

A guide and practice questions for calculating common SaaS metrics in SQL, such as LTV and churn rate.

Definitions

MRR (Monthly Recurring Revenue):

The total monthly revenue from all active subscriptions. It tells you what the business is earning right now.

Formula: `SUM(monthly_amount) WHERE ended_at IS NULL`

Churn Rate:

The percentage of customers who cancelled during a given period. A low churn rate means customers are staying.

Formula: `churned_customers / customers_at_start × 100`

LTV (Lifetime Value):

The total revenue you can expect from an average customer over their entire relationship with the business.

Formula: `ARPU / churn_rate`

Practice Questions

Here are some practice questions you can try to answer on the data set:

1. MRR by plan tier: What is the current MRR broken down by plan price? See how much revenue each plan (\$29, \$49, \$99, \$199) contributes.
2. Active vs churned count: How many subscriptions are currently active, and how many have churned?
3. Busiest month for cancellations: Which calendar month had the most cancellations?
4. Average subscription length: For customers who have churned, what was the average number of days they stayed subscribed? Calculate `ended_at - started_at` for each churned subscription, then take the average.
5. January 2023 cohort retention: How many customers from the January 2023 cohort are still active?
6. Churn rate for a different month: What was the churn rate for March 2023?
7. Churn rate by plan tier: Which plan has the highest churn rate? Break the churn calculation down by `monthly_amount`.
8. New MRR added per month: How much new MRR was added each month, based on subscription start dates?
9. Total historical revenue: What is the estimated total revenue generated from all subscriptions, active and churned combined?
10. Rank active customers by spend: List all currently active customers ranked from highest to lowest monthly amount, using a window function.