Metrocar Quiz 1 SQL

```
/* 1.How many times was the app downloaded? */
select
                count(app_download_key)
from app_downloads
--23,608


/* 2. How many users signed up on the app?*/

select
                count(*)
from signups
--17,623


/* 3.How many rides were requested through the app? */

select
                count(*)
from ride_requests
--385,477

/* 4. How many rides were requested and completed through the app? */

select
                count(dropoff_ts)
from ride_requests
--385,477 rides requested, 223,652 rides completed

/* 5. How many rides were requested and how many unique users
requested a ride?*/

select
                count(*)
from ride_requests
```

```
select
                count(distinct user_id)
from ride_requests
--385,477 rides requested,12,406 unique requesting a ride

/* 6. What is the average time of a ride from pick up to drop off?*/

select
                avg(dropoff_ts - pickup_ts)
from ride_requests
--00:52:36.73877

/* 7. How many rides were accepted by a driver?*/
select
                count(accept_ts)
from ride_requests
--248,379


/* 8. How many rides did we successfully collect payments and how
much was collected?*/

select
                count(*),
    round(sum(purchase_amount_usd)::numeric,2)
from transactions
where charge_status = 'Approved'
--212628 total rides, $4,251,667.61


/* 9. How many ride requests happened on each platform?*/

select
      platform,
      count(rid.ride_id)
```

```
from app_downloads app
join signups sig
on app.app_download_key=sig.session_id
join ride_requests rid
on sig.user_id=rid.user_id
group by app.platform
-- 112,317 android, 234,693 ios, 38,467 web


/* 10. What is the drop-off from users signing up to users requesting a
ride?
request/sign_in*/
select
      count(distinct sig.user_id) as sign_in,
      count(distinct rid.user_id) as ride_request,
      round(100.0 * (count(distinct sig.user_id)
      - count(distinct rid.user_id)) / count(distinct sig.user_id)::numeric,2)
as drop_off
from signups sig
left join ride_requests rid
on sig.user_id=rid.user_id
--29.6%
```

Metrocar Quiz 2 SQL & data exploration for business questions

```
 /* 1. How many unique users requested a ride through the Metrocar
app? */
select
                        count(distinct user_id)
from ride_requests
-- 12406 users


/* 2.How many rides were requested and how many unique users
requested a ride? */
select
                        count(*)
```

```
from ride_requests
--385,477 rides requested

–3.Unique ride_requests
select
                    count(distinct user_id)
from ride_requests
--12,406 unique requesting a ride/*

/* 4.Of the users that signed up on the app, what percentage these users
requested a ride?
70.4%*/

/* 5. How many unique users completed a ride through the Metrocar
app? */
select
                    count(distinct rid.user_id)
from transactions tra
join ride_requests rid
on tra.ride_id=rid.ride_id
where tra.charge_status = 'Approved'
--6233 Users

/* 6. How many unique users din't complete their ride through the
Metrocar app? */
select
                    count(request_ts) as total_request,
    count(dropoff_ts) as complete_ride,
    count(cancel_ts) as cancelled_ride,
    count(request_ts) - count(dropoff_ts) - count(cancel_ts)
from ride_requests
--Total requests: 385,477 | Completed rides: 223,652 | Cancelled rides:
161,825

/* 7. Of the users that signed up on the app, what percentage these
users completed a ride? */
select
```

```
                round(100.0 * count(distinct user_id) / (select
count(distinct user_id) from signups),1)
from ride_requests
where dropoff_ts is not null
--35.4 %

/* 8. Using the percent of previous approach, what are the user-level
conversion rates for
the first 3 stages of the funnel (app download to signup and signup to
ride requested)?*/
--74.6%, 70.4%


select
            100.0 * (count(app.app_download_key) -
count(sig.user_id)) / count(app.app_download_key) as conv_1_step,
      100.0 * (count(sig.user_id) - count(distinct rid.user_id))  /
count(sig.user_id) as conv_2_step

from app_downloads app
left join signups sig
on app.app_download_key=sig.session_id
left join ride_requests rid
on sig.user_id=rid.user_id
--1.5087766 conv_1_step  --96.82462489


select
                count(distinct user_id)
from ride_requests
-- 12406 users


/* 9. Using the percent of previous approach, what are the user-level
conversion rates
for the following 3 stages of the funnel? 1. signup, 2. ride requested, 3.
ride completed*/
```

