

# Project Report

## *Uber Drive Analysis*

**Name** – Aniket Nitin Mahadik

**Project Title** – Uber Drive Analysis

**Date** – 20 sep 2024

**Technology** – Language (Python)

**Library** - NumPy , Matplotlib , Pandas , Seaborn , Plotly

### **Project Description :**

This project aims to analyze Uber ride data, captured over a certain period in 2016. The dataset includes key details about each ride.

### **Key Insights:**

- 1. Total Rides: 1,156 rides in total.
- 2. Rides by Category:
  - \* Business: 1,078 rides (93%)
  - \* Personal: 77 rides (7%)
- 3. Most Frequent Start Location:
  - Cary
- 4. Most Frequent Stop Location:
  - Cary
- 5. Total Miles Traveled: 24,409.4 miles
- 6. Most Common Ride Purpose:
  - Meeting
- 7. Percentage of Rides with No Purpose Listed: 43.5%
- These insights suggest that most rides are for business purposes, with a significant portion lacking a listed purpose. Cary appears to be a central location for both starting and ending rides.

### **❖ The dataset contains Uber drive records with the following columns:**

1. START\_DATE\*: The start date and time of the trip.
2. END\_DATE\*: The end date and time of the trip.
3. CATEGORY\*: Whether the trip was for "Business" or "Personal".
4. START\*: The starting location of the trip.

- 5. STOP\*: The destination location of the trip.
- 6. MILES\*: Distance traveled in miles.
- 7. PURPOSE\*: The purpose of the trip (e.g., Meeting, Errand, etc.), with some missing values.

❖ **I'll include the following sections in the project report:**

- 1. Overview: Summary of the dataset and its structure.
- 2. Trip Categories: Analysis of business vs. personal trips.
- 3. Trip Purposes: Distribution of trip purposes.
- 4. Distance Analysis: Total and average miles driven by trip type.
- 5. Trip Locations: Most common start and stop locations.
- 6. Missing Data: Discussion on missing data and its impact.

❖ **Here's the summary for the project report based on your dataset:**

**1. Overview**

- \* Total Records: 1,156 trips.
- \* Missing Data:
- \* 503 trips are missing a purpose.
- \* Minor missing values for start and stop locations (1 each) and category (1).

**2. Trip Categories**

- \* Business Trips: 1,078 trips (93%).
- \* Personal Trips: 77 trips (7%).

**3. Trip Purposes**

- \* Top trip purposes (business only):
- \* Meetings: 187 trips.
- \* Meals/Entertainment: 160 trips.
- \* Errands/Supplies: 128 trips.
- \* Customer Visits: 101 trips.
- \* 503 trips have no purpose listed.

**4. Distance Analysis**

- \* Total Miles for Business: 11,487 miles.

\* Total Miles for Personal: 717.7 miles.

\* Average Miles per Business Trip: 10.66 miles.

\* Average Miles per Personal Trip: 9.32 miles.

### **5. Most Common Start Locations**

1. Cary: 201 trips.
2. Unknown Location: 148 trips.
3. Morrisville: 85 trips.
4. Whitebridge: 68 trips.
5. Islamabad: 57 trips.

### **6. Most Common Stop Locations**

1. Cary: 203 trips.
2. Unknown Location: 149 trips.
3. Morrisville: 84 trips.
4. Whitebridge: 65 trips.
5. Islamabad: 58 trips.

