Zuber - SQL Data Collection and Processing

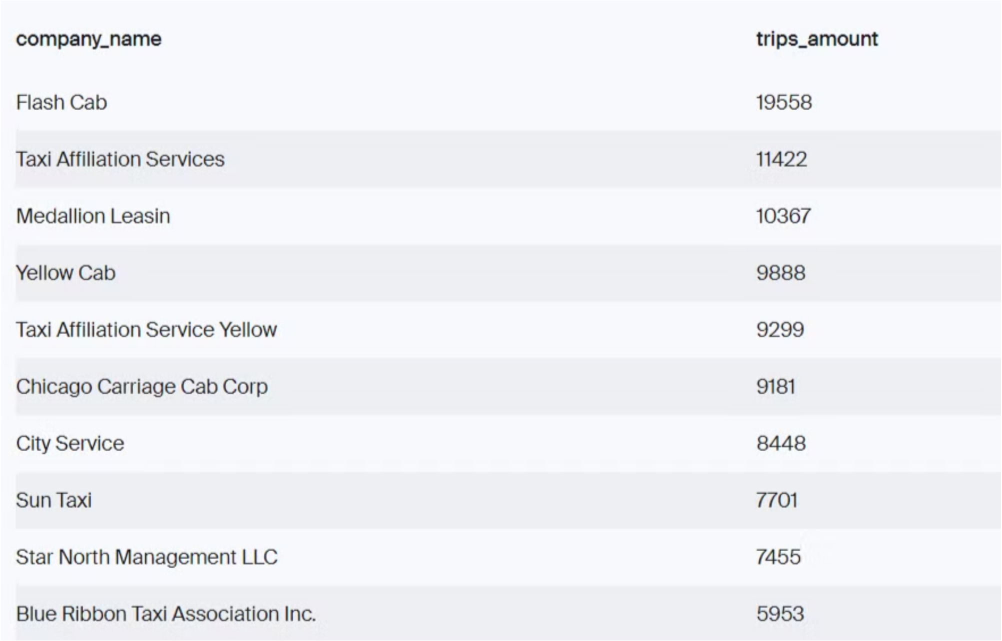
Task 1

Print the *company_name* field. Find the number of taxi rides for each taxi company for November 15-16, 2017, name the resulting field *trips_amount* and print it, too. Sort the results by the *trips_amount* field in descending order.

Code

```
SELECT
    cabs.company_name AS company_name,
    COUNT(trips.trip_id) AS trips_amount
FROM
    cabs
    INNER JOIN trips ON cabs.cab_id = trips.cab_id
WHERE
    CAST(trips.start_ts AS date)  BETWEEN '2017-11-15'AND '2017-11-16'
GROUP BY
    company_name
ORDER BY
    trips_amount DESC;
```

Result



company_name	trips_amount
Flash Cab	19558
Taxi Affiliation Services	11422
Medallion Leasin	10367
Yellow Cab	9888
Taxi Affiliation Service Yellow	9299
Chicago Carriage Cab Corp	9181
City Service	8448
Sun Taxi	7701
Star North Management LLC	7455
Blue Ribbon Taxi Association Inc.	5953

Task 2

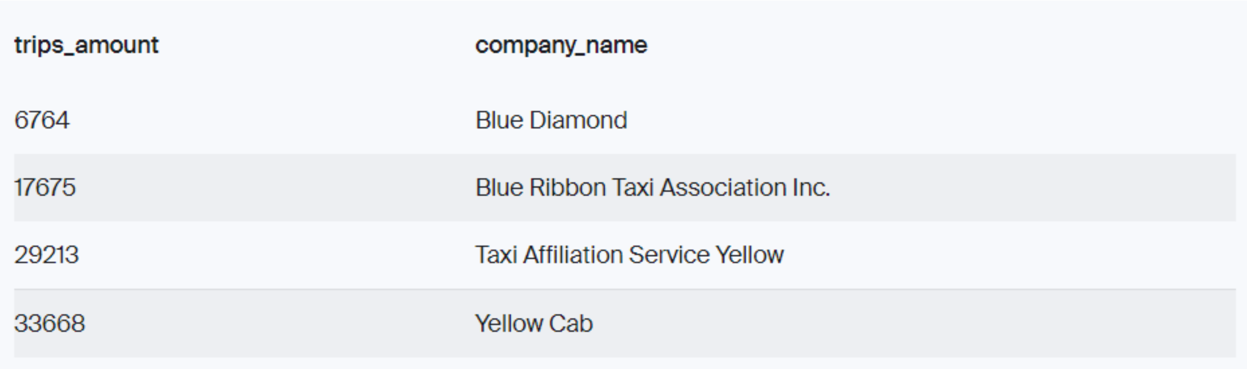
Find the number of rides for every taxi companies whose name contains the words "Yellow" or "Blue" for November 1-7, 2017. Name the resulting variable *trips_amount*. Group the results by the *company_name* field.

Code

```
SELECT
    COUNT(trips.trip_id) AS trips_amount,
    company_name AS company_name
FROM
    trips
    INNER JOIN cabs ON cabs.cab_id = trips.cab_id
WHERE
    (company_name LIKE '%Yellow%' OR company_name LIKE '%Blue%')
    AND CAST(trips.start_ts AS date) BETWEEN '2017-11-01' AND '2017-11-07'
```

```
GROUP BY
    company_name;
```

Results



trips_amount	company_name
6764	Blue Diamond
17675	Blue Ribbon Taxi Association Inc.
29213	Taxi Affiliation Service Yellow
33668	Yellow Cab

Task 3

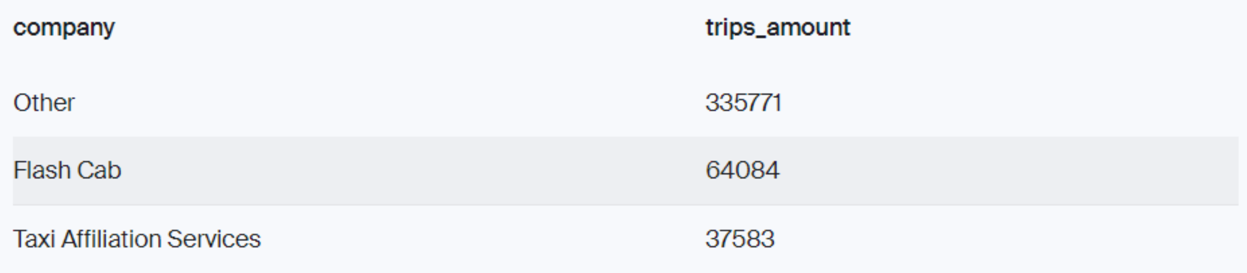
For November 1-7, 2017, the most popular taxi companies were Flash Cab and Taxi Affiliation Services. Find the number of rides for these two companies and name the resulting variable *trips_amount.* Join the rides for all other companies in the group "Other." Group the data by taxi company names. Name the field with taxi company names *company*. Sort the result in descending order by *trips_amount*.

Code

```
SELECT
    CASE
        WHEN cabs.company_name = 'Flash Cab' THEN 'Flash Cab'
        WHEN cabs.company_name = 'Taxi Affiliation Services'
THEN 'Taxi Affiliation Services'
        ELSE 'Other'
    END AS company,
    COUNT(trips.trip_id) AS trips_amount
```

```
FROM
   cabs
    INNER JOIN trips ON trips.cab_id = cabs.cab_id
WHERE
    CAST(start_ts AS date) BETWEEN '2017-11-01' AND '2017-11-07'
GROUP BY
    company
ORDER BY
    trips_amount DESC;
```

Results



company	trips_amount
Other	335771
Flash Cab	64084
Taxi Affiliation Services	37583

Task 4

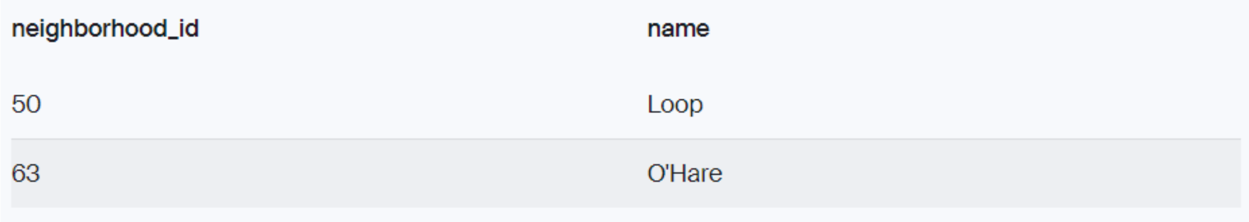
Retrieve the identifiers of the O'Hare and Loop neighborhoods from the *neighborhoods* table.

