Uber Pickups Analysis

UBER PICKUPS IN NYC

In this project, we are going to analyse the Uber Pickups in New York City.

ABOUT THE DATASET

The dataset provided contains data on over 4.5 million Uber pickups in New York City

from April to September 2014, and 14.3 million more Uber pickups from January to

June 2015.

This Analysis is based on the August month dataset, `uber-raw-data-aug14.csv`

Q1. On what date did we see the most number of Uber pickups?

Sol. Date with the highest number of pickups: 2014-08-07

Number of pickups on that date: 32759

Q.2 How many Uber pickups were made on the date with the highest number of pickups?

Sol. Count of pickups on the date with the highest number of pickups : 32759

Q.3 How many unique TLC base companies are affiliated with the Uber pickups in the dataset?

Sol. Number of unique TLC base companies : 5

Q.4 Which TLC base company had the highest number of pickups?

Sol. TLC base company with the highest number of pickups : B02617

Number of pickups by the highest TLC base company : 355803

Q.5 How many Uber pickups were made at each unique TLC base company?

Sol. Number of pickups by TLC base company:

Base No.of Pickups

B02512 31472

B02598 220129

B02617 355803

B02682 173280

B02764 48591

dtype: int64

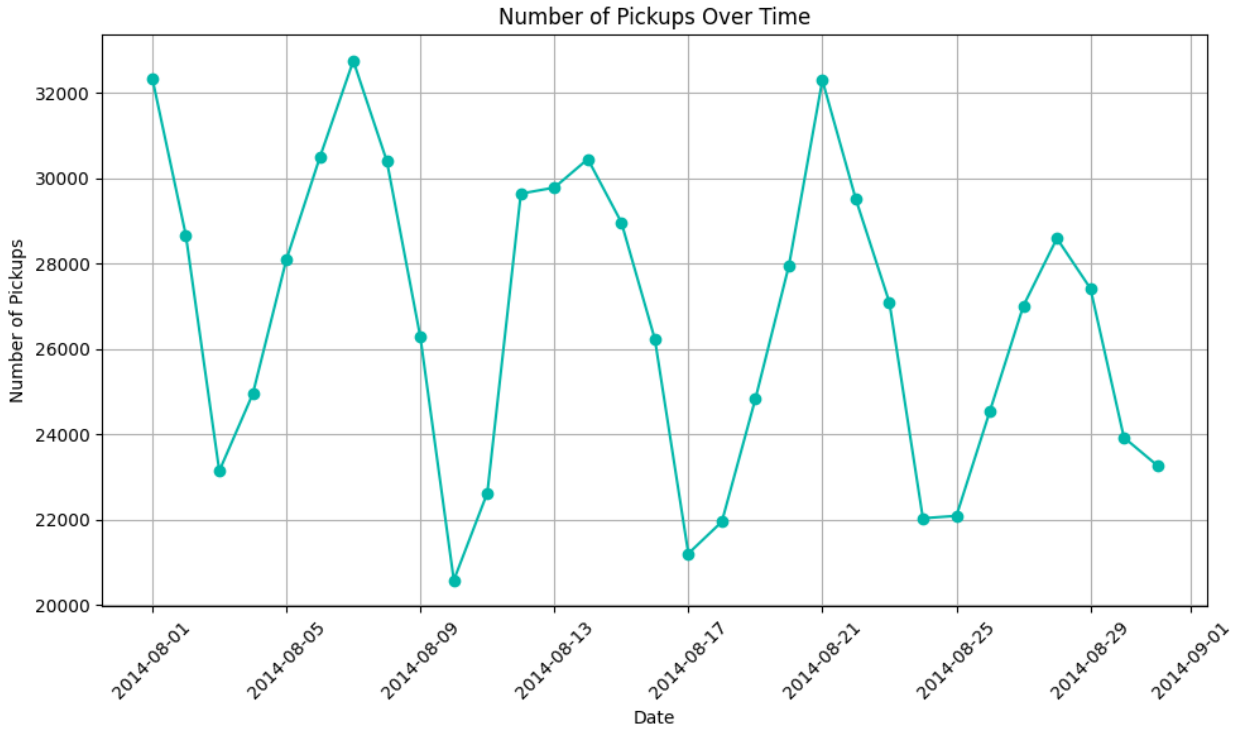
Q.6 Can you determine the busiest time of day for Uber pickups based on the date/time column?

