# Capstone Project

## Exploratory Data Analysis

## Hotel Booking Analysis


**Submitted by**

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# Datasheet Details

This data set contains booking information for a city hotel and a resort hotel and includes information such as when the booking was made, length of stay, the number of adults, children, and/or babies, and the number of available parking spaces, among other things.

# Project Objective

- >Create indepth analysis to figure out the standard patterns of booking

- >Generate a report derive a strategy for the marketing team. So that the strategy can create an impact on lagging steps for business development and their growth

# Data Preparation and Cleaning

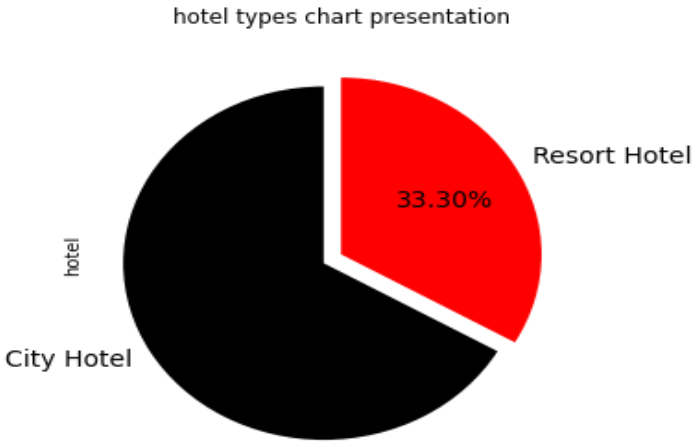
- 1) Hotel booking analysis data set having total 119390 row and 32 columns
- out of which column having agent (16340-null value) and company (112593- Null value),this two column doesn’t have impact on EDA so I dropped that column.
- 2) Apart from this column having country and adults have 488 and 4 Null value so I dropped that row.
- 3) Now our data is cleaned and ready for EDA.

# Exploratory Data Analysis

1) Types Of Hotel Present:

