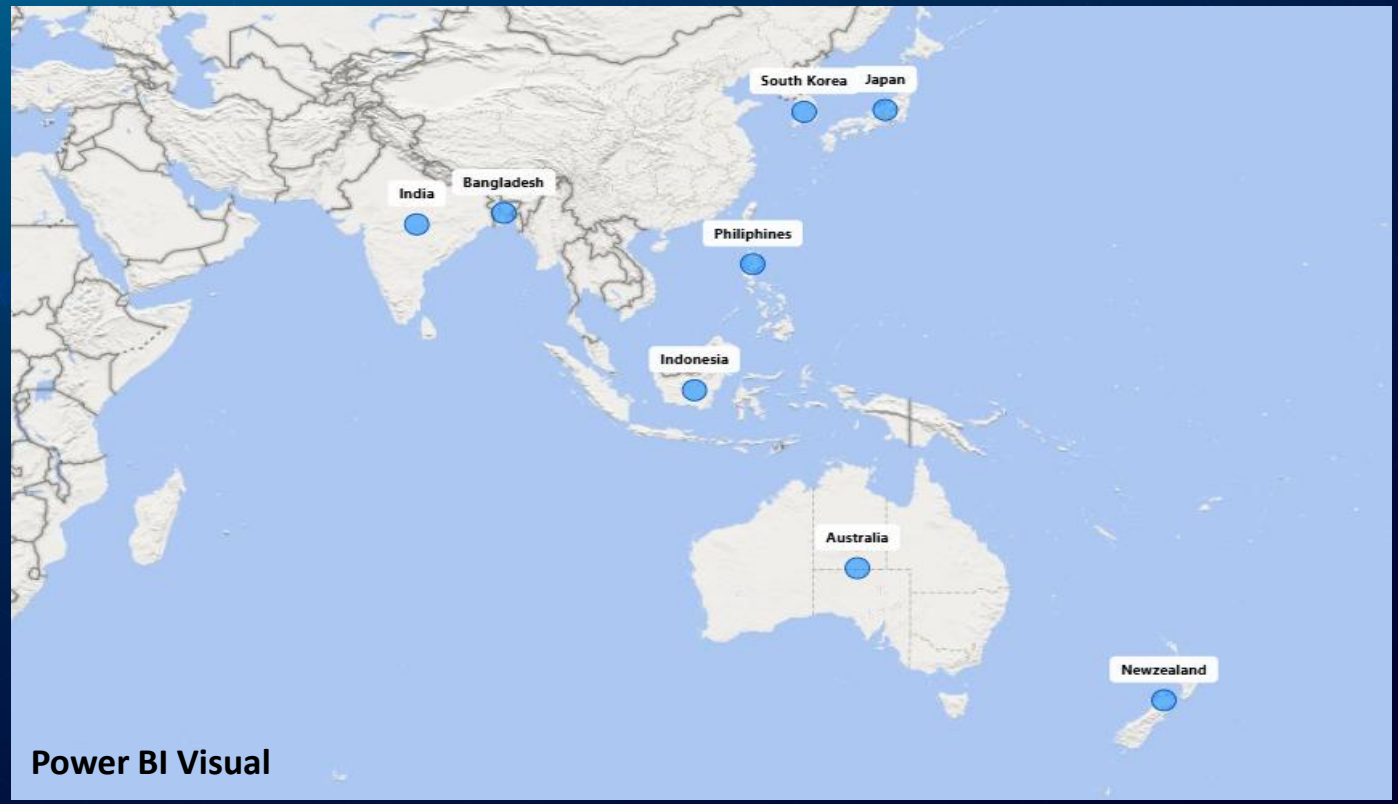
Provide the list of markets in which customer "Atliq Exclusive" operates its business in the APAC region.

