codecademy

Codeflix: Feel The Churn

Learn SQL from Scratch

Table of Contents

Get Familiar with Codeflix

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Company Background

- In existence since December 2016
- Operational through March 2017 (four months)
- Minimum subscriptions are 31 days, so users cannot start and end in the same month
- Churn = the percent of subscribers that have canceled in a given period (in our case, one month)
- Can calculate churn for January, February, and March of 2017 from the available data (December 2016 cannot be calculated as no subscriptions ended in that month based on minimum subscription below and the minimum subscription term)

MIN(subscription_start)	MAX(subscription_end)
2016-12-01	2017-03-31

Get Familiar with Codeflix

User Segments

- Users consist of two segments: 30 and 87
- Information in the database includes user ID, subscription start date, subscription end date (null if the subscription is still active), and segment ID (see a sample of subscription data to the right)
- How does the churn rate differ between these two segments? First though…

id	subscription_start	subscription_end	segment
1	2016-12-01	2017-02-01	87
2	2016-12-01	2017-01-24	87
3	2016-12-01	2017-03-07	87
4	2016-12-01	2017-02-12	87
5	2016-12-01	2017-03-09	87
6	2016-12-01	2017-01-19	87
7	2016-12-01	2017-02-03	87
8	2016-12-01	2017-03-02	87
9	2016-12-01	2017-02-17	87
10	2016-12-01	2017-01-01	87
11	2016-12-01	2017-01-17	87
12	2016-12-01	2017-02-07	87
13	2016-12-01		30
14	2016-12-01	2017-03-07	30
15	2016-12-01	2017-02-22	30
16	2016-12-01		30
17	2016-12-01		30
18	2016-12-02	2017-01-29	87
19	2016-12-02	2017-01-13	87
20	2016-12-02	2017-01-15	87

The first 20 users in the Codeflix database

Overall Churn Rate by Month

Overall Churn Rate by Month

- Churn rate has steadily increased from January to March 2017, from 16.2% to 27.4% - a potentially concerning trend
- In order to determine the best course of action, we first need to determine if the churn rate is the same for all users, or if it varies between the segments

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

Comparing Churn Rate Between Segments

Comparing Churn Rates Between Segments

- The churn rate for segment 30 has increased from 7.6% in January to 11.7% in March
- Meanwhile, the churn rate for segment 87 increased from 25.2% in January to 48.6% in March-almost doubling.
- While the churn rate for both user segments increased from January to March 2017, users in segment 87 were clearly churning at a significantly higher rate

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

Conclusions

Conclusions

- While overall churn increased from January to March 2017, the primary driver is the increase in churn from segment 87, whose churn rate nearly doubled during the stated time period
- Codeflix should focus on expanding its users from segment 30 as they are significantly less likely to churn as compared to those in segment 87
- In addition, Codeflix should focus some efforts on segment 87, learning more about that user segment and what causes its members to churn at approximately four times the rate of users in segment 30