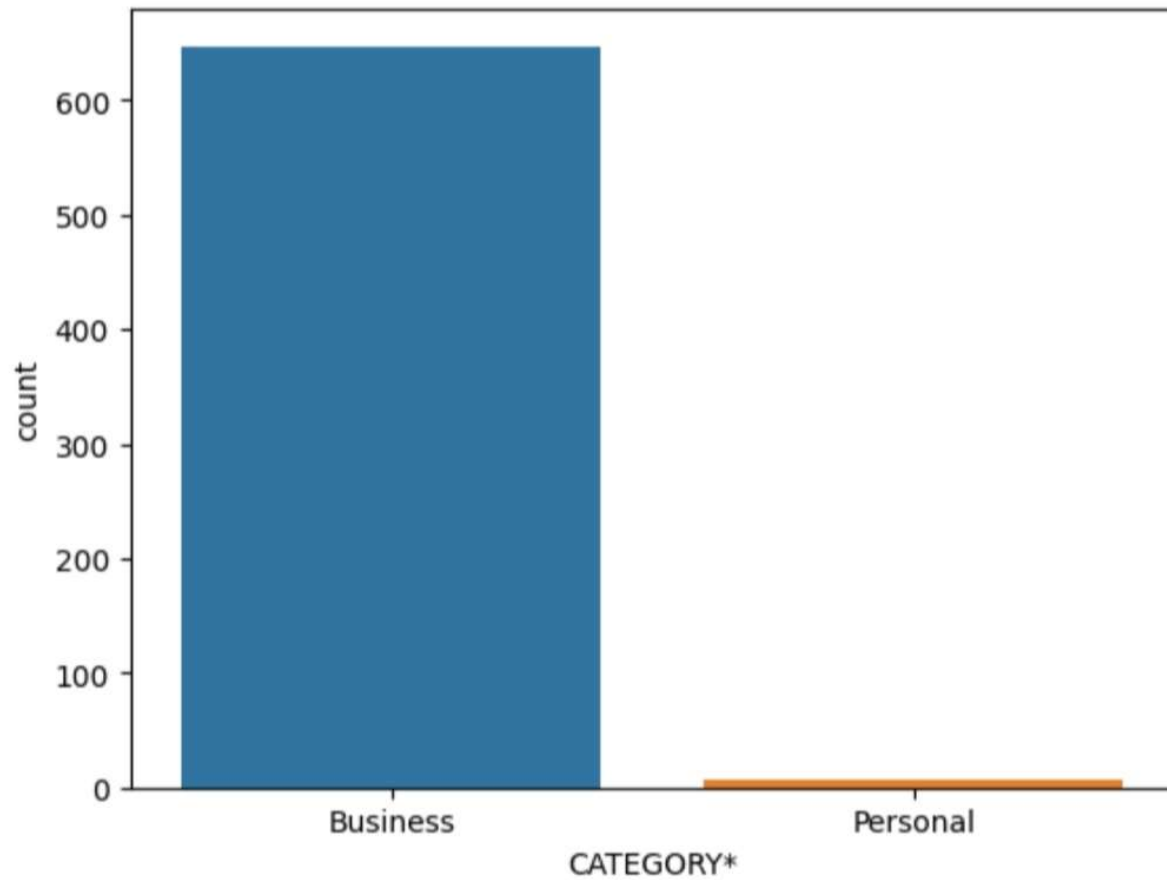
## **❖ Key analysis**

➤ **Here are some additional analyses and visualizations that could further enhance the report:**

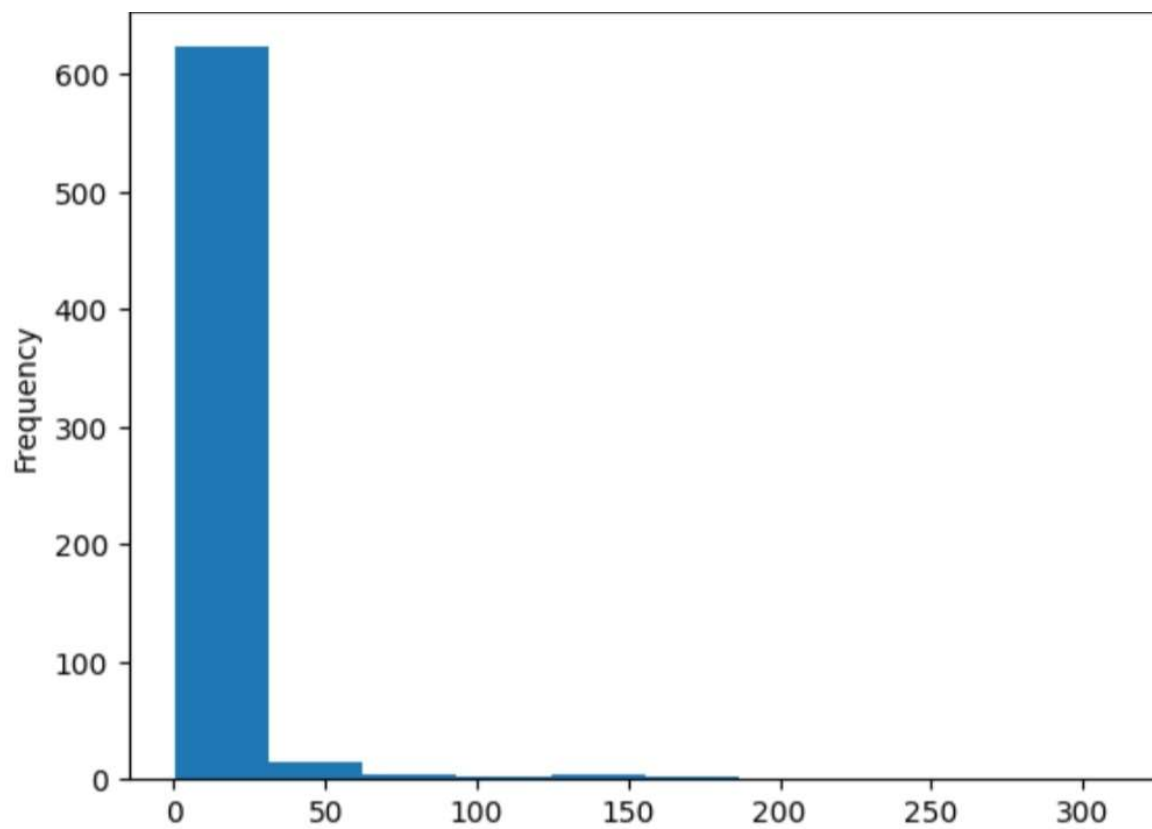
1. Trip Duration Analysis: Analyzing the average duration of trips based on start and end times.
2. Trip Frequency by Date/Month: Visualize how frequently trips occur over time.
3. Miles Distribution: A histogram showing the distribution of trip distances.
4. Missing Data Visualization: A heatmap or summary of the missing values to better understand data gaps.
5. Trip Purposes by Category: Analyze how trip purposes vary between business and personal trips.
6. Geospatial Analysis: If location data is available, plot trips on a map to visualize routes.

