Business Analyst, Product Operations
Homework Assignment

INTRODUCTION
First, thank you for taking the time to complete the Business Analyst homework! We appreciate your investment in our interview process, and we're excited to review your submission.

In this assignment, we're asking you to use the given data to complete the following presentation. Your presentation will be evaluated based on your technical analysis and interpretation of the data using the .csv files and information provided. **You have 48 hours to complete and submit your assignment.**

INSTRUCTIONS

Deliverable: Submit a 20-30 minute presentation that analyzes a driver's Lifetime Value (LTV) using the data provided, and identifies trends and insights of the factors that impact LTV.

Assumptions to keep in mind when creating your presentation:
- Turn in a presentation that can be read and interpreted without a voiceover. Please include all working materials, assumptions, and supporting analyses in an appendix.
- Keep in mind we'll be assessing your homework based on the structure, organization, technical depth, and business applications/insights.
- Assume this presentation will be delivered to a cross-functional audience.
- The data provided is a snapshot in time and does not encompass all rides data. Drivers may have continued to drive after the snapshot was taken.
- Be sure to state any and all assumptions you make in your assignment.
- Submit as a Google Slides presentation

Questions to consider when building your presentation:
- Recommend a Driver's Lifetime Value (LTV) (i.e. the value of a driver to Lyft over the entire projected lifetime of a driver). State the components of your LTV equation and the assumptions made to calculate your final LTV.
- What is the average projected lifetime of a driver? That is, once a driver is onboarded, how long do they typically continue driving with Lyft.
  - Number of Rides and Active Drivers over time (in weekly buckets)
- Explore how drivers churn once they start driving with Lyft.
  - Are there any predictive indicators for driver churn?
  - % of Active Drivers over time (in weekly buckets, cohorted by onboard week)
- Segment the driver population to identify driving behavior that may lead to churn
- What are the main factors that affect a driver's lifetime value? Please support your answers using your data analysis.
- How does the demand for rides impact the number of drivers?
- What actionable recommendations are there for the business?

DATA DETAILS

Attached are three CSV files containing the data you will need for this assignment. More information below.

The three CSV files attached contain the following data:

data/driver_ids.csv

driver_id	Unique identifier for a driver
driver_onboard_date	Date the driver was approved to drive on Lyft

data/ride_ids.csv

driver_id	Unique identifier for a driver
ride_id	Unique identifier for a ride that was completed by the driver
ride_distance	Ride distance in meters
ride_duration	Ride durations in seconds
ride_prime_time	PrimeTime multiplier (%) applied on the ride

data/ride_timestamps.csv

ride_id	Unique identifier for a ride
event	event describes the type of event (see below)
timestamp	Time of event

You can assume that:
- All rides in the data set occurred in San Francisco.
- All timestamps in the data set are in UTC.
- This is a snapshot of onboarding and ride history data for a 3 month period. You may assume the data is complete for these drivers during the given time period; however, additional rides may have occurred before and after the time period included in the data.

Here's an overview of the event types:

requested_at	passenger requested a ride
accepted_at	driver accepted a passenger request
arrived_at	driver arrived at pickup point
picked_up_at	driver picked up the passenger
dropped_off_at	driver dropped off a passenger at destination

You can make the following assumptions about the Lyft rate card:

Base Fare	$2.00
Cost per Mile	$1.15
Cost per Minute	$0.22
Service Fee	$1.75
Minimum Fare	$5.00
Maximum Fare	$400.00