Data Glacier

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Exploratory Data Analysis

G2M insight for Cab Investment firm

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21st December 2022

Agenda

Problem Statement

Approach

EDA

Recommendations

Problem Statement

- XYZ is a private firm in US. Due to remarkable growth in the Cab Industry in last few years and multiple key players in the market, it is planning for an investment in Cab industry and as per their Go-to-Market(G2M) strategy they want to understand the market before taking final decision.

- Objective: **using your actionable insights to help the firm identify the right cab to make their investment.**

Dataset

The list of datasets provided for the analysis are the following (**Time period of data is from 31/01/2016** to **31/12/2018.)**

Cab_Data.csv – this file includes details of transaction for 2 cab companies

Customer_ID.csv – this is a mapping table that contains a unique identifier which links the customer's demographic details

Transaction_ID.csv – this is a mapping table that contains transaction to customer mapping and payment mode

City.csv – this file contains list of US cities, their population and number of cab users

Approach

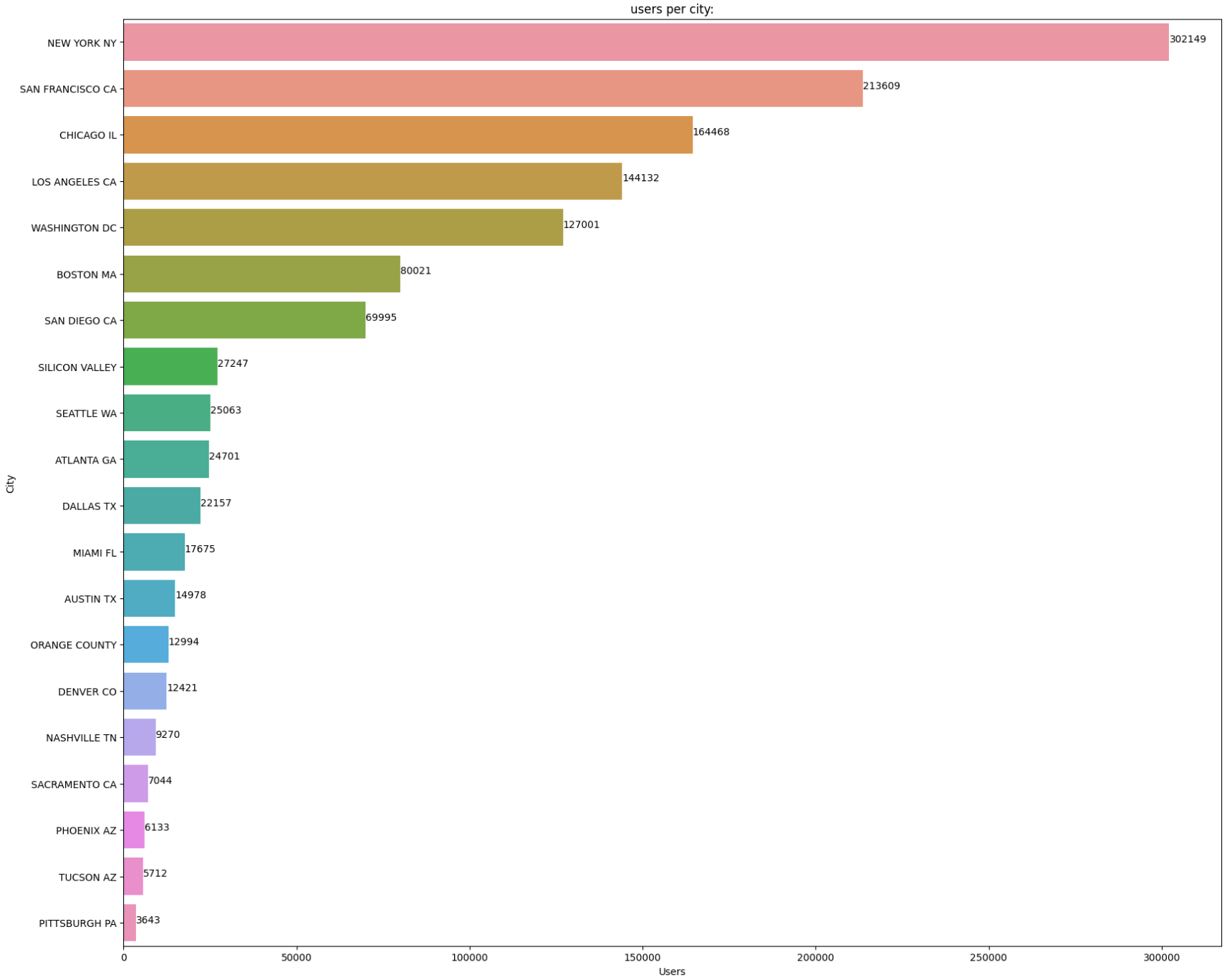
Performing data analysis of the following:

- Dataset understanding and visualization
- Understanding the most users per cab
- Analyzing the expensive and cheapest cab
- Computing the profitable company
- Performing basis hypothesis

EDA begins

Number of users per city

It is evident from the bart chart that the population of users who used cab are more from New York followed by San Fransisco, Chicago and so on



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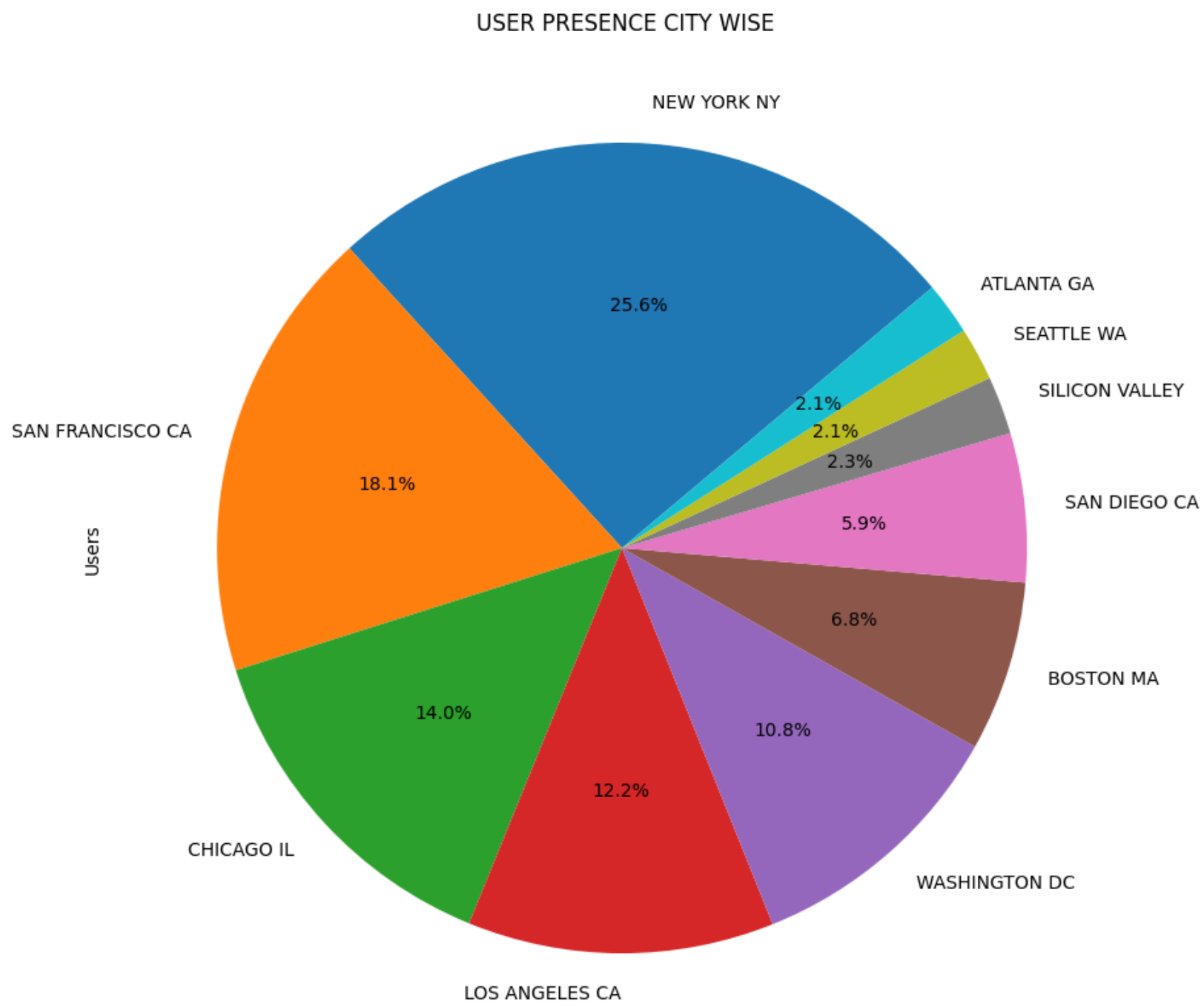
Visualizing the users from the top 10 cites