## ❖ SnapShot

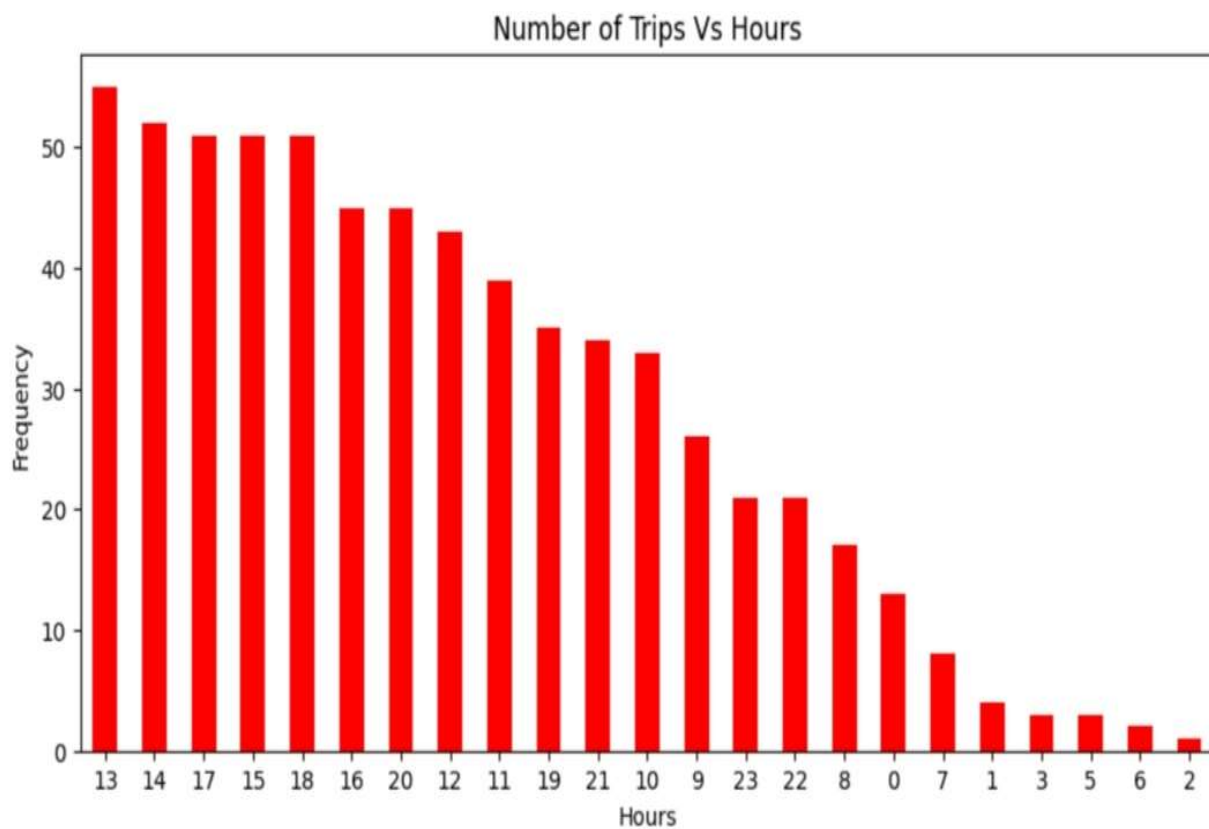
### ➤ Categories Graph



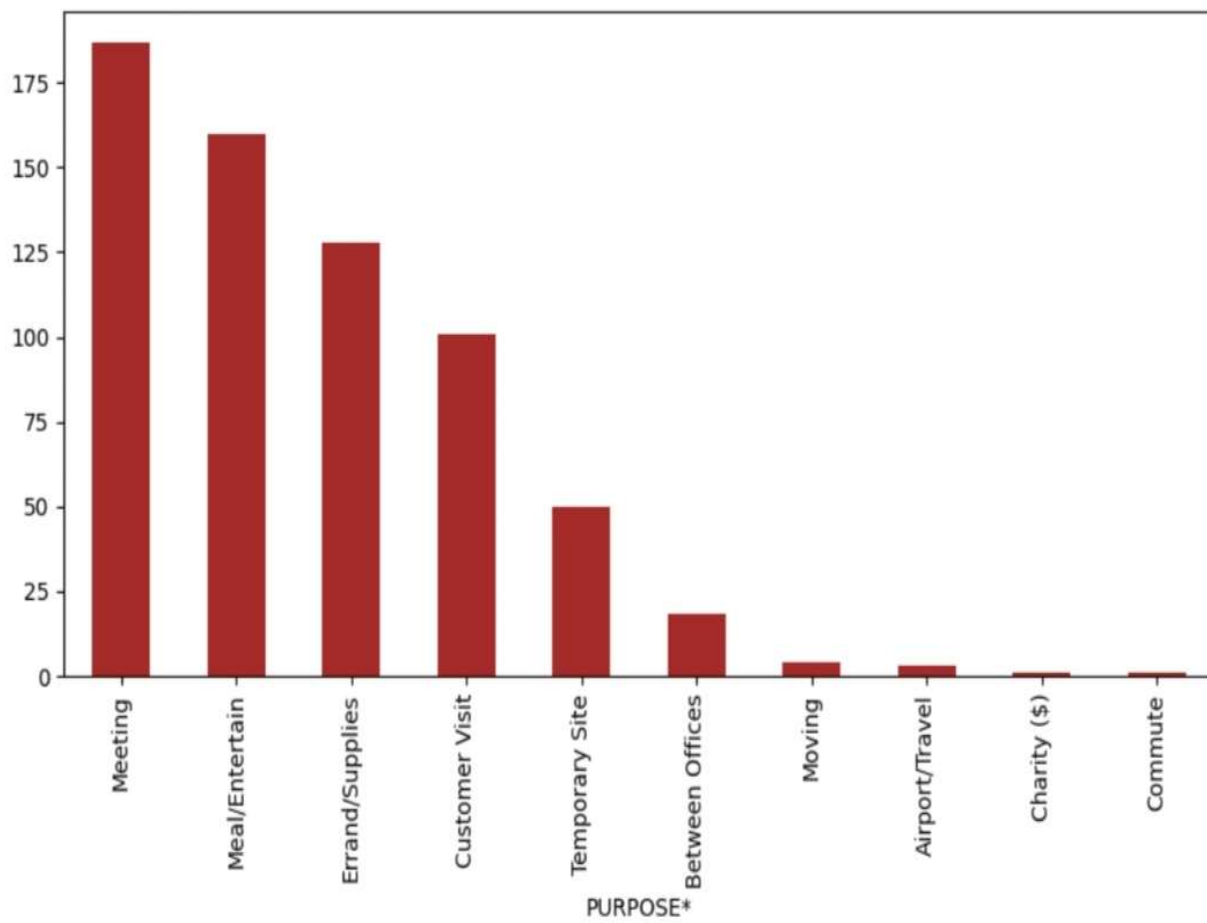
- **Personal** means, when people hire UBER for a day or for a long-trip.
- **Business** means, people booking UBER to travel to a certain destination.