SQL QUERY and OUTPUT:

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

Result Grid

market
India
Indonesia
Japan
Philiphines
South Korea
Australia
Newzealand
Bangladesh



Power BI Visual

Request 2:

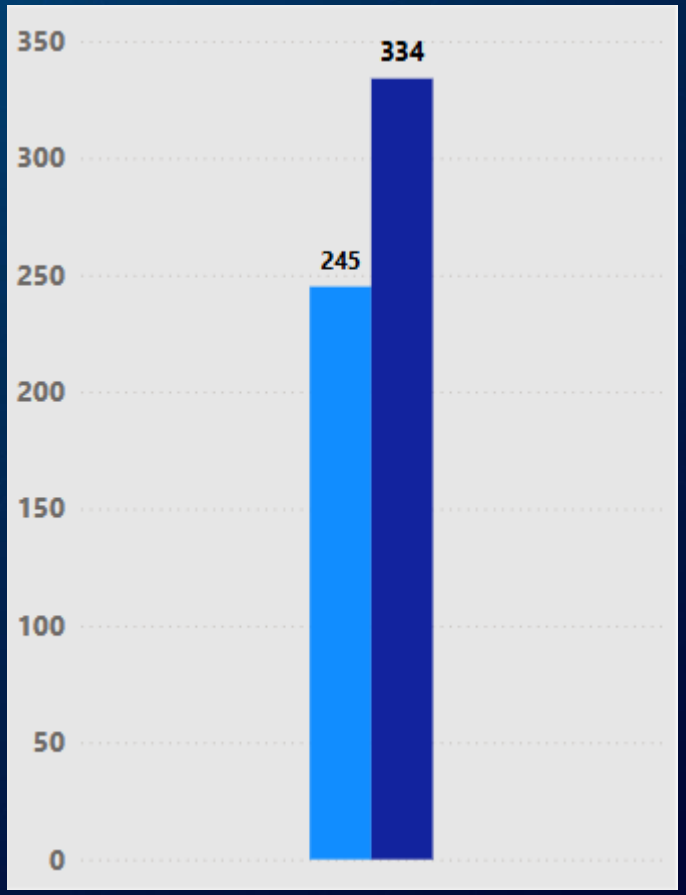
What is the percentage of unique product increase in 2021 vs. 2020? The final output contains these fields:
unique_products_2020 unique_products_2021 percentage_chg

SQL QUERY and OUTPUT:

```
WITH cte1 AS (
    SELECT COUNT(distinct(product_code)) AS Y20
    FROM fact_sales_monthly
    WHERE fiscal_year = 2020),
 cte2 AS (
    SELECT COUNT(distinct(product_code)) AS Y21
    FROM fact_sales_monthly
    WHERE fiscal_year = 2021)
SELECT cte1.Y20 AS unique_products_2020,
       cte2.Y21 AS unique_products_2021,
       ROUND(((cte2.Y21-cte1.Y20)*100/cte1.Y20),2) AS Percentage_chg
       FROM cte1 CROSS JOIN cte2 ;
```

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

unique_products_2020	unique_products_2021	Percentage_chg
245	334	36.33



Request 3:

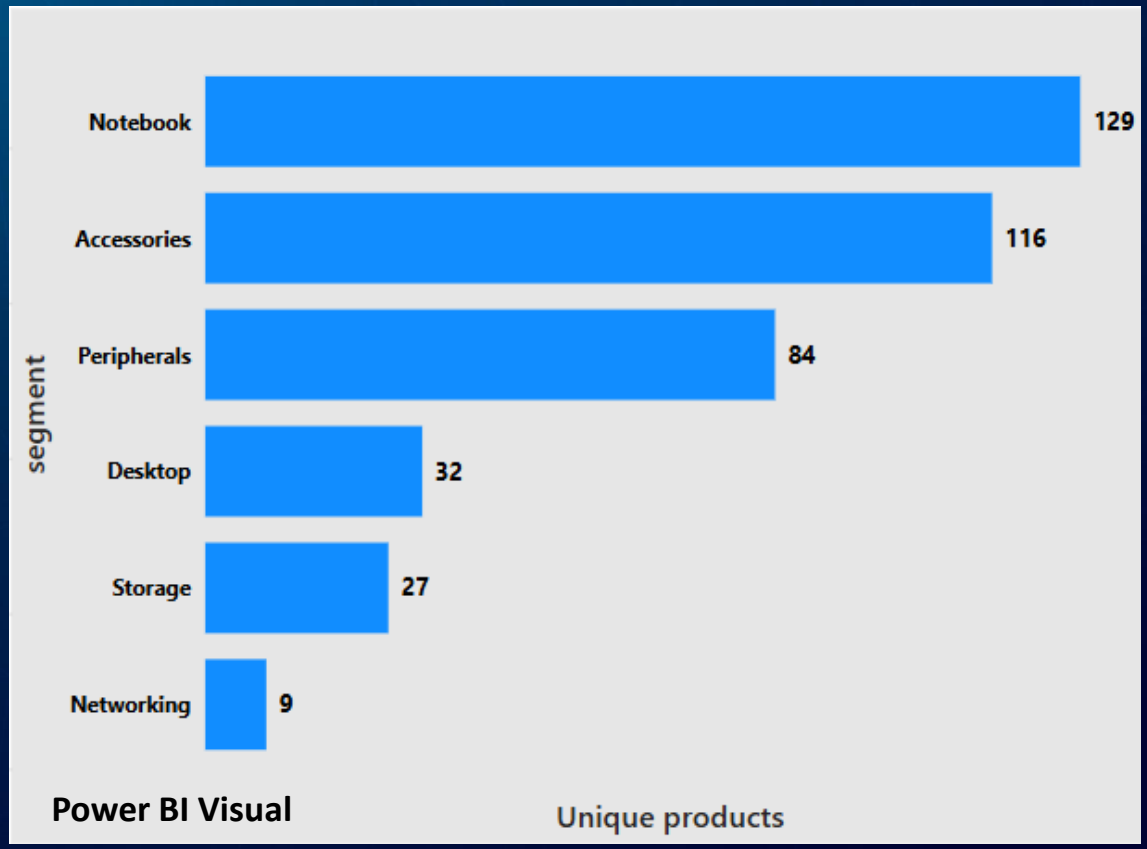
Provide a report with all the unique product counts for each segment and sort them in descending order of product counts. The final output contains 2 fields, segment,product_count

