Project description

The gym chain Model Fitness is developing a customer interaction strategy based on analytical data.
One of the most common problems gyms and other services face is customer churn. How do you know if a customer is no longer with you? You can calculate churn based on people who get rid of their accounts or don't renew their contracts. However, sometimes it's not obvious that a client has left: they may walk out on tiptoes.
Churn indicators vary from field to field. If a user buys from an online store rarely but regularly, you can't say they're a runaway. But if for two weeks they haven't opened a channel that's updated daily, that's a reason to worry: your follower might have gotten bored and left you.
For a gym, it makes sense to say a customer has left if they don't come for a month. Of course, it's possible they're in Cancun and will resume their visits when they return, but's that's not a typical case. Usually, if a customer joins, comes a few times, then disappears, they're unlikely to come back.
In order to fight churn, Model Fitness has digitized a number of its customer profiles. Your task is to analyze them and come up with a customer retention strategy.
You should:

- Learn to predict the probability of churn (for the upcoming month) for each customer
- Draw up typical user portraits: select the most outstanding groups and describe their main features
- Analyze the factors that impact churn most
- Draw basic conclusions and develop recommendations on how to improve customer service:
    - Identify target groups
    - Suggest measures to cut churn
    - Describe any other patterns you see with respect to interaction with customers

Model Fitness provided us with CSV files containing data on churn for a given month and information on the month preceding it.

The dataset includes the following fields:

- `'Churn'` — the fact of churn for the month in question
- Current dataset fields:
    - User data for the preceding month
        - `'gender'`

        - `'Near_Location'` — whether the user lives or works in the neighborhood where the gym is located
        - `'Partner'` — whether the user is an employee of a partner company (the gym has partner companies whose employees get discounts; in those cases the gym stores information on customers' employers)
        - `Promo_friends` — whether the user originally signed up through a "bring a friend" offer (they used a friend's promo code when paying for their first membership)
        - `'Phone'` — whether the user provided their phone number
        - `'Age'`
        - `'Lifetime'` — the time (in months) since the customer first came to the gym
- Data from the log of visits and purchases and data on current membership status
    - `'Contract_period'` — 1 month, 3 months, 6 months, or 1 year
    - `'Month_to_end_contract'` — the months remaining until the contract expires
    - `'Group_visits'` — whether the user takes part in group sessions
    - `'Avg_class_frequency_total'` — average frequency of visits per week over the customer's lifetime
    - `'Avg_class_frequency_current_month'` — average frequency of visits per week over the preceding month
    - `'Avg_additional_charges_total'` — the total amount of money spent on other gym services: cafe, athletic goods, cosmetics, massages, etc.