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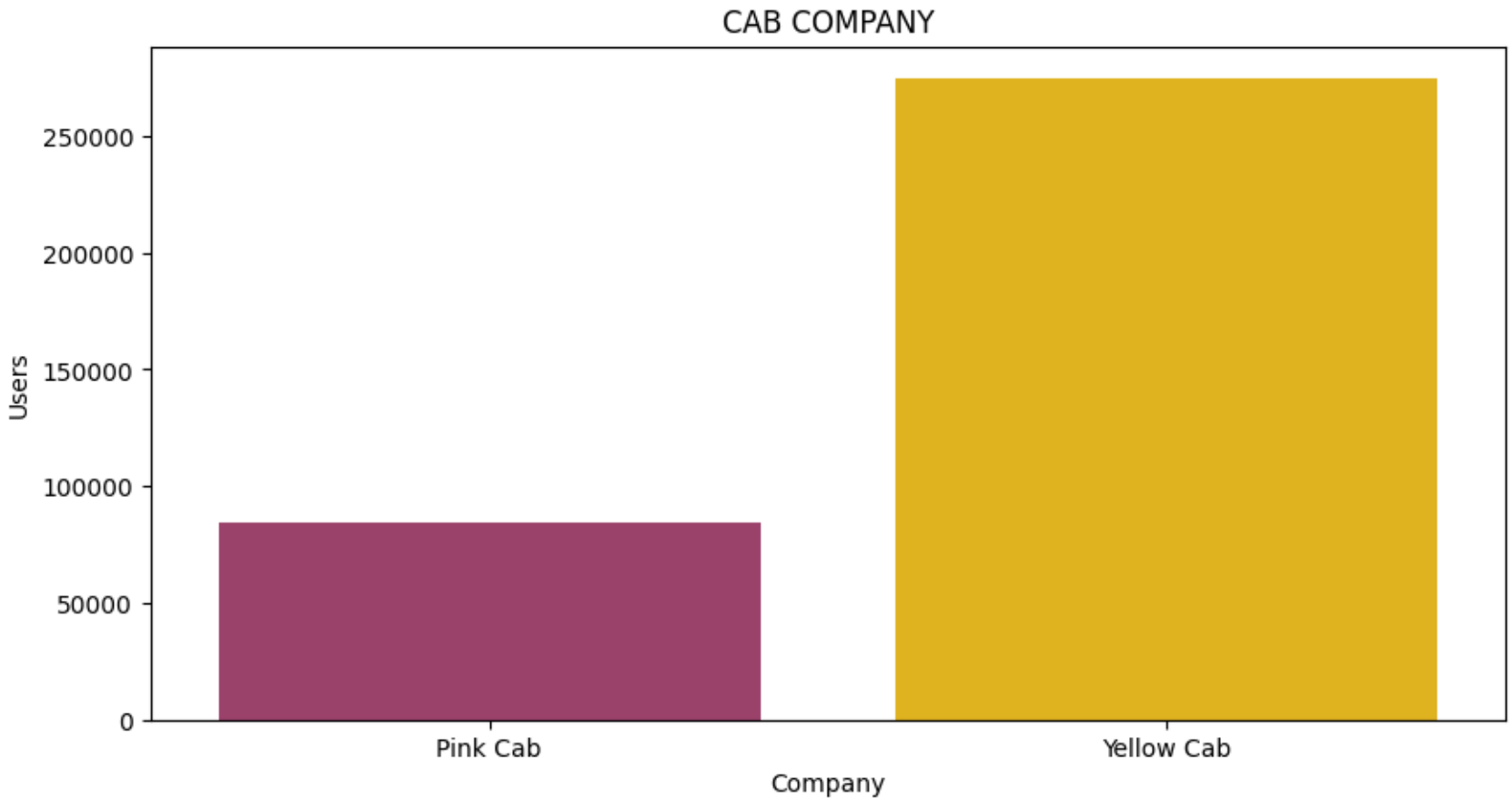
Number of users of both companies

More users have used yellow cab compared to pink cab.



