



# Churn Rates with Codeflix

Learn SQL from Scratch

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# TABLE OF CONTEXT

## 1. **Get familiar with the company.**

- How many months has the company been operating? Which months do you have enough information to calculate a churn rate?
- What segments of users exist?

## 2. **What is the overall churn trend since the company started?**

## 3. **Compare the churn rates between user segments.**

- Which segment of users should the company focus on expanding?

## General information about the company

- CODEFLIX is a streaming video startup
- Codeflix requires a minimum subscription length of 31 days, so a user can never start and end their subscription in the same month.

## I.I GET FAMILIAR WITH CODEFLIX

How many months has the company been operating? Which months do you have enough information to calculate a churn rate?

- **Churn rate** is the percent of subscribers that have canceled within a certain period, usually a month. Churn rate = cancellations / total subscribers
- The company has been operating for 4 months. This is determined by running a query to find MIN and MAX subscription start dates.
- The company only has enough information to calculate the churn rate for 3 months (Jan – Mar 2017). There are no subscription end dates (cancellations) for the month December 2016.

```
1  -- 2. Determine the range of months of data provided.
   Which months will you be able to calculate churn for? -
   -
2
3  -- find range of months --
4  SELECT MIN(subscription_start) AS 'First
   subscription',
5         MAX(subscription_start) AS 'Last subscription'
6  FROM subscriptions;
7
8  -- find range of months to calculate churn rate --
9  SELECT MIN(subscription_end) AS 'First cancellation',
10         MAX(subscription_end) AS 'Last cancellation'
11 FROM subscriptions;
```

### Months of operation

First subscription	Last subscription
2016-12-01	2017-03-30

### Subscription end dates

First cancellation	Last cancellation
2017-01-01	2017-03-31

## I.2 GET FAMILIAR WITH CODEFLIX – CONT'D

WHAT SEGMENTS OF USERS EXIST?

The company has two segment of customers for their video streaming services:

- 87
- 30

We find both segments by querying distinct values of the segment column.

```
1  -- How many different segments do you see? --  
2  
3  SELECT DISTINCT segment  
4  FROM subscriptions;
```

### SEGMENTS

87

30

## 2.1 OVERALL CHURN TREND

**What is the overall churn trend since the company started?**

- Operating period Jan – Mar 2017. (based on available months to calculate churn rate, from question 1)
- We will first calculate the total activations and cancelations for both segments per month.
- Note: see query 'TOTAL ACTIVES AND CANCELED SINCE THE COMPANY STARTED'

Month	Actives	Canceled
2017-01-01	569	91
2017-02-01	980	181
2017-03-01	1247	330

## 2.2 OVERALL CHURN TREND – CONT'D

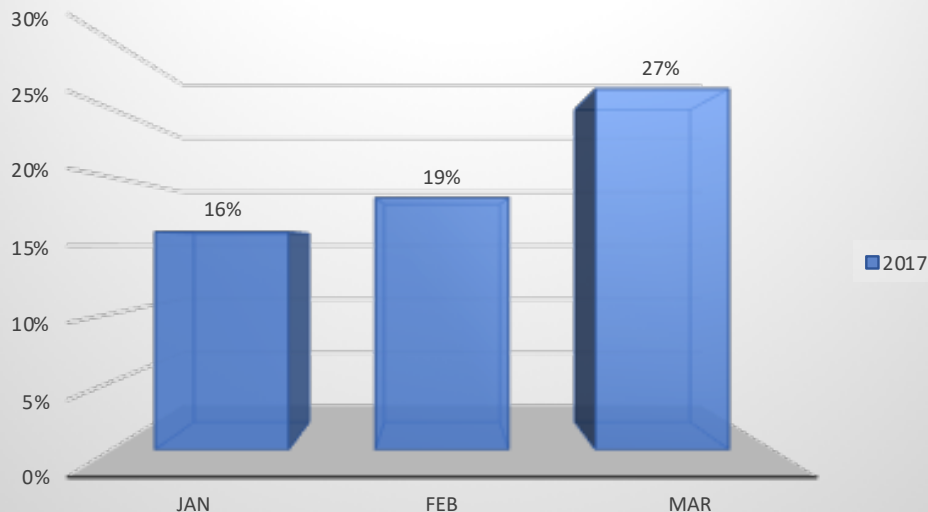
- Based on total actives and cancellations, we can calculate the churn rates during the operating months.
- Churn rate = cancellations / total subscribers
- The overall churn trend has increased by 11%, from 16 % to 27%, since the company started.