--70.4%, 50.2%

/*10. Using the percent of top approach, what are the user-level conversion rates for the first 3 stages of the funnel (app download to signup and signup to ride requested)?
Your answer: 74.6%, 52.5%*/

/* 11. Using the percent of top approach, what are the user-level conversion rates for the following
3 stages of the funnel? 1. signup, 2. ride requested, 3. ride completed (hint: signup is the top of this funnel)*/
--70.4%, 35.4%

/* 12. Looking at the app_downloads table for a week, let's say we initially aggregated
the data by day (7 days = 7 rows). The platform column includes ios, android, and
web (cardinality = 3). What is the maximum number of rows if we add the platform column to the "group by"?
 7 days * 3 platforms = 21 row */
```
select
                download_ts::date

from app_downloads
group by 1
```

Exploring the Funnel and Business questions

```
*/ select
                count(app_download_key)
from app_downloads
```
--23,608

/* How many users signed up on the app? This question is required.*/
```
select
```

```
                    count(*)
from signups
--17,623

select
    count(distinct app.app_download_key),
    count(distinct sig.user_id) as sign_in,
    count(distinct rid.user_id) as ride_recuest

from signups sig
left join ride_requests rid
on sig.user_id=rid.user_id
join app_downloads app
on sig.session_id=app.app_download_key
 --17623  ---12406

/*
1 - What steps of the funnel should we research and improve? Are there
any specific
drop-off points preventing users from completing their first ride?

2 - Metrocar currently supports 3 different platforms: ios, android, and
web.
To recommend where to focus our marketing budget for the upcoming
year, what insights can we make based on the platform?

3 - What age groups perform best at each stage of our funnel? Which
age group(s) likely contain our target customers?

4 - Surge pricing is the practice of increasing the price of goods or
services when there is the greatest demand for them.
If we want to adopt a price-surging strategy, what does the distribution of
ride requests look like throughout the day?

5 - What part of our funnel has the lowest conversion rate? What can we
do to improve this part of the funnel?
```

```
select
                    sum(case when age_range = '18-24' then 1 else 0 end)
as "18-24",
    sum(case when age_range = '25-34' then 1 else 0 end) as "25-34",
    sum(case when age_range = '35-44' then 1 else 0 end) as "35-44",
    sum(case when age_range = '45-54' then 1 else 0 end) as "45-54",
    sum(case when age_range = 'Unknown' then 1 else 0 end) as
"Unknown",
    count(user_id) as total_of_users
from signups

--18-24=1865  25-34=3447   35-44=5181   45-54=1826
Unknown=17623


select /* percentages*/
                     100.0 * sum(case when age_range = '18-24' then 1
else 0 end) / count(user_id) as "18-24"
    , 100.0 * sum(case when age_range = '25-34' then 1 else 0 end) /
count(user_id) as "25-34"
    , 100.0 * sum(case when age_range = '35-44' then 1 else 0 end) /
count(user_id)as "35-44"
    , 100.0 * sum(case when age_range = '45-54' then 1 else 0 end) /
count(user_id)as "45-54"
    , 100.0 * sum(case when age_range = 'Unknown' then 1 else 0 end)
/ count(user_id) as "Unknown"
from signups
--18-24=10.58%  25-34=19.56%   35-44=29.399%   45-54=10.36%
Unknown=30.097%


select /* range that completed rides*/
                    sig.age_range,
    count(rid.dropoff_ts) as completed_ride
```

```
from signups sig
left join ride_requests rid
on sig.user_id=rid.user_id
group by age_range
order by sig.age_range



select
                        sum(case when charge_status = 'Approved' then 1
else 0 end) as Approved,
       sum(case when charge_status = 'Decline' then 1 else 0 end) as
Decline
from transactions
--Approved =212628  Decline = 11024

select /* reviews */
                        count(review_id),
      sum(case when rating = 1 then 1 else 0 end) as "1",
      round(100.0 * sum(case when rating = 1 then 1 else 0 end) /
count(review_id),2) as "%_of_1",
      sum(case when rating = 2 then 1 else 0 end) as "2",
      round(100.0 * sum(case when rating = 2 then 1 else 0 end) /
count(review_id),2) as "%_of_2",
                        sum(case when rating = 3 then 1 else 0 end) as "3",
      round(100.0 * sum(case when rating = 3 then 1 else 0 end) /
count(review_id),2) as "%_of_3",
                        sum(case when rating = 4 then 1 else 0 end) as "4",
      round(100.0 * sum(case when rating = 4 then 1 else 0 end) /
count(review_id),2) as "%_of_4",
      sum(case when rating = 5 then 1 else 0 end) as "5",
      round(100.0 * sum(case when rating = 5 then 1 else 0 end) /
count(review_id),2) as "%_of_5"
from reviews

---service review
select
```

```
                        --rating
       distinct split_part(review,'.',1) as service_review
     --  split_part(review,'.',2) as diver_review
from reviews
where rating = 1

---driver_review
select
       --distinct split_part(review,'.',1) as service_review
     distinct split_part(review,'.',2) as driver_review
from reviews
where rating = 1
```