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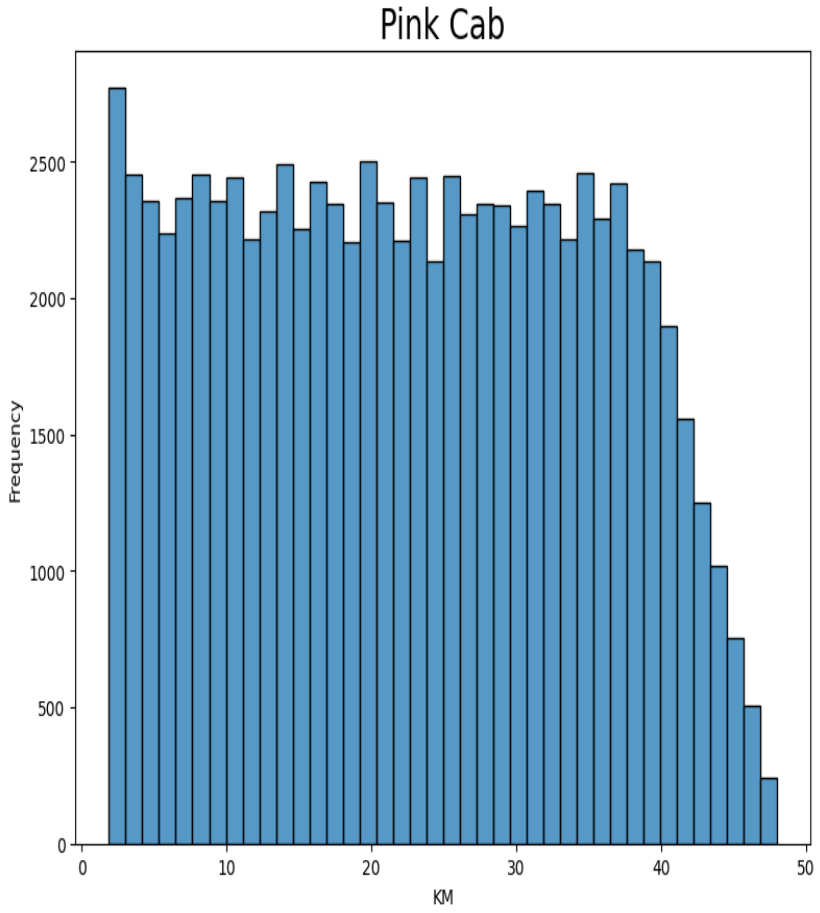
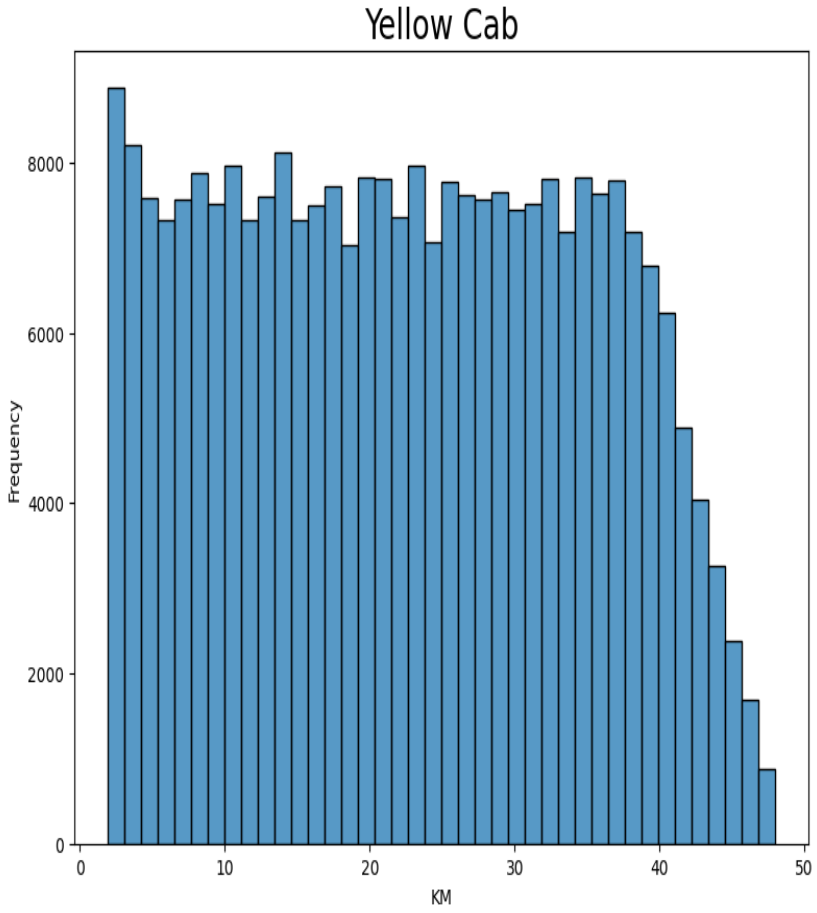
Number of Kilometers travelled by both cabs

The frequency of KMs travelled are from 2 to 48 by both the cabs, however the frequency distribution is more for Yellow cab compared to pink





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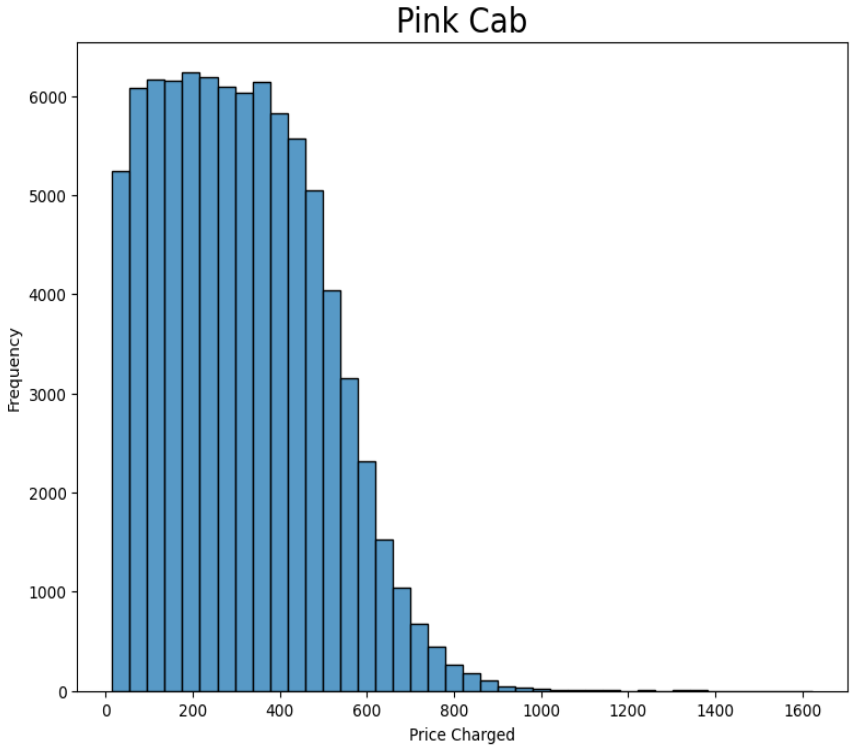
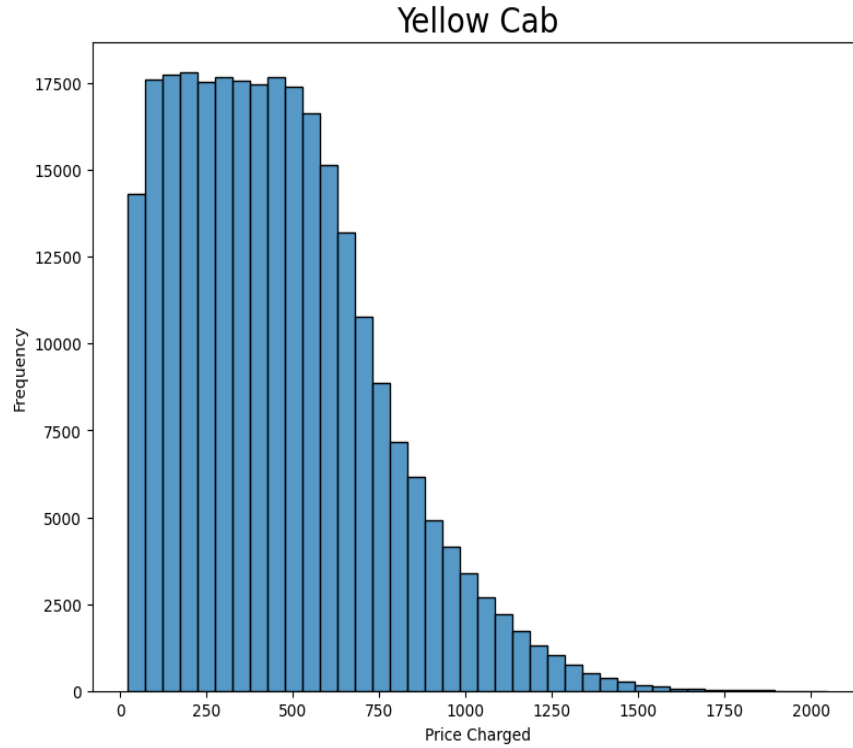
Comparison on the Price charged by the cabs

