**Step 1:**

SELECT \*

FROM subscriptions

LIMIT 100;

**Step 2:**

SELECT MIN(subscription\_start),

MAX(subscription\_start)

FROM subscriptions;

**Step 3 – 8:**

WITH months AS

(SELECT

'2017-01-01' as first\_day,

'2017-01-31' as last\_day

UNION

SELECT

'2017-02-01' as first\_day,

'2017-02-28' as last\_day

UNION

SELECT

'2017-03-01' as first\_day,

'2017-03-31' as last\_day

),

cross\_join AS

(SELECT \*

FROM subscriptions

CROSS JOIN months

),

status AS

(SELECT

id,

first\_day AS month,

CASE

WHEN (subscription\_start < first\_day)

AND (subscription\_end > first\_day OR subscription\_end IS NULL) AND (segment = 87)

THEN 1

ELSE 0

END AS is\_active\_87,

CASE

WHEN (subscription\_start < first\_day)

AND (subscription\_end > first\_day OR subscription\_end IS NULL) AND (segment = 30)

THEN 1

ELSE 0

END AS is\_active\_30,

CASE

WHEN subscription\_end BETWEEN first\_day AND last\_day AND (segment = 87)

THEN 1

ELSE 0

END AS is\_canceled\_87,

CASE

WHEN subscription\_end BETWEEN first\_day AND last\_day AND (segment = 30)

THEN 1

ELSE 0

END AS is\_canceled\_30

FROM cross\_join),

status\_aggregate AS

(SELECT month,

SUM(is\_active\_87) AS sum\_active\_87,

SUM(is\_active\_30) AS sum\_active\_30,

SUM(is\_canceled\_30) AS sum\_canceled\_30,

SUM(is\_canceled\_87) AS sum\_canceled\_87

FROM status

GROUP BY 1)

SELECT month,

ROUND((1.0\*sum\_canceled\_30/sum\_active\_30),2) AS churn\_rate\_30, ROUND((1.0\*sum\_canceled\_87/sum\_active\_87),2) AS churn\_rate\_87

FROM status\_aggregate

GROUP BY 1

LIMIT 10;