Most people book a ride for short distance, like for 1-50 miles.

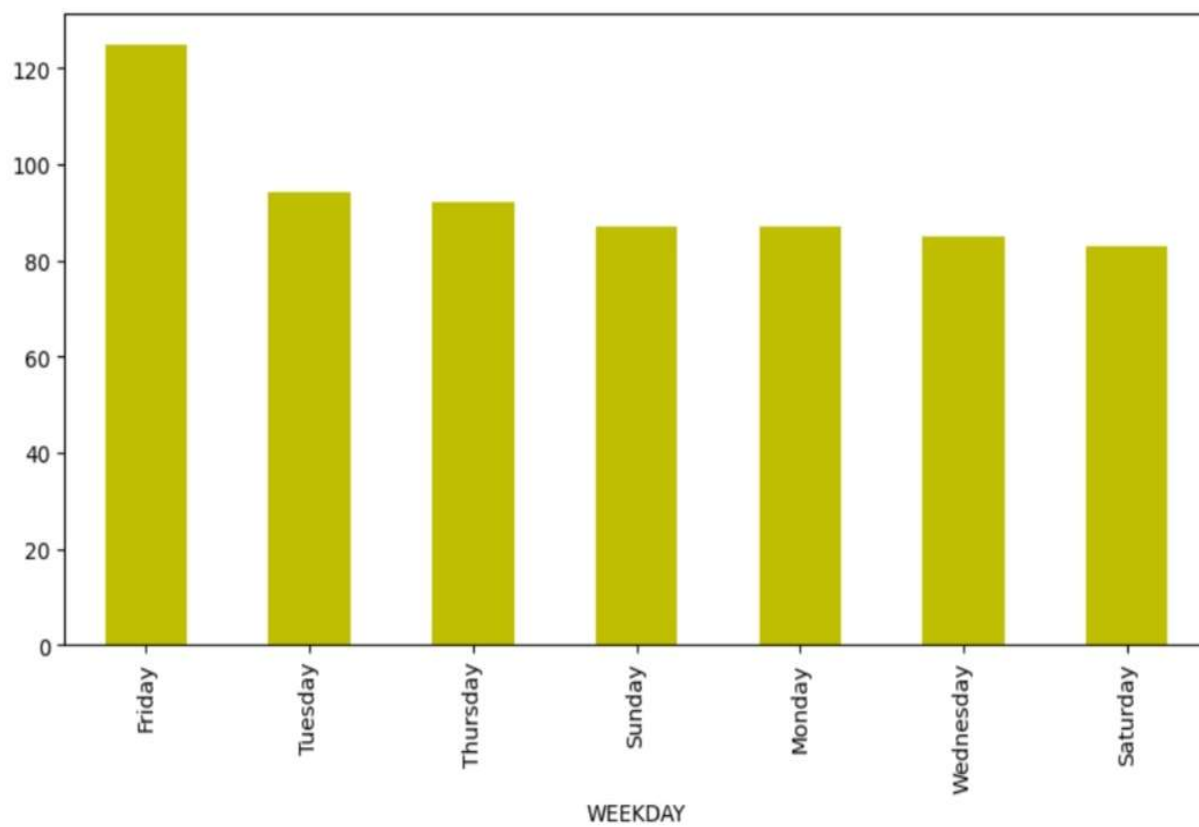


Most of the Trips is at 1:00 PM, 2:00 PM, then 5:00 PM, 3:00 PM. UBER can make use of this information for advertise, target people and offer discount.