The maximum price charged by pink cab is around 1000 dollars, however yellow cab seems to be expensive with the highest charge around 1500 dollars





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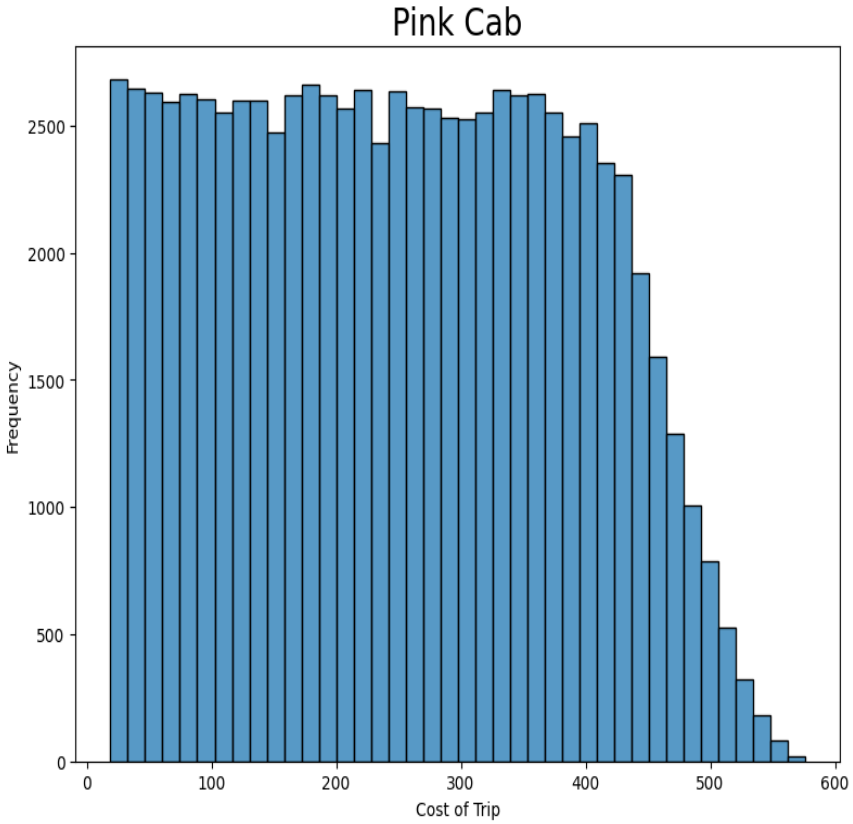
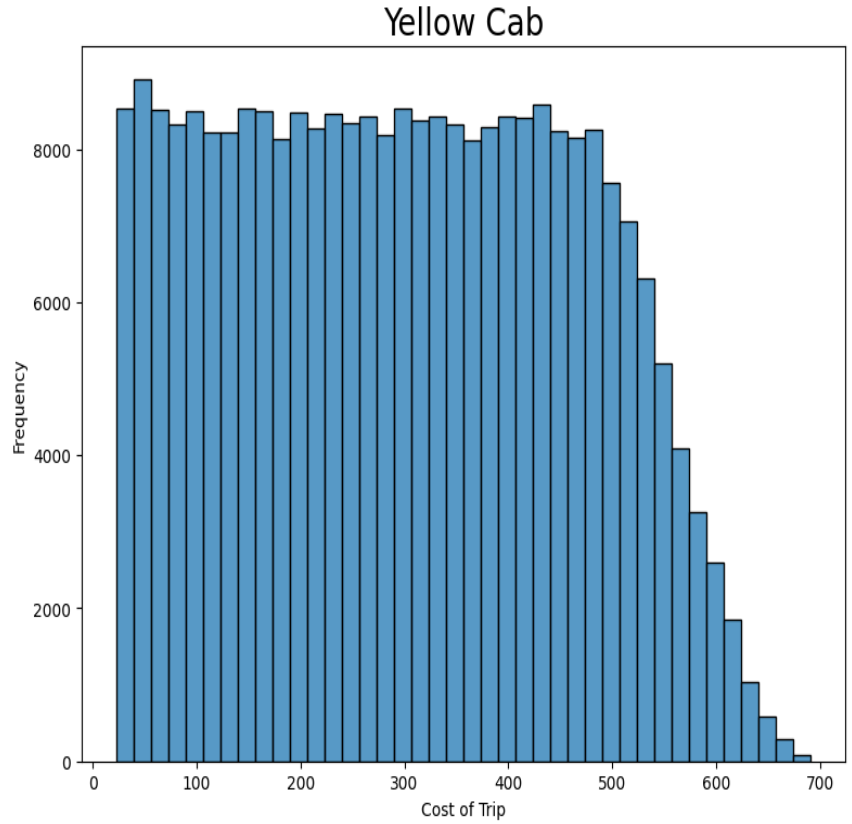
Cost of trip comparison of the cabs

The maximum price of the cost of trip is within 600 for pink cab , where as for yellow cab it’s high which is within 700





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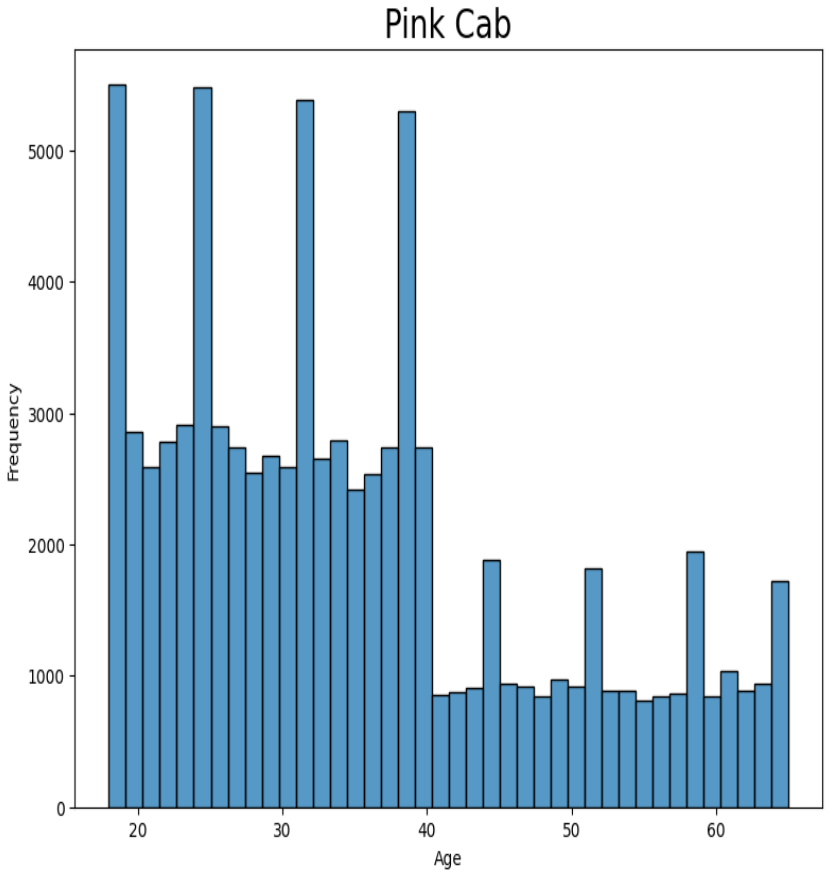
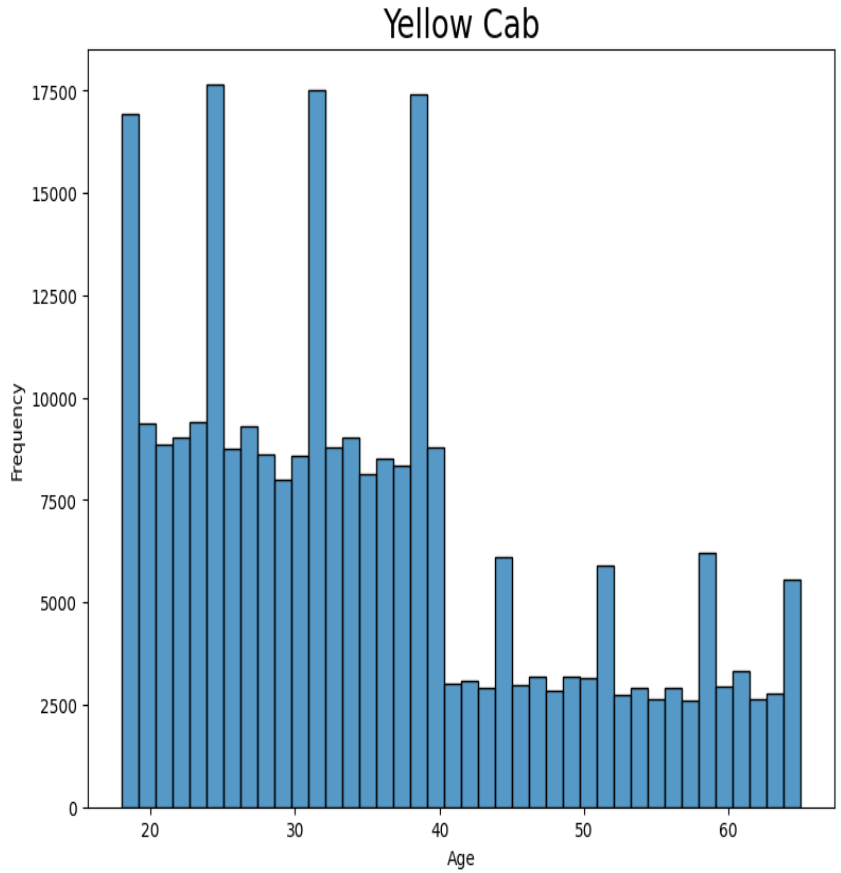
Age range of users who have travelled in both the cabs

