Data Analytics Test 2023

Guidelines

Please read over the following questions and get back to us in your preferred format. The purpose of this test is not for you to come up with perfect answers, but to show us your process of tackling real-life, ambiguous questions. If something seems unclear to you, state clearly your assumptions and go ahead as you see fit.

This is also a communication exercise so make sure you include all relevant elements for us to assess your work!

Good luck and don't forget to have fun in the process - we're excited to see what you come up with!

All tables can be found here.

Part 1

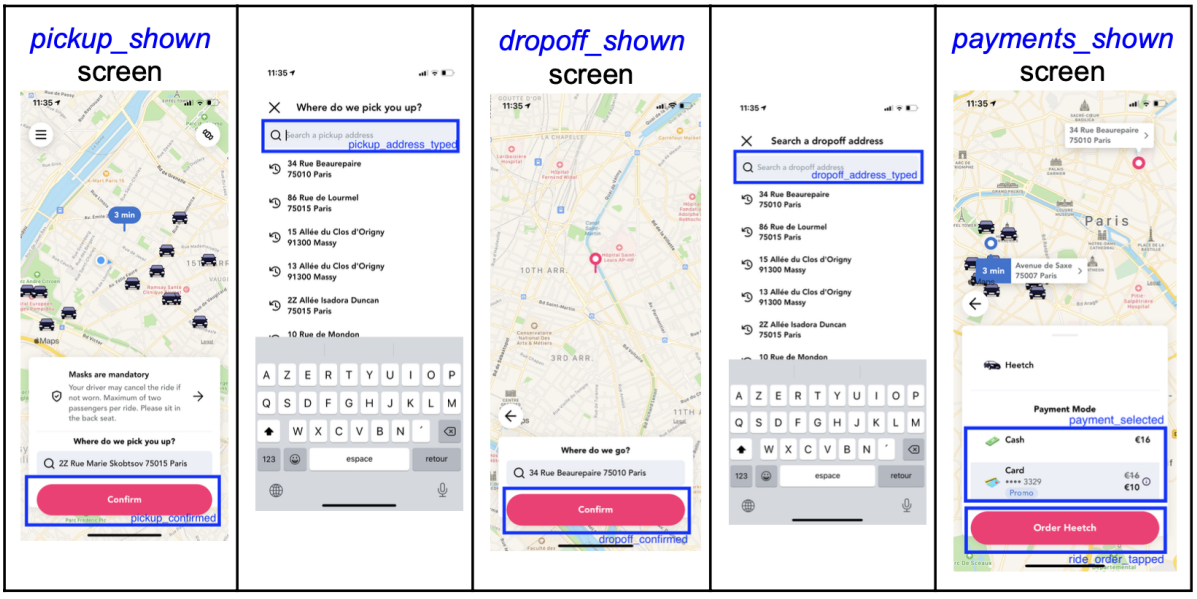
Given the below subset, write an executable SQL query to answer the question. Please answer in a single query, and assume read-only access to the database (i.e. do not use `CREATE TABLE`).

- What is the percentage of sessions which end up in a ride order everyday ?
- We suspect the `payments_selected` event to not be triggered properly by the app. How many of them didn't fire ?

Table Name : `MOBILE_EVENTS`

Column	Value type
device_id	Integer
event_name	Varchar. Possible values : `pickup_shown` `pickup_address_typed` `pickup_confirmed` `dropoff_shown` `dropoff_address_typed` `dropoff_confirmed` `payments_shown` `payments_selected` `ride_order_tapped`
timestamp	Timestamp, format: `YYYY-MM-DD hh:mm:ss`

Hint: The user can go back and forth during the pre-order session.



Part 2

In Part 1, we follow the different steps between the moment the user opens the app to the moment they order a ride. We call this the “Preorder”.

- Based on the dataset in Part 1, how would you help your Product Manager figure out what works and what doesn’t work during the Preorder?
- How would you communicate your conclusions in a concise way?

NB: For this question, we expect a data visualization to support your answer.

Part 3

When a passenger orders a ride in the Heetch app, here’s how things work schematically:

1. We send the order, called a “Booking Request”, to the Driver that we think is the best match for this Passenger at this specific time (including, but not only, because they are close to each other).
2. If the first Driver does not accept this Booking Request, we send it to a second Driver. And so on, until a Driver eventually accepts, or until the maximum delay is reached (in which case it’s a failed order).
3. When a Driver accepts the Booking Request, it becomes a “Ride”, and the Driver will drive to pick up the Passenger. This is the “Approach” phase.

4. However, before the Driver actually picks up the Passenger, the Ride can be cancelled, either by the Passenger or by the Driver.
5. If the Ride is not cancelled during the Approach phase, the Passenger will be picked up, and the “In Ride” phase will start, until the drop-off, that will mark the end of this ride.
6. At this point, the Driver will be back to “Open” phase, until they accept a new Booking Request.

Historically at Heetch, drivers could only receive new Booking Requests when they were not already in a ride. They had to be in “Open” status, and could neither be in “Approach” or “In Ride” status.

In June 2023, we launched the capacity for Drivers to receive new Booking Requests while they are still In Ride with a Passenger. This feature is called “In-ride Booking”.

- What do you think are the main expected benefits that drove the decision to launch this feature?
- What metrics would you choose to measure them?
- What do you think are the main risks with In-ride booking? How would you monitor them? How would you mitigate them, including by adjusting some parameters?
- We typically don’t roll out a new feature to 100% of users from the start. Keeping in mind that In-ride Booking can only be activated on a per-user basis, describe the experiment design you would set up, to ensure that a decision can be made regarding the failure or success of this feature.