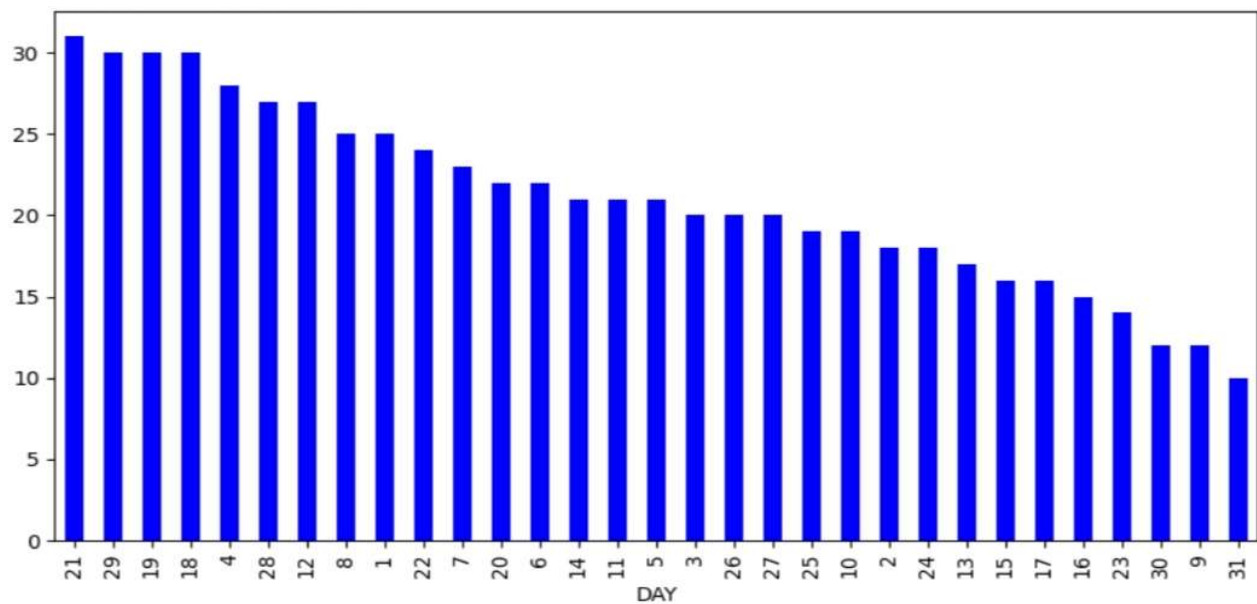
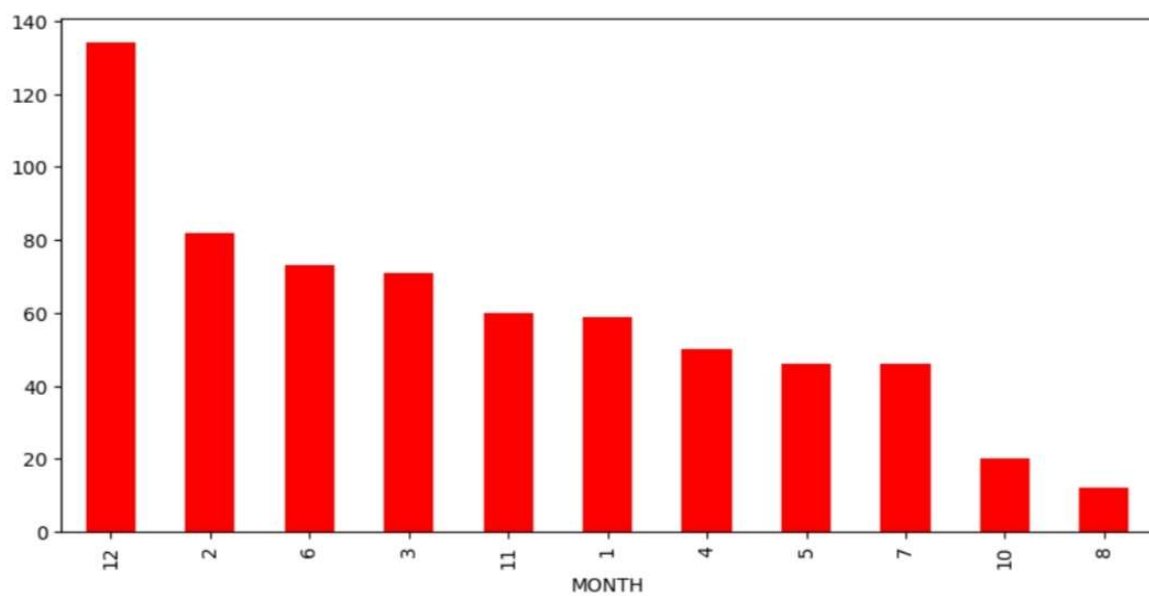
*Most of the rider is for Meeting Purpose.*