Note: see query 'OVERALL CHURN RATE TREND SINCE COMPANY STARTED'.

### Overall Churn rate per month

Month	Churn rate
2017-01-01	.16
2017-02-01	.185
2017-03-01	.265

### OVERALL CHURN TREND



## 3.1 COMPARING CHURN RATES BETWEEN SEGMENTS

Compare the churn rates between user segments.

- We will first calculate the total actives and cancellations for each segment per month.
- Segment 87
- Segment 30
- Operating period: Jan – Mar 2017
- It is worth noting that segment 87 has a higher number of cancellations compared to segment 30.
- Note: see query #7

month	sum_active_87	sum_active_30	sum_canceled_87	sum_canceled_30
1/1/17	278	291	69	22
2/1/17	462	518	143	38
3/1/17	531	716	248	82

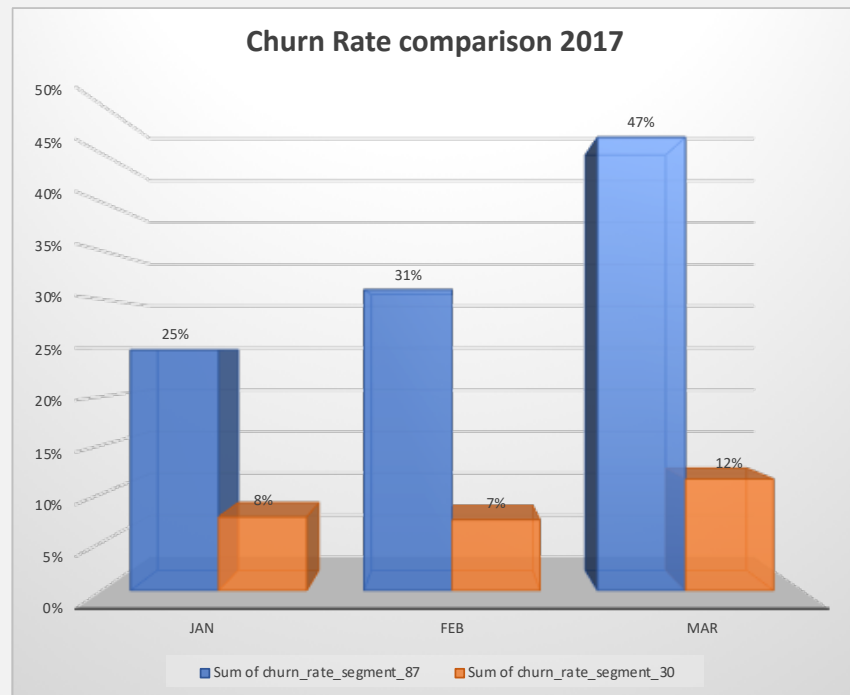
## 3.2 COMPARING CHURN RATES BETWEEN SEGMENTS – CONT'D

Compare the churn rates between user segments.

- The churn rate for segment 87 has increased by 22%, from 25% in Jan to 47% in March.
- The churn rate for segment 30 has increased by 4%, from 8% in Jan to 12% in March

Note: see query # 8

month	churn_rate_segment_87	churn_rate_segment_30
1/1/17	0.248	0.076
2/1/17	0.31	0.073
3/1/17	0.467	0.115





## 3.3 COMPARING CHURN RATES BETWEEN SEGMENTS – CONT'D

Which segment of users should the company focus on expanding?

The data recommends that Codeflix focus on expanding segment 30 for the following reasons:

- It has a lower churn rate overall compared to segment 87.
- The churn rate has only increased by 4% overall, compared to an increase of 22% from segment 87.
- Segment 30 has also had a higher number active subscribers per month compared to segment 87.

