# Amazon

As a Data Analyst on the Amazon Fresh product team, you and your team are focused on enhancing the customer experience by streamlining the process for customers to reorder their favorite grocery items....

## Question 1: The product team wants to analyze the most frequently reordered product categories. Can you provide a list of the product category codes (using first 3 letters of product code) and their reorder counts for Q4 2024?

```sql
SELECT
  SUBSTRING(dp.product_code FROM 1 FOR 3) AS product_prefix,
  SUM(fo.reorder_flag) AS reorder_counts
FROM dim_products dp
JOIN fct_orders fo ON dp.product_id = fo.product_id
WHERE fo.order_date BETWEEN DATE '2024-10-01' AND DATE '2024-12-31'
GROUP BY SUBSTRING(dp.product_code FROM 1 FOR 3);
```

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## Question 2: To better understand customer preferences, the team needs to know the details of customers who reorder specific products. Can you retrieve the customer information along with their reordered product code(s) for Q4 2024?

```
SELECT DISTINCT c.customer_id, c.customer_name, p.product_code
FROM fct_orders AS f
INNER JOIN dim_products AS p ON f.product_id = p.product_id
INNER JOIN dim_customers AS c ON c.customer_id = f.customer_id
WHERE TO_CHAR(f.order_date,'YYYY-MM') IN ('2024-10','2024-1
1','2024-12')
      AND f.reorder_flag = 1
```

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## Question 3: When calculating the average reorder frequency, it's important to handle cases where reorder counts may be missing or zero. Can you compute the average reorder frequency across the product categories, ensuring that any missing or null values are appropriately managed for Q4 2024?

```sql
WITH number AS (
  SELECT
    product_id,
    COUNT(*) AS number_reorders
  FROM fct_orders
  WHERE order_date BETWEEN DATE '2024-10-01' AND DATE '2024-12
-31'
    AND reorder_flag = 1
  GROUP BY product_id
),
calculate AS (
  SELECT
    dp.category,
    COALESCE(n.number_reorders, 0) AS number_reorders
  FROM dim_products dp
  LEFT JOIN number n ON dp.product_id = n.product_id
)
SELECT
  category,
  ROUND(SUM(number_reorders) * 1.0 / COUNT(*), 2) AS average_r
eorder
FROM calculate
GROUP BY category
ORDER BY category;
```