Code

```
SELECT
    neighborhood_id AS neighborhood_id,
    name
FROM
    neighborhoods
```

```
WHERE
    name IN ('O''Hare', 'Loop');
```

Results



neighborhood_id	name
50	Loop
63	O'Hare

Task 5

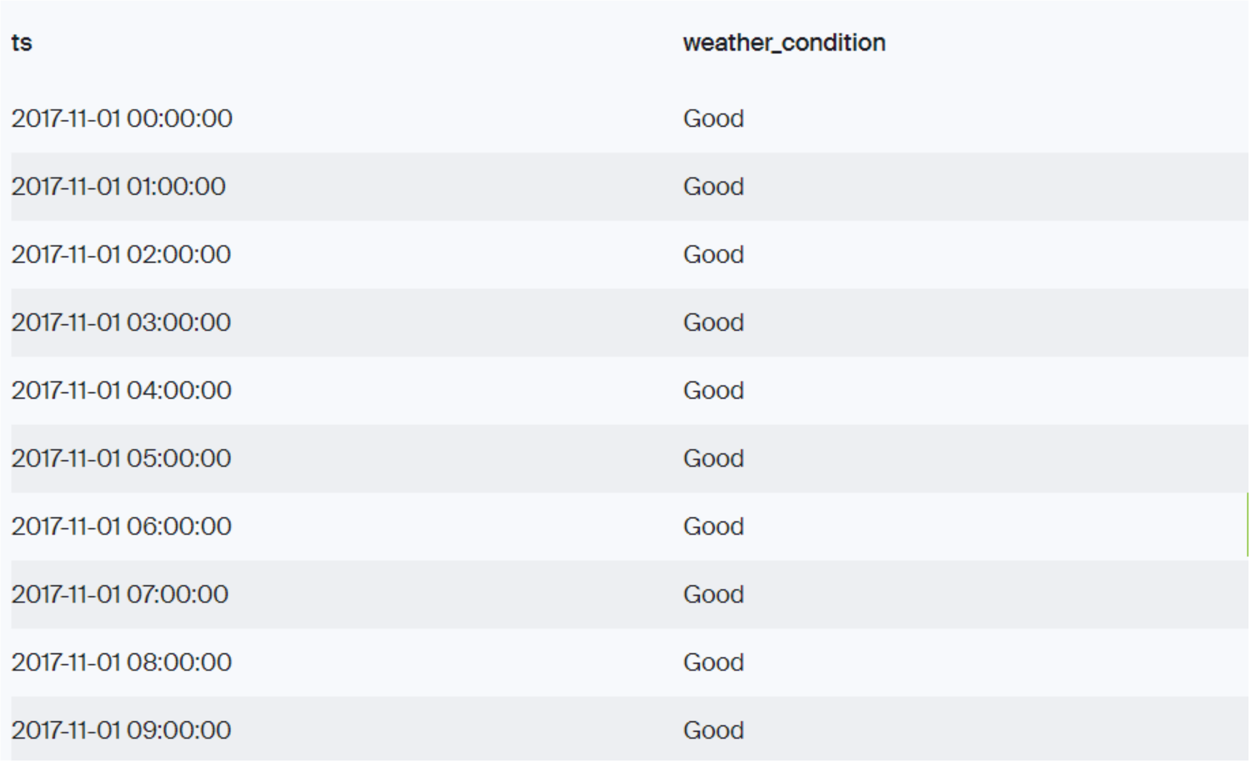
For each hour, retrieve the weather condition records from the

weather_records table. Using the CASE operator, break all hours into two groups: `Bad` if the *description* field contains the words `rain` or `storm`, and `Good` for others. Name the resulting field *weather_conditions*. The final table must include two fields: date and hour (ts) and *weather_conditions*.

Code

```
SELECT
    ts,
    CASE
        WHEN description LIKE '%rain%' THEN 'Bad'
        WHEN description LIKE '%storm%' THEN 'Bad'
        ELSE 'Good'
    END AS weather_condition
FROM
    weather_records;
```

Results



ts	weather_condition
2017-11-01 00:00:00	Good
2017-11-01 01:00:00	Good
2017-11-01 02:00:00	Good
2017-11-01 03:00:00	Good
2017-11-01 04:00:00	Good
2017-11-01 05:00:00	Good
2017-11-01 06:00:00	Good
2017-11-01 07:00:00	Good
2017-11-01 08:00:00	Good
2017-11-01 09:00:00	Good

Task 6

Retrieve from the *trips* table all the rides that started in the Loop (*pickup_location_id:* 50) on a Saturday and ended at O'Hare (*dropoff_location_id*: 63). Get the weather conditions for each ride. Use the method you applied in the previous task. Also, retrieve the duration of each ride. Ignore rides for which data on weather conditions is not available.

The table columns should be in the following order:

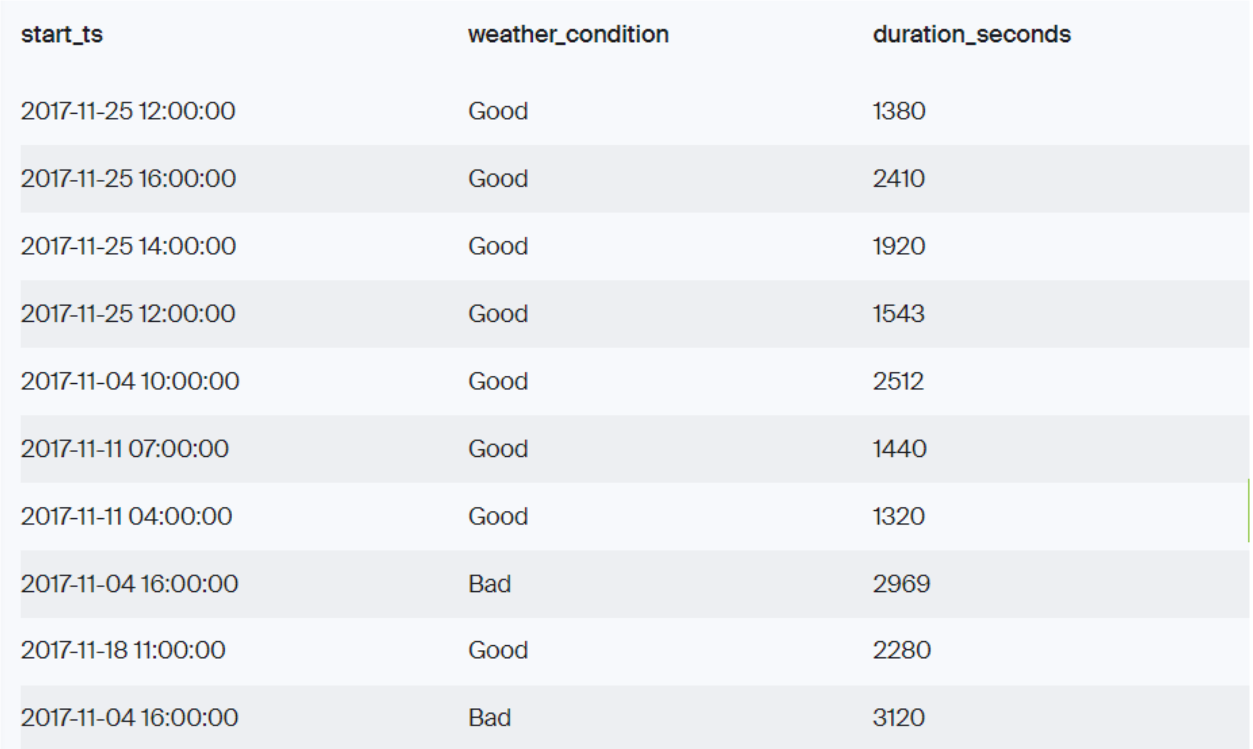
- *start_ts*
- *weather_conditions*
- *duration_seconds*

Sort by *trip_id.*

Code

```sql
SELECT
    trips.start_ts AS start_ts,
    CASE
        WHEN weather_records.description LIKE '%rain%' THEN 'Bad'
        WHEN weather_records.description LIKE '%storm%' THEN 'Bad'
        ELSE 'Good'
    END AS weather_condition,
    trips.duration_seconds AS duration_seconds
FROM
    trips
    INNER JOIN weather_records ON weather_records.ts = trips.start_ts
WHERE
    trips.pickup_location_id = 50
    AND trips.dropoff_location_id = 63
    AND EXTRACT(DOW FROM trips.start_ts) = 6
    AND weather_records.description IS NOT NULL
ORDER BY
    trips.trip_id;
```

Results



start_ts	weather_condition	duration_seconds
2017-11-25 12:00:00	Good	1380
2017-11-25 16:00:00	Good	2410
2017-11-25 14:00:00	Good	1920
2017-11-25 12:00:00	Good	1543
2017-11-04 10:00:00	Good	2512
2017-11-11 07:00:00	Good	1440
2017-11-11 04:00:00	Good	1320
2017-11-04 16:00:00	Bad	2969
2017-11-18 11:00:00	Good	2280
2017-11-04 16:00:00	Bad	3120