Sol. Hour with the highest number of pickups: 17

Number of pickups during the highest hour: 57122

Q.7 Can you create a visualization (e.g., a bar chart or line plot) to represent the number of Uber pickups over time?

Sol. "Number of Pickups Over Time" shows a line graph depicting the number of pickups over a specific period.



Here are the insights from the graph:

Fluctuating Demand :

The graph shows significant fluctuations in the number of pickups.

Peaks indicate high demand, while troughs represent lower demand.

The highest pickup count is just above 32,000, and the lowest is around 22,000.

Seasonal Patterns :

There seems to be a recurring pattern, possibly related to weekdays or weekends.

Further analysis could reveal weekly or monthly trends.

Marketing Campaign Impact:

The marketing campaign starts on the day after a user's first purchase.

Users' first-day purchases are not counted as part of the campaign.

The graph can help assess the effectiveness of the campaign by tracking additional purchases beyond the initial day.

Q8. Can you create a scatter plot to visualize the distribution of Uber pickups based on latitude and longitude?

Sol.

The scatter plot titled "Distribution of Uber Pickups" visualizes the concentration of Uber pickups based on latitude and longitude coordinates.

Here are the key insights :

Hotspots :

There are dense clusters of pickups in specific areas, indicating popular or busy locations.

These hotspots likely correspond to urban centers, transportation hubs, or places with high demand for Uber services.

Geographical Variation :

The graph covers a region with latitude ranging approximately from 39.75 to 41.25 and longitude ranging approximately from -74.5 to -72.5.

The majority of pickups occur within a narrower range of latitude and longitude, suggesting that Uber is most active in specific neighborhoods or districts.

Color Gradient :

The color gradient represents the density of pickups.

Darker shades indicate higher concentrations of pickups, while lighter shades represent sparser areas.

Data Exploration :

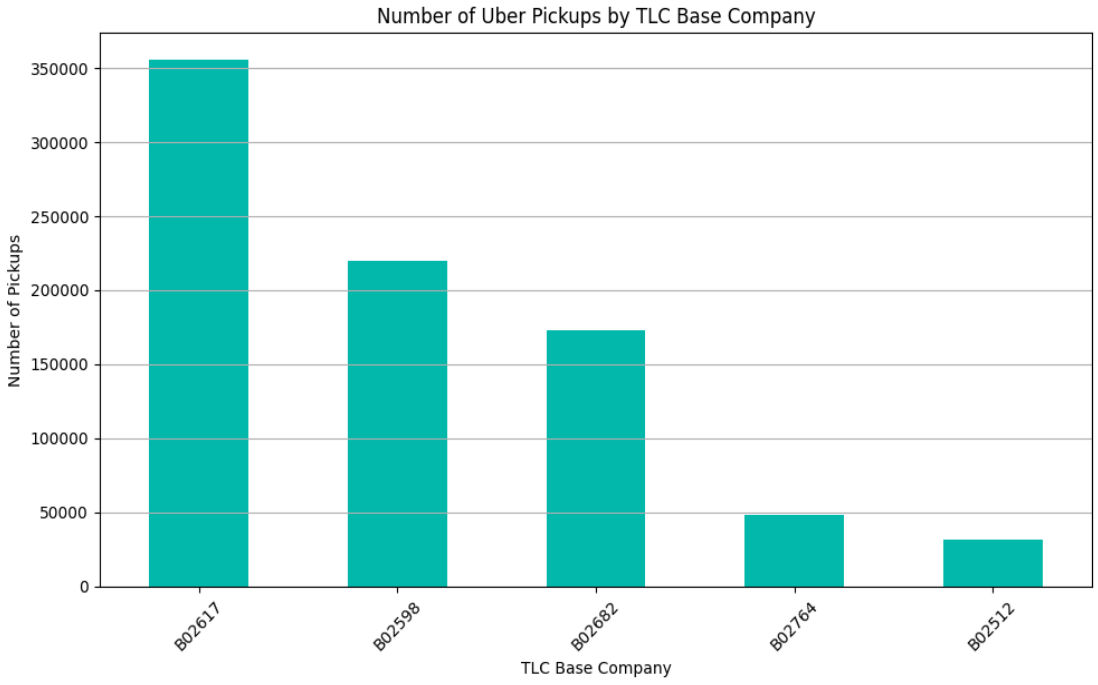
Further analysis could explore the reasons behind these hotspots, such as events, population density, or business districts.

