Quiz 3 Solutions

Write queries to figure out the following questions. All the questions deal with the dataset `bigquery-public-data.austin_bikeshare.bikeshare_trips`.

1.

How many unique rides involved the bike with a bikeid of 446.

```
SELECT COUNT(*) AS num_rides
FROM `bigquery-public-data.austin_bikeshare.bikeshare_trips`
WHERE bikeid='446'
```

2.

For the bike with bikeid='446', what was the time of its longest ride in minutes?

```
SELECT   duration_minutes
FROM   `bigquery-public-data.austin_bikeshare.bikeshare_trips`
WHERE   bikeid = '446'
ORDER BY   duration_minutes DESC
LIMIT   1
```

3.

How many bike rides started at the station Zilker Park West.

```
SELECT   count(*) AS num_rides
FROM   `bigquery-public-data.austin_bikeshare.bikeshare_trips`
WHERE   start_station_name = "Zilker Park West"
```

4.

How many bike rides started at "Capital Metro HQ - East 5th at Broadway" and ended at "ACC - West & 12th Street".

```
SELECT   COUNT(*) AS num_rides
FROM   `bigquery-public-data.austin_bikeshare.bikeshare_trips`
WHERE   start_station_name = "Capital Metro HQ - East 5th at Broadway"
        AND end_station_name = "ACC - West & 12th Street"
```

5.

How many bike rides started and ended at the same location? HINT: You can use a where clause and set the start location = end location.

```
SELECT   COUNT(*) AS num_rides
FROM   `bigquery-public-data.austin_bikeshare.bikeshare_trips`
WHERE   start_station_name = end_station_name
```

6.

How many rides had a trip duration of exactly one hour or less?

```
SELECT   COUNT(*) AS num_rides
FROM   `bigquery-public-data.austin_bikeshare.bikeshare_trips`
WHERE   duration_minutes <= 60
```

7.

How many bike rides had a trip duration between 1 and 2 hours (including both 1 and 2 hour trips)?

```
SELECT   COUNT(*) AS num_rides
FROM   `bigquery-public-data.austin_bikeshare.bikeshare_trips`
WHERE   duration_minutes >= 60   AND duration_minutes <= 120
```

8.

How many bike rides were strictly greater than 3 hours?

```
SELECT   COUNT(*) AS num_rides
FROM   `bigquery-public-data.austin_bikeshare.bikeshare_trips`
WHERE   duration_minutes > 3*60
```

9.

Consider the following two types of bike rides:

- Started at "ACC - West & 12th Street" and ended at "Zilker Park West"
- Started at "Nueces @ 3rd" and ended at "Toomey Rd @ South Lamar"

Of all these types of bike rides, what was the shortest trip duration in minutes?

```
SELECT   duration_minutes
FROM   `bigquery-public-data.austin_bikeshare.bikeshare_trips`
WHERE   (start_station_name = "ACC - West & 12th Street" AND end_station_name = "Zilker Park West")
        OR (start_station_name = "Nueces @ 3rd" AND end_station_name = "Toomey Rd @ South Lamar")
        ORDER BY   duration_minutes ASC LIMIT   1
```

10.

The subscriber_type column is a string type column. You can see all the different distinct strings in this column from this query:

```
SELECT

  DISTINCT subscriber_type

FROM

  `bigquery-public-data.austin_bikeshare.bikeshare_trips`
```

How many of these distinct strings contain the pattern "B-cycle".

You could count them manually but that is not a scalable solution.

You can answer this question using a LIKE statement.

```
SELECT   COUNT(DISTINCT subscriber_type) AS num_subscriber_type
 FROM   `bigquery-public-data.austin_bikeshare.bikeshare_trips`
 WHERE   subscriber_type LIKE '%B-cycle%'
```

11.

Consider all the bike rides with a subscriber_type that starts with the letter "W". How many bike rides is this?

```
SELECT   count(*)
FROM   `bigquery-public-data.austin_bikeshare.bikeshare_trips`
WHERE   subscriber_type LIKE 'W%'
```

12.

How many bike rides meet the following conditions all together:

- subscriber_type column contains the pattern string "Member"
- start_station_id is 3792
- end_station_name is "23rd & Rio Grande"
- The duration is between 128 and 539 minutes (but not including 128 and 539).

```
SELECT   COUNT(*) FROM   `bigquery-public-data.austin_bikeshare.bikeshare_trips`
WHERE   subscriber_type LIKE '%Member%'
        AND start_station_id = 3792
        AND end_station_name = "23rd & Rio Grande"
        AND duration_minutes > 128
        AND duration_minutes < 539
```