

Google

You are a Product Analyst on the Google Pay security team focused on improving the reliability of digital payments....

Question 1: For January 2024, what are the total counts of successful and failed transactions in each merchant category? This analysis will help the Google Pay security team identify potential friction points in payment processing.

```
SELECT
  merchant_category,
  transaction_status,
  COUNT(*) AS count
FROM fct_transactions
WHERE transaction_date BETWEEN DATE '2024-01-01' AND DATE '2024-01-31'
GROUP BY merchant_category, transaction_status
ORDER BY merchant_category, transaction_status;
```



Google

You are a Product Analyst on the Google Pay security team focused on improving the reliability of digital payments....

Question 2: For the first quarter of 2024, which merchant categories recorded a transaction success rate below 90%? This insight will guide our prioritization of security enhancements to improve payment reliability.

```
WITH total AS (  
  SELECT  
    merchant_category,  
    CASE WHEN transaction_status = 'SUCCESS' THEN 1 ELSE 0 END  
  AS is_success  
  FROM fct_transactions  
  WHERE transaction_date BETWEEN DATE '2024-01-01' AND DATE '2  
024-03-31'  
)  
  
SELECT  
  merchant_category,  
  ROUND(SUM(is_success) * 100.0 / COUNT(*), 2) AS success_perc  
centage  
FROM total  
GROUP BY merchant_category  
HAVING ROUND(SUM(is_success) * 100.0 / COUNT(*), 2) < 90;
```



Google

You are a Product Analyst on the Google Pay security team focused on improving the reliability of digital payments....

Question 3: From January 1st to March 31st, 2024, can you generate a list of merchant categories with their concatenated counts for successful and failed transactions? Then, rank the categories by total transaction volume. This ranking will support our assessment of areas where mixed transaction outcomes may affect user experience.

```
WITH total AS (  
  SELECT  
    merchant_category,  
    SUM(CASE WHEN transaction_status = 'SUCCESS' THEN 1 ELSE 0  
END) AS number_successful,  
    SUM(CASE WHEN transaction_status = 'FAILED' THEN 1 ELSE 0  
END) AS number_failed  
    FROM fct_transactions  
    WHERE transaction_date BETWEEN DATE '2024-01-01' AND DATE '2  
024-03-31'  
    GROUP BY merchant_category  
)  
  
SELECT  
  merchant_category,  
  number_successful::TEXT || number_failed::TEXT AS concat, -  
- string concatenation in PostgreSQL  
  number_successful + number_failed AS total_transactions  
FROM total  
ORDER BY total_transactions DESC;
```