Understanding these patterns can help optimize Uber's operations and improve service availability.

Q9. Can you create a bar chart to compare the number of Uber pickups for each TLC base company?

Sol.

The bar chart titled "Number of Uber Pickups by TLC Base Company" provides insights into the distribution of Uber pickups across different TLC Base Companies.



Here are the key takeaways :

Company B02717 (Highest Pickups) :

TLC Base Company B02717 has the highest number of pickups among all companies.

It significantly outperforms the others, with a pickup count well above 300,000.

Moderate Performers :

Companies B02598 and B02682 have a moderate number of pickups.

Their pickup counts are substantial but not as high as B02717.

Low-Performing Companies :

Companies B02764 and B02512 have relatively low pickup numbers.

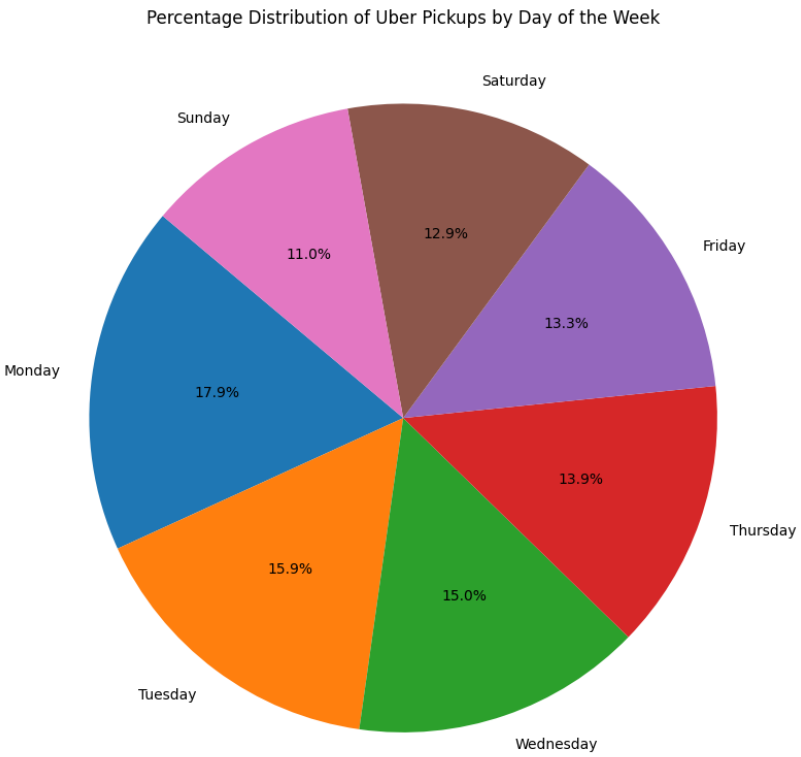
Their bars are much shorter, indicating fewer pickups compared to the other companies.

In summary, B02717 dominates the Uber pickup market, while B02598 and B02682 follow closely.

Q10. Can you create a pie chart to display the percentage distribution of Uber pickups for each day of the week?

Sol.

The pie chart titled “Percentage Distribution of Uber Pickups by Day of the Week” provides insights into the distribution of Uber pickups based on the day of the week.



Here are the key takeaways :

Monday (17.9%) : Monday has the highest percentage of pickups, indicating that it's a busy day for Uber.

Tuesday and Wednesday (both 15.9%) : These days also have significant pickup percentages.

Thursday and Friday (both 13.9%) : These days follow closely, with moderate pickup numbers.

Saturday (12.9%) : Saturday shows a slightly lower percentage of pickups.

Sunday (11%) : Sunday has the lowest percentage, suggesting fewer Uber pickups compared to other days.

In summary, weekdays (especially Monday) experience higher Uber demand, while weekends (Saturday and Sunday) have relatively fewer pickups