SQL QUERY and OUTPUT:

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

Result Grid | Filter Rows: | Export:

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



Request 4: 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 QUERY and OUTPUT:

```
WITH
cte1 AS (
    SELECT p.segment, COUNT(DISTINCT(s.product_code)) AS Y20
    FROM dim_product p
    JOIN fact_sales_monthly s
    ON p.product_code = s.product_code
    WHERE s.fiscal_year = 2020
    GROUP BY p.segment
),
 cte2 AS (
    SELECT p.segment,COUNT(DISTINCT(s.product_code)) AS Y21
    FROM dim_product p
    JOIN fact_sales_monthly s
    ON p.product_code = s.product_code
    WHERE s.fiscal_year = 2021
    GROUP BY p.segment)

SELECT  cte1.segment,
        cte1.Y20 AS product_count_2020,
        cte2.Y21 AS product_count_2021,
        (cte2.Y21-cte1.Y20) AS difference
FROM cte1 JOIN cte2 ON cte1.segment = cte2.segment
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
Networking	6	9	3

Power BI Visual:

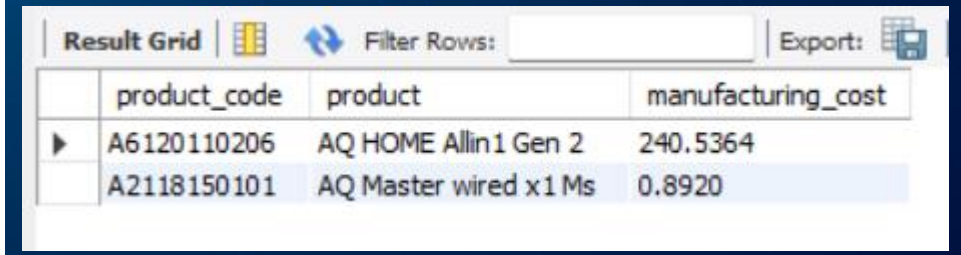
Segment	Product count 2020	Product count 2021	Difference
Accessories	69	103	34
Notebook	92	108	16
Peripherals	59	75	16
Desktop	7	22	15
Storage	12	17	5
Networking	6	9	3

Request 5:

Get the products that have the “highest” and “lowest” manufacturing costs. The final output should contain these fields, product_code, product & manufacturing_cost

SQL QUERY and OUTPUT:

```
SELECT m.product_code,p.product, m.manufacturing_cost
FROM fact_manufacturing_cost m
JOIN dim_product p
ON m.product_code = p.product_code
WHERE manufacturing_cost IN (
    SELECT max(manufacturing_cost) FROM fact_manufacturing_cost
    UNION
    SELECT min(manufacturing_cost) FROM fact_manufacturing_cost)
ORDER BY manufacturing_cost DESC;
```


Result Grid | Filter Rows: | Export:

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

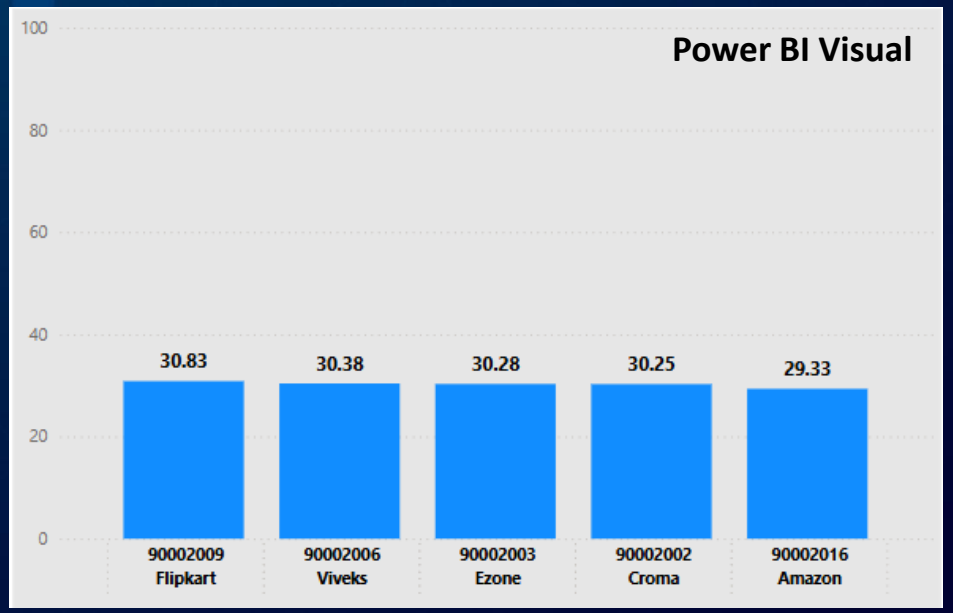
Request 6: Generate a report which contains the top 5 customers who received an average high pre_invoice_discount_pct for the fiscal year 2021 and in the Indian market. The final output contains these fields, customer_code , customer & average_discount_percentage

SQL QUERY and OUTPUT:

