The Zuber Database Report

This report provides a comprehensive description of the analytical tasks undertaken, including the SQL queries utilized and visual representations of the query results through screenshots.

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.

SQL Query

```
SELECT
   cabs.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
   cabs.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

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.

SQL Query

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

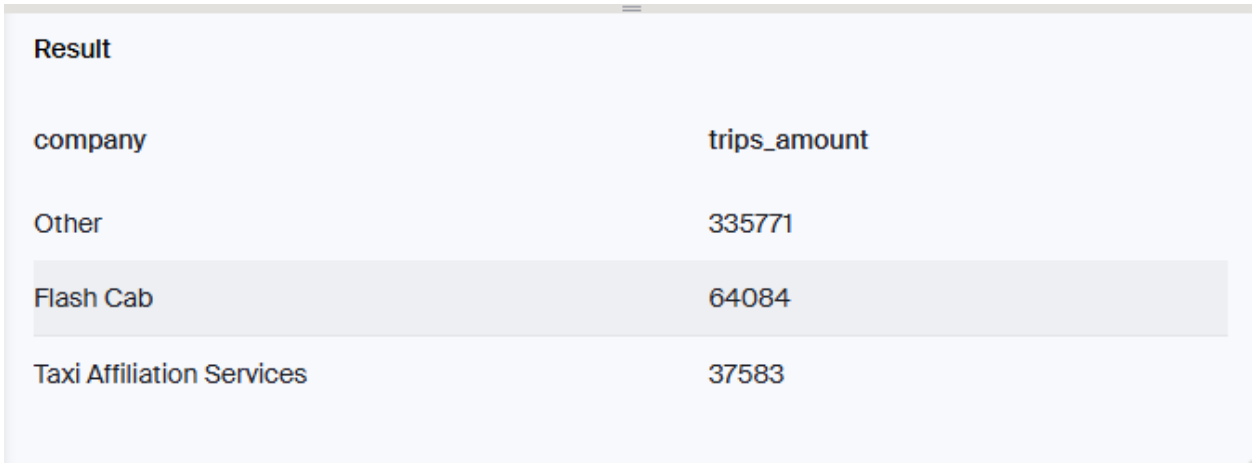
Result

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

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*.

SQL Query

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



Result

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.

SQL Query

```
SELECT
   name,
   neighborhood_id
FROM
    neighborhoods
WHERE
   name LIKE '%Hare' OR name LIKE 'Loop';
```

Result

name	neighborhood_id
Loop	50
O'Hare	63

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*.

SQL Query

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

Result

ts	weather_conditions
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

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.*

SQL Query

```
SELECT
   start_ts ,
   CASE WHEN weather_records.description LIKE '%rain%' THEN 'Bad'
   WHEN weather_records.description LIKE'%storm%' THEN 'Bad' ELSE 'Good' END AS
weather_conditions,
   trips.duration_seconds
FROM
   trips
INNER JOIN
   weather_records ON trips.start_ts = weather_records.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
   trip_id;
```

Result

start_ts	weather_conditions	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

Findings

The analysis revealed insights into ride-taking patterns and weather influence:

- Popular taxi companies can be identified based on the number of rides.
- Specific neighborhoods (e.g., O'Hare, Loop) can be located using their names.
- Classifying weather allows for investigation of its impact on rides.
- Rides between Loop and O'Hare on Saturdays may be affected by bad weather (rain/storm).

These findings can be used to develop targeted marketing strategies, optimize service availability in high-demand areas, and potentially adjust pricing based on weather conditions.

Further Exploration

- Analyze the impact of other weather conditions (e.g., snow) on ride frequency.
- Explore the relationship between ride duration and distance.
- Investigate user demographics and preferences for pickup/drop-off locations.

Conclusion

By analyzing the Zuber database, this project provides insights into user preferences, weather impact, and opportunities to improve Zuber's services. Further exploration can delve deeper into user demographics and refine strategies for targeted marketing, service optimization, and dynamic pricing.