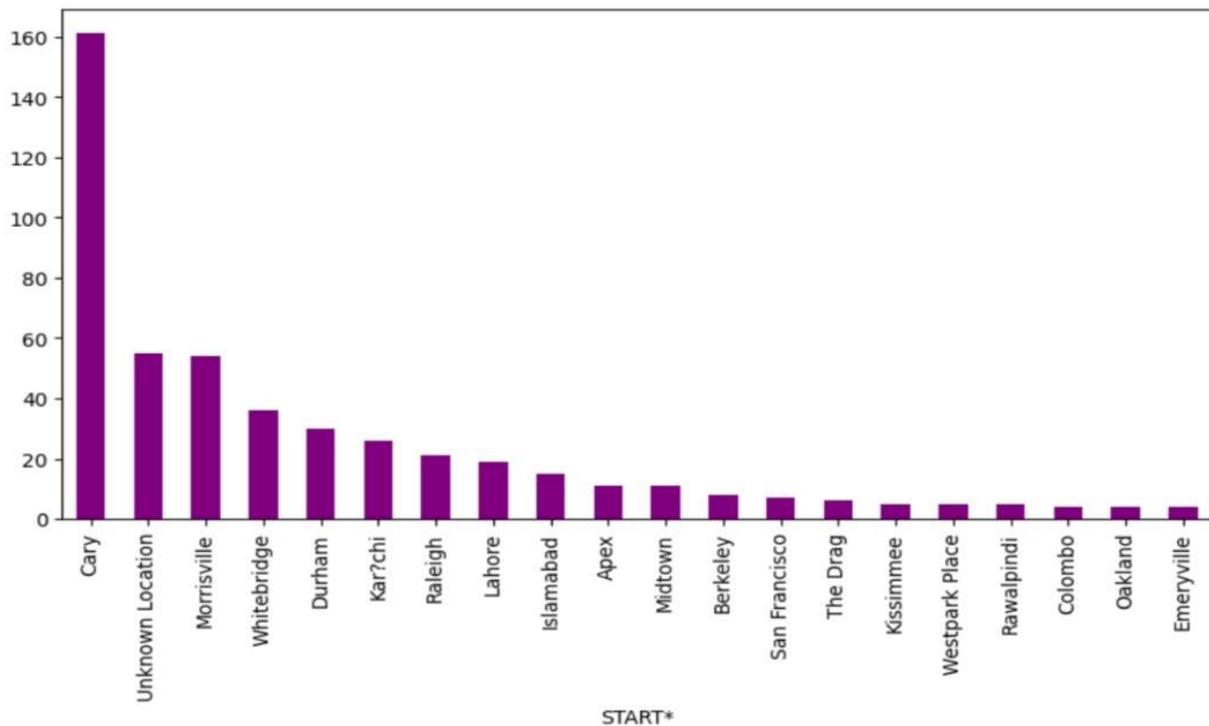
**HINT:** For your next meeting, we are offering you 10% discount.



\*\*\*FRIDAY\*\* has the most number of Trip.\*







**Conclusion:** Most of the Trips is at 1:00 PM, 2:00 PM, then 5:00 PM, 3:00 PM. UBER can make use of this information for advertise, target people and offer discount.

1. Total Miles Driven: 24,409.4 miles.

2. Most Frequent Trip Category: Business.

3. Most Frequent Trip Purpose: Meeting.

4. Average Trip Distance: 21.12 miles.

5. Category Distribution:

Business trips account for 93.33% of the total.

Personal trips account for 6.67%.