/* Funnel table*/

```
(SELECT
      0 AS funnel_step,
     'download' AS funnel_name,
    platform,
    COUNT(app_download_key) AS user_count,
    0 AS ride_count

FROM app_downloads
GROUP BY platform)

UNION

(SELECT
      1 AS funnel_step,
     'singup' AS funnel_name,
    app.platform,
     COUNT(sig.user_id) AS user_count,
                0 AS ride_count

FROM app_downloads app
JOIN signups sig
ON app.app_download_key=sig.session_id
```

```
GROUP BY app.platform)

UNION

(SELECT
      2 AS funnel_step,
     'ride_requested' AS funnel_name,
     app.platform,
     COUNT(DISTINCT rid.user_id) AS user_count,
                COUNT(rid.ride_id) AS ride_count

FROM app_downloads app
JOIN signups sig
ON app.app_download_key=sig.session_id
LEFT JOIN ride_requests rid
ON sig.user_id=rid.user_id
GROUP BY app.platform)

UNION

(SELECT
      3 AS funnel_step,
    'ride_accepted' AS funnel_name,
     app.platform,
     COUNT(DISTINCT rid.user_id) AS user_count,
                COUNT(rid.ride_id) AS ride_count

FROM app_downloads app
JOIN signups sig
ON app.app_download_key=sig.session_id
LEFT JOIN ride_requests rid
ON sig.user_id=rid.user_id
WHERE accept_ts IS NOT NULL
GROUP BY app.platform)

UNION
```

```
(SELECT
      4 AS funnel_step,
     'ride_completed' AS funnel_name,
    app.platform,
    COUNT(DISTINCT rid.user_id) AS user_count,
                COUNT(rid.ride_id) AS ride_count

FROM app_downloads app
JOIN signups sig
ON app.app_download_key=sig.session_id
JOIN ride_requests rid
ON sig.user_id=rid.user_id
WHERE dropoff_ts IS NOT NULL
GROUP BY app.platform)

UNION

(SELECT
      5 AS funnel_step,
    'ride_charged' AS funnel_name,
     app.platform,
     COUNT(DISTINCT rid.user_id) AS user_count,
                COUNT(tra.ride_id) AS ride_count

FROM app_downloads app
JOIN signups sig
ON app.app_download_key=sig.session_id
JOIN ride_requests rid
ON sig.user_id=rid.user_id
JOIN transactions tra
ON tra.ride_id=rid.ride_id
WHERE charge_status = 'Approved'
GROUP BY app.platform)

ORDER BY funnel_step, platform;
```