Both cabs have a similar age range of travellers with mostly in the age group of 20 to 40





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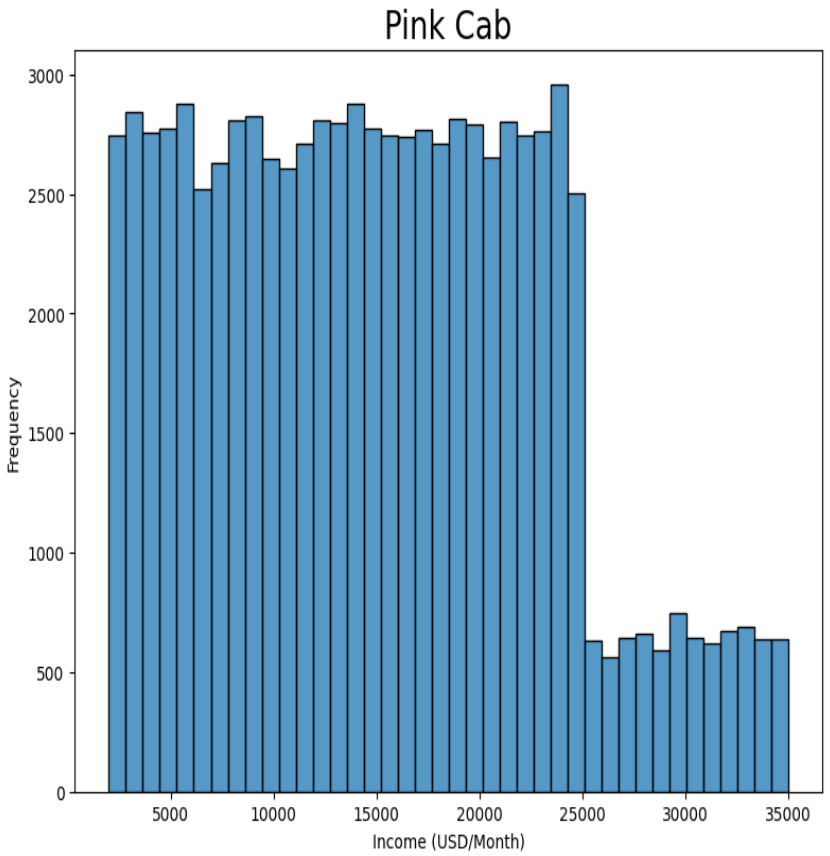
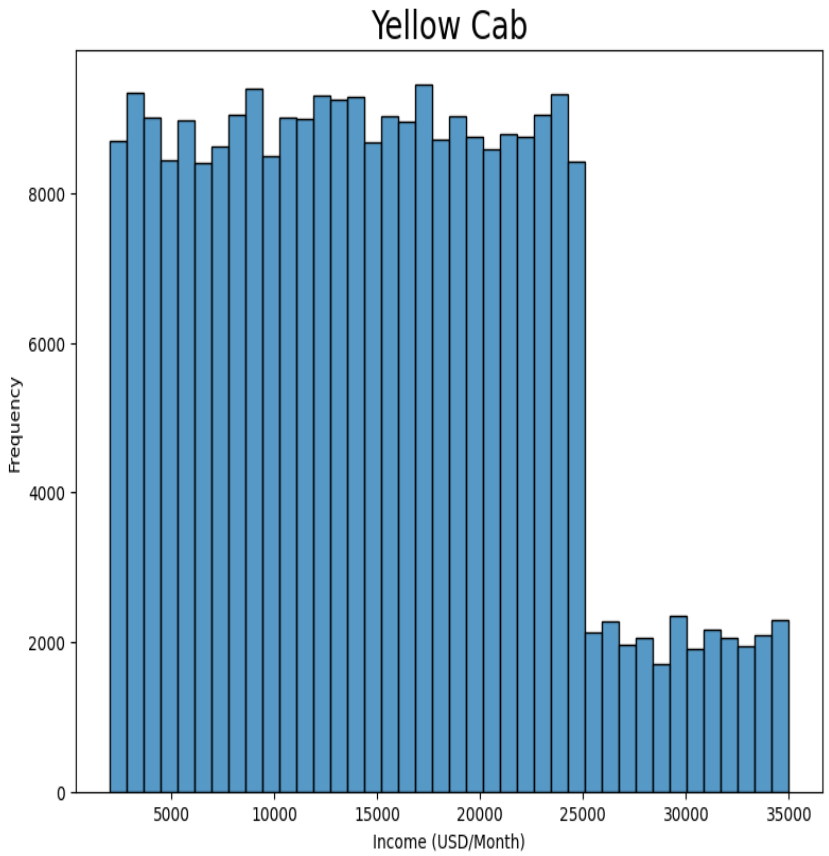
Income of travellers of both the cabs