```sql
WITH cte1 AS (
    SELECT customer_code, AVG(pre_invoice_discount_pct)*100 AS pct
    FROM fact_pre_invoice_deductions
    WHERE fiscal_year = 2021
    GROUP BY customer_code
),
cte2 AS (
    SELECT customer_code, customer
    FROM dim_customer
    WHERE market = 'india'
)
SELECT b.customer_code, b.customer, ROUND(a.pct, 2) AS Avg_discount_pct
FROM cte1 a
JOIN cte2 b
ON a.customer_code = b.customer_code
ORDER BY avg_discount_pct DESC
LIMIT 5;
```

Result Grid | Filter Rows: | Export:

customer_code	customer	Avg_discount_pct
90002009	Flipkart	30.83
90002006	Viveks	30.38
90002003	Ezone	30.28
90002002	Croma	30.25
90002016	Amazon	29.33



Request 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

SQL QUERY and OUTPUT:

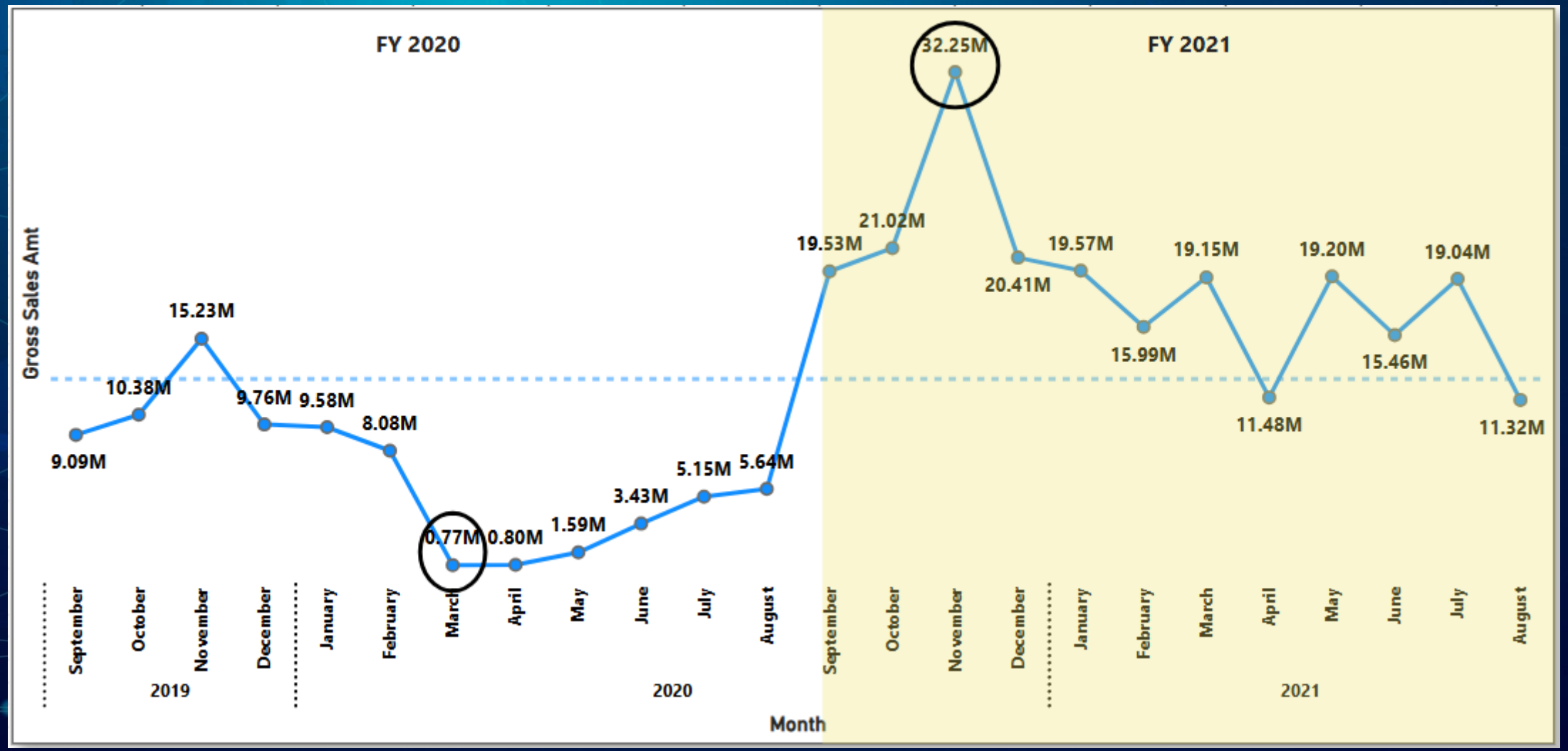
```
SELECT CONCAT(MONTHNAME(s.date), ' [', YEAR(s.date), ']') AS 'Month',
        s.fiscal_year,
        ROUND(SUM(s.sold_quantity * g.gross_price), 2) AS Gross_sales_Amt
FROM fact_sales_monthly s
JOIN dim_customer c      ON s.customer_code = c.customer_code
JOIN fact_gross_price g ON s.product_code = g.product_code
WHERE c.customer = "Atliq Exclusive"
GROUP BY Month, s.fiscal_year
ORDER BY s.fiscal_year;
```

Result Grid | Filter Rows: | Export:

Month	fiscal_year	Gross_sales_Amt
September [2019]	2020	9092670.34
October [2019]	2020	10378637.60
November [2019]	2020	15231894.97
December [2019]	2020	9755795.06
January [2020]	2020	9584951.94
February [2020]	2020	8083995.55
March [2020]	2020	766976.45
April [2020]	2020	800071.95
May [2020]	2020	1586964.48
June [2020]	2020	3429736.57
July [2020]	2020	5151815.40
August [2020]	2020	5638281.83
September [2020]	2021	19530271.30
October [2020]	2021	21016218.21
November [2020]	2021	32247289.79
December [2020]	2021	20409063.18
January [2021]	2021	19570701.71
February [2021]	2021	15986603.89
March [2021]	2021	19149624.92
April [2021]	2021	11483530.30
May [2021]	2021	19204309.41
June [2021]	2021	15457579.66
July [2021]	2021	19044968.82
August [2021]	2021	11324548.34

Power BI Visual

Power BI Visual:



Request 8:

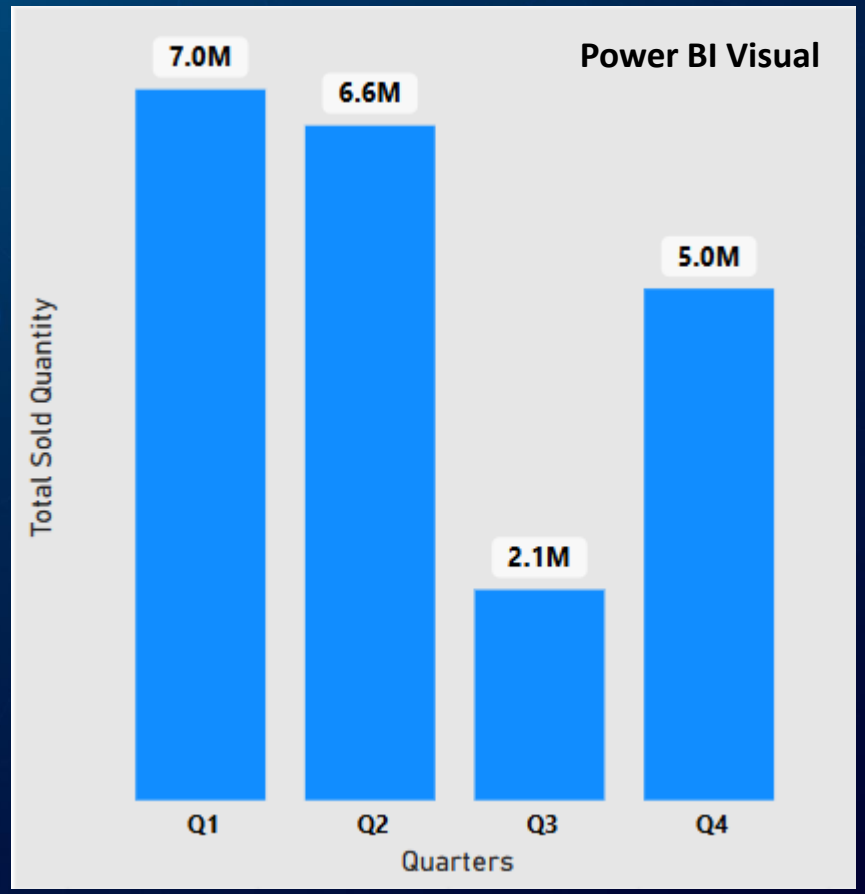
In which quarter of 2020, got the maximum total_sold_quantity? The final output contains these fields sorted by the total_sold_quantity, Quarter & total_sold_quantity

SQL QUERY and OUTPUT:

```sql
SELECT
  CASE
    WHEN date BETWEEN '2019-09-01' AND '2019-11-30' THEN 'Q1'
    WHEN date BETWEEN '2019-12-01' AND '2020-02-29' THEN 'Q2'
    WHEN date BETWEEN '2020-03-01' AND '2020-05-31' THEN 'Q3'
    WHEN date BETWEEN '2020-06-01' AND '2020-08-31' THEN 'Q4'
  END AS Quarters,
  SUM(sold_quantity) AS total_sold_quantity
FROM fact_sales_monthly
WHERE fiscal_year = 2020
GROUP BY Quarters
ORDER BY total_sold_quantity DESC;
```

Result Grid | Filter Rows:

Quarters	total_sold_quantity
Q1	7005619
Q2	6649642
Q4	5042541
Q3	2075087



Request 9:

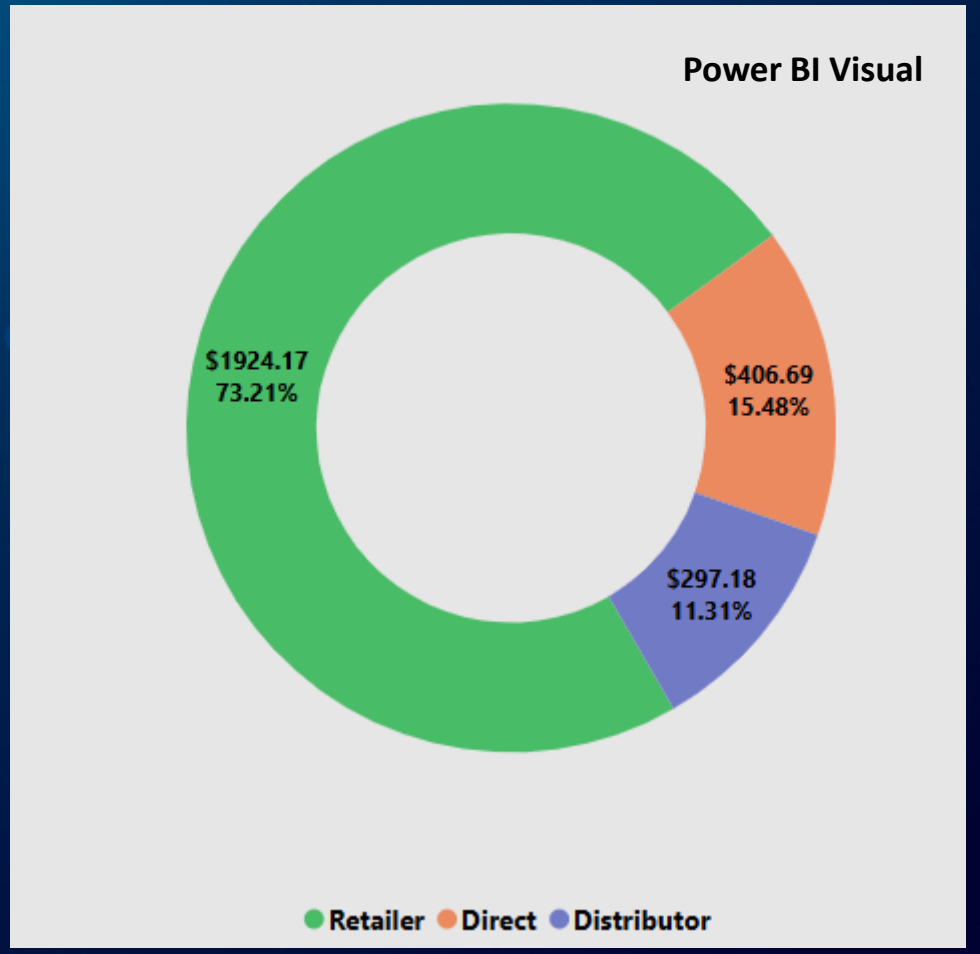
Which channel helped to bring more gross sales in the fiscal year 2021 and the percentage of contribution? The final output contains these fields, channel, gross_sales_mln & percentage

SQL QUERY and OUTPUT:

```
WITH cte1 AS (
    SELECT c.channel,
        ROUND(SUM(g.gross_price * s.sold_quantity)/1000000,2) AS Gross_sales_mln
    FROM fact_sales_monthly s
    JOIN dim_customer c     ON s.customer_code = c.customer_code
    JOIN fact_gross_price g ON s.product_code = g.product_code
    WHERE s.fiscal_year = 2021
    GROUP BY channel)
SELECT channel,
  CONCAT( '$',Gross_sales_mln) AS Gross_sales_mln,
  ROUND (Gross_sales_mln * 100 / SUM(Gross_sales_mln) OVER(),2) AS percentage
FROM cte1
ORDER BY percentage DESC;
```

Result Grid | Filter Rows: | Export

channel	Gross_sales_mln	percentage
Retailer	$1924.17	73.22
Direct	$406.69	15.48
Distributor	$297.18	11.31



Request 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

SQL QUERY and OUTPUT:

```
WITH cte1 as (
    SELECT p.division, s.product_code, p.product,
           SUM(s.sold_quantity) AS Total_Sold_qty
    FROM fact_sales_monthly s
    JOIN dim_product p ON s.product_code = p.product_code
    WHERE s.fiscal_year = 2021
    GROUP BY p.division, s.product_code, p.product),
cte2 as (
    SELECT division,product_code,product, Total_Sold_qty,
        RANK() OVER ( partition by division order by Total_Sold_qty DESC) AS Rank_order
    FROM cte1 )

SELECT *
FROM cte2
WHERE Rank_order <= 3;
```

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

division	product_code	product	Total_Sold_qty	Rank_order
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