



Calculating Churn Rate

Learn SQL from Scratch

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Get Familiar with Codeflix

Getting Familiar With Codeflix

Codeflix is a streaming video startup

- The company has been operating for 4 months
- There are two different types of user segments – 30 and 87
- Each segment has 1000 subscribers

| |
|-------------------------|
| min(subscription_start) |
|-------------------------|

| |
|------------|
| 2016-12-01 |
|------------|

| |
|-------------------------|
| max(subscription_start) |
|-------------------------|

| |
|------------|
| 2017-03-30 |
|------------|

| segment | count(segment) |
|---------|----------------|
| 30 | 1000 |
| 87 | 1000 |

```
select min(subscription_start)
from subscriptions;
```

```
select max(subscription_start)
from subscriptions;
```

```
select segment, count(segment)
from subscriptions
group by segment;
```

Churn Rate by Month

Churn Trend by Month

Throughout the first three months, there's been an increase in churn. It's become a more dramatic increase as time has gone on.

| month | churn_rate |
|------------|-------------------|
| 2017-01-01 | 0.161687170474517 |
| 2017-02-01 | 0.189795918367347 |
| 2017-03-01 | 0.274258219727346 |

```
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 subscriptions.*, months.*
 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
    ) THEN 1
    ELSE 0
END as is_active,
CASE
  WHEN subscription_end BETWEEN first_day AND last_day
    THEN 1
    ELSE 0
END as is_canceled
FROM cross_join),
status_aggregate AS
(SELECT
  month,
  SUM(is_active) as sum_active,
  SUM(is_canceled) as sum_canceled
FROM status
GROUP BY month)
SELECT
  month,
  1.0 * sum_canceled/sum_active AS churn_rate
FROM status_aggregate;
```

Churn Rate by Segment

Churn Trend

Segment 87:

- Churn rate has increased dramatically in each of January, February, and March. (These are the only 3 months available).

Segment 30:

- An uptick in churn rate was noted in March, but January and February remained relatively stable at 7%.

The company needs to focus their efforts on expanding segment 30, as the churn is increasing at a much less rapid rate than segment 87.

| month | churn_rate_87 | churn_rate_30 |
|------------|-------------------|--------------------|
| 2017-01-01 | 0.251798561151079 | 0.0756013745704467 |
| 2017-02-01 | 0.32034632034632 | 0.0733590733590734 |
| 2017-03-01 | 0.485875706214689 | 0.11731843575419 |