Income range of travellers of both the cabs are in the same range





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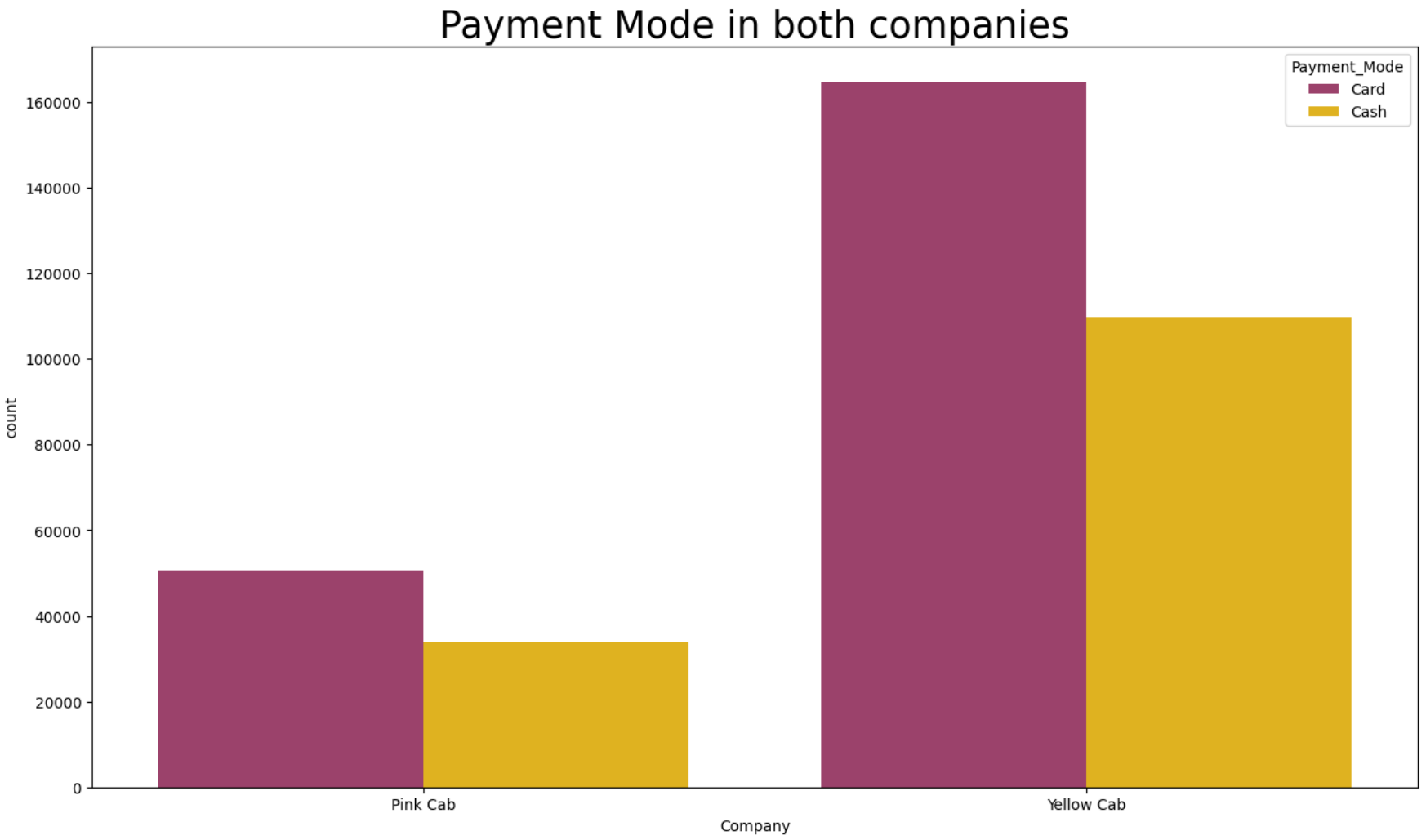
Mode of payment done by users in both cabs

In both the cabs, people have made the payment mostly by card compared to cash



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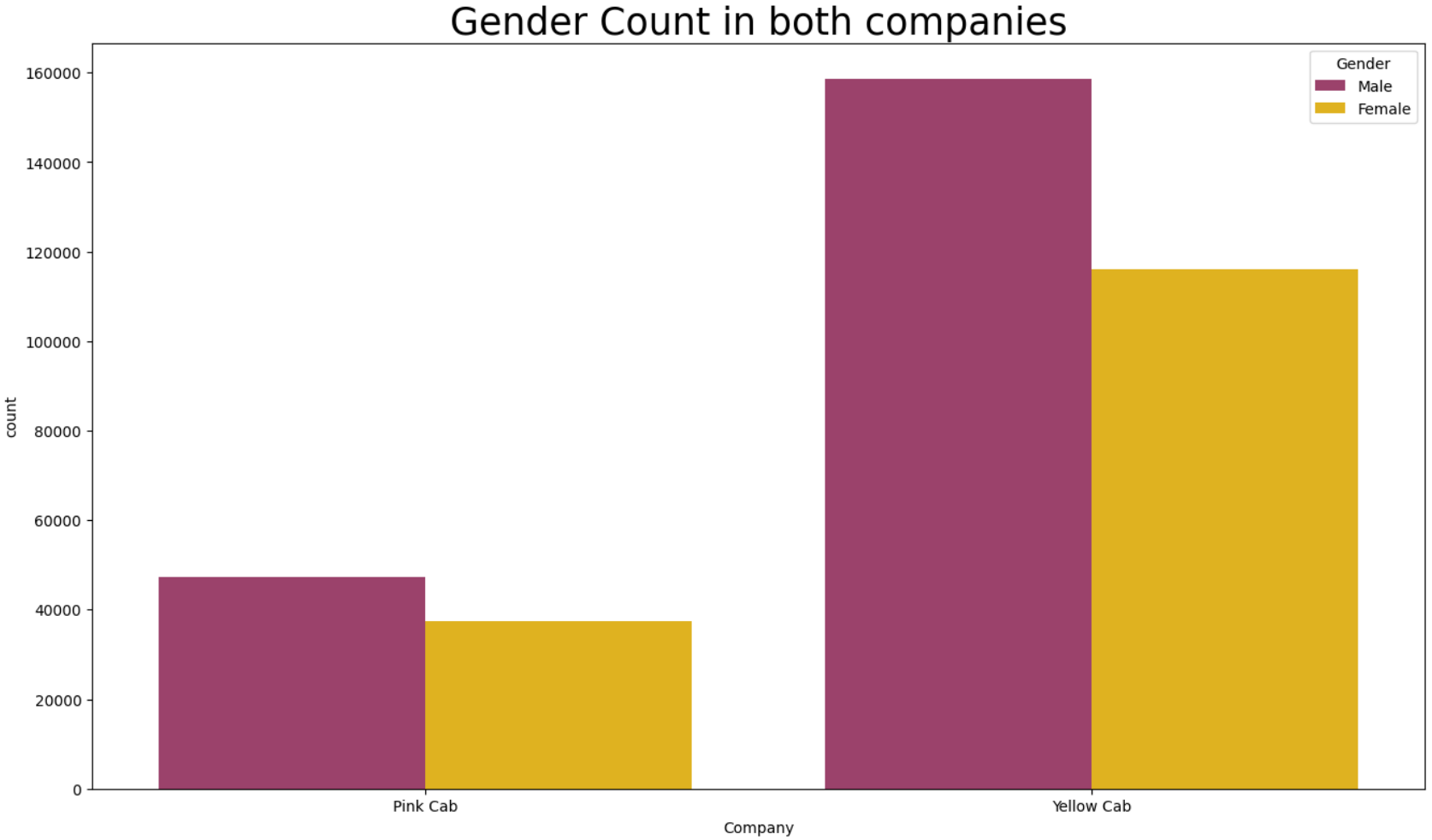
Gender distribution of cab travellers

In both the cabs, percentage of male travellers are more compared to female.



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Comparison of price charged w.r.t the distance travelled

The scatter plot shows a linear relationship for between the price charged and the km travelled for both the companies

Feature correlation matrix using heatmap

KM Travelled has high correlation with cost of trip and Price Charged

Population and Users are also highly correlated

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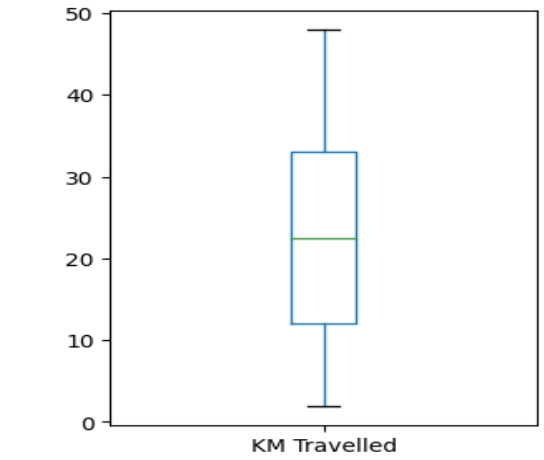
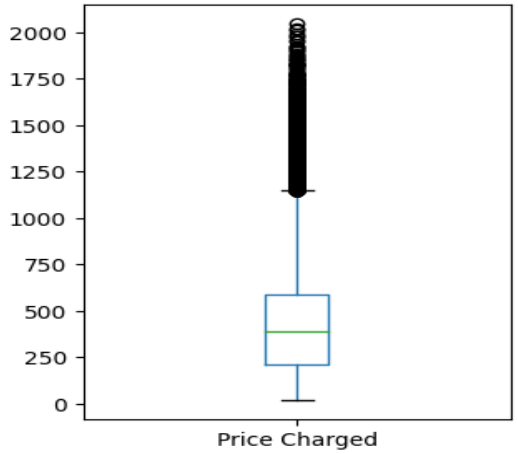
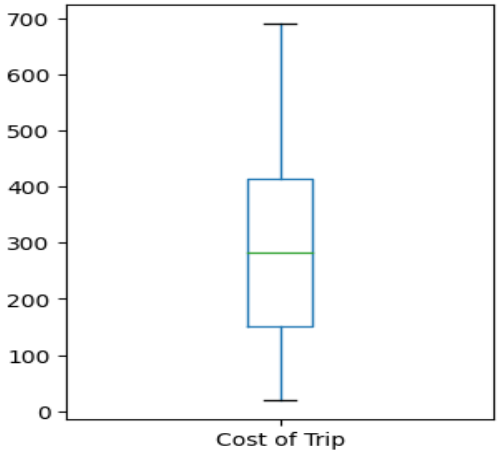
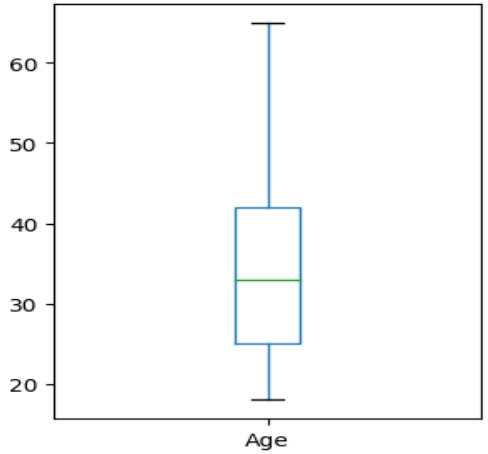
Outlier detection using Boxplots

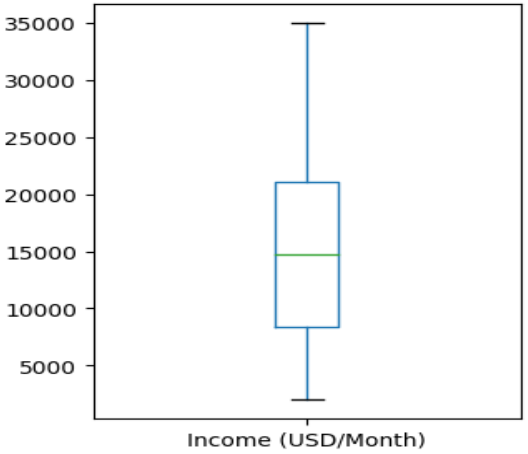
Of all the features, Price Charged has some outliers. Since trip duration details are not available, we are not treating this as outlier.

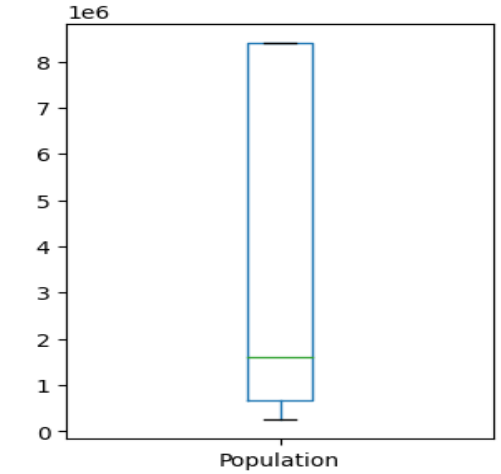


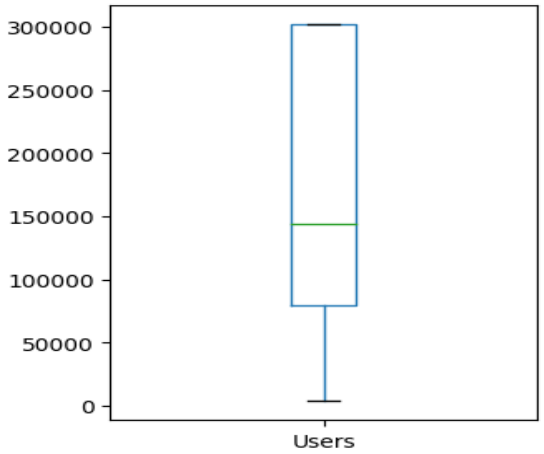












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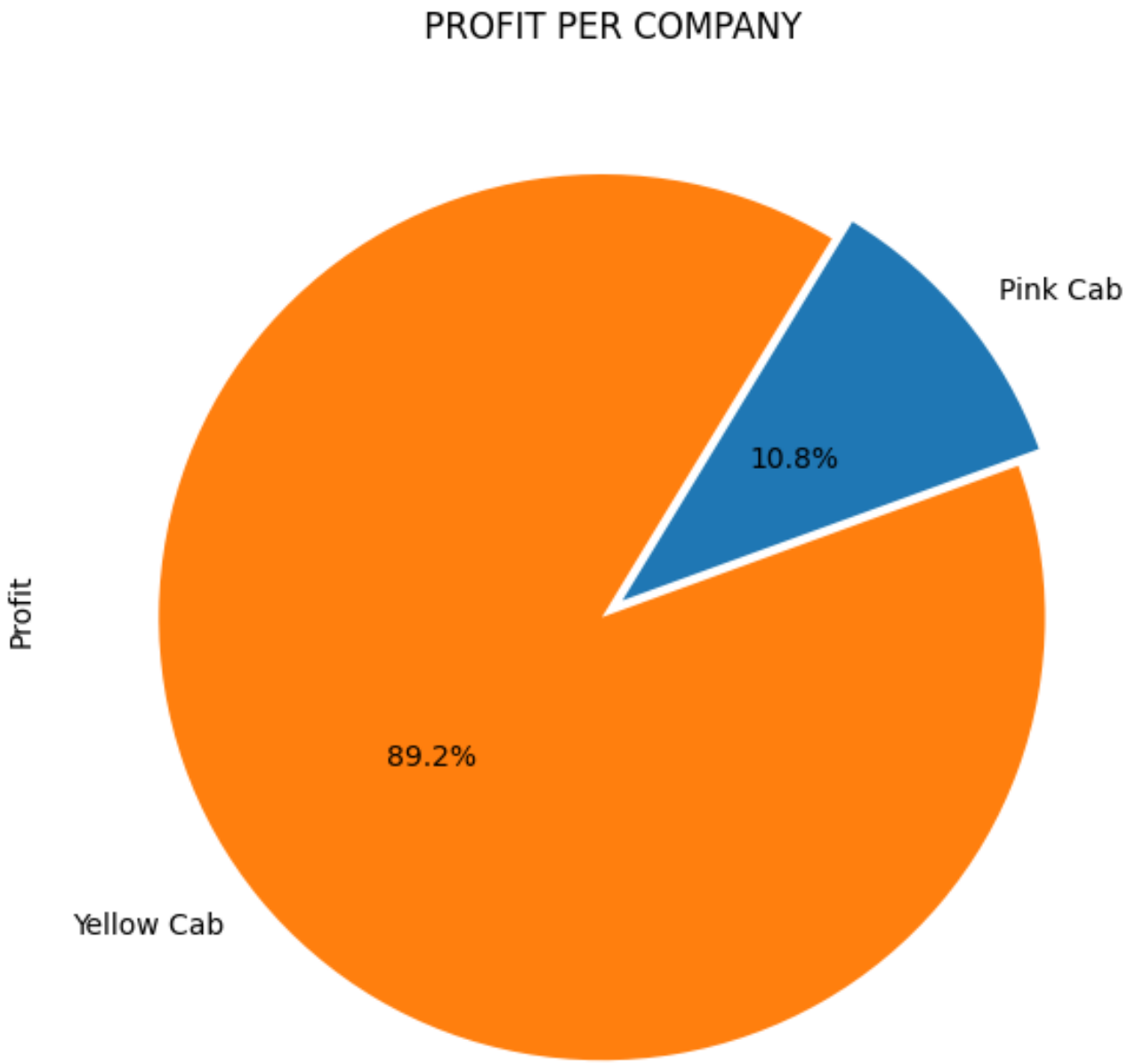
Profit comparison of both the cabs

Yellow cab has made the highest profit of 89.2% compared to Pink cab



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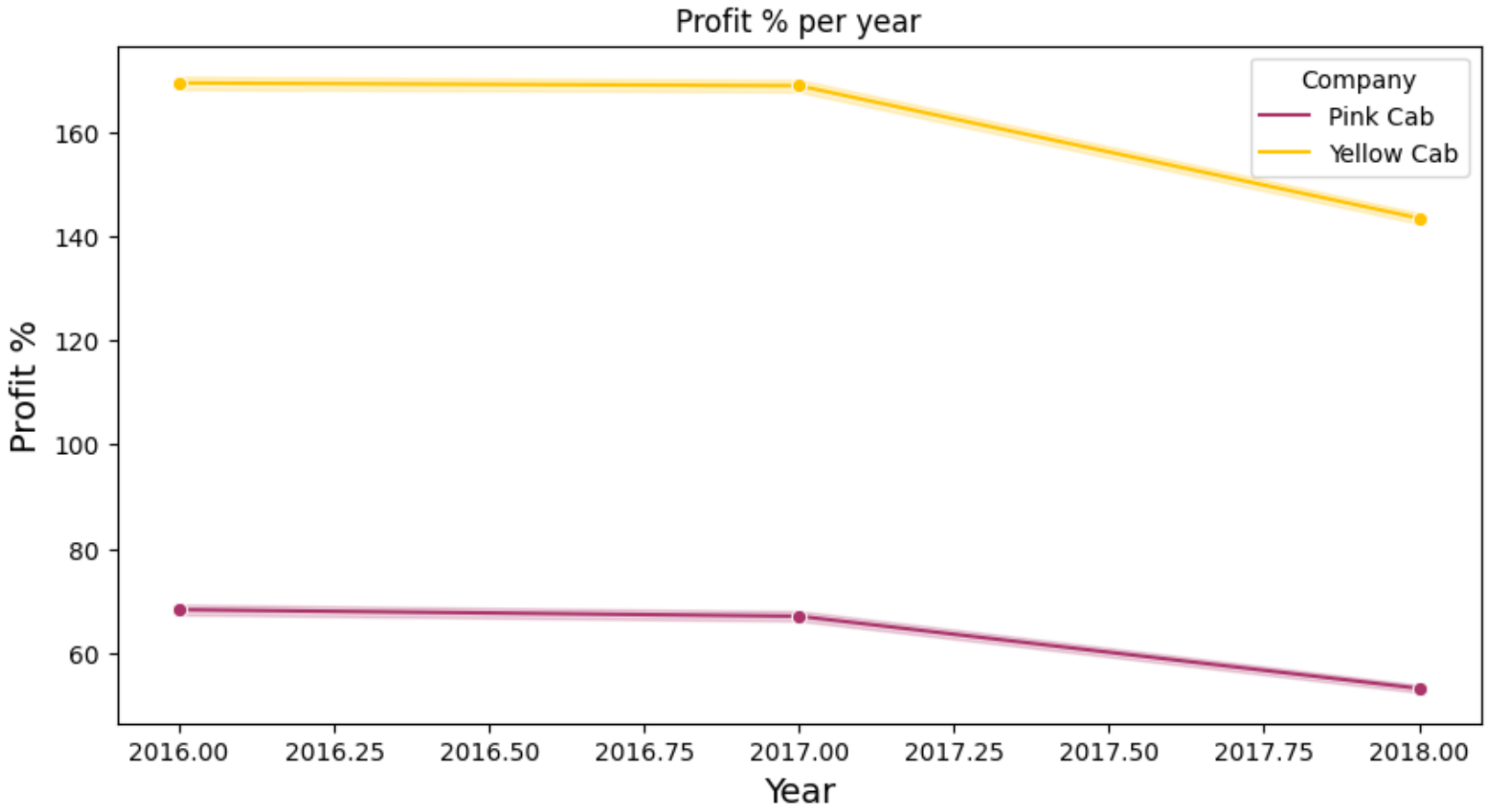
Profit % per year for the years 2016 to 2018

Both companies have made better profit in 2016 compared to 2018

Compared to YELLOW cab, PINK cab has made better profit in the year 2018



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Profit % per month

YELLOW cab seems to have made profit during the mid of a year

PINK cab has made more profit during the year beginning and end

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Recommendation on Cab Investment

The following observations are made based on the over all analysis

1. Yellow cab owns 89% of the total profit made by both companies

2. Most Users prefer travelling with Yellow cab than Pink cab

3. Yellow cab charges higher than Pink cab

Therefore, I advice the XYZ company to invest in Yellow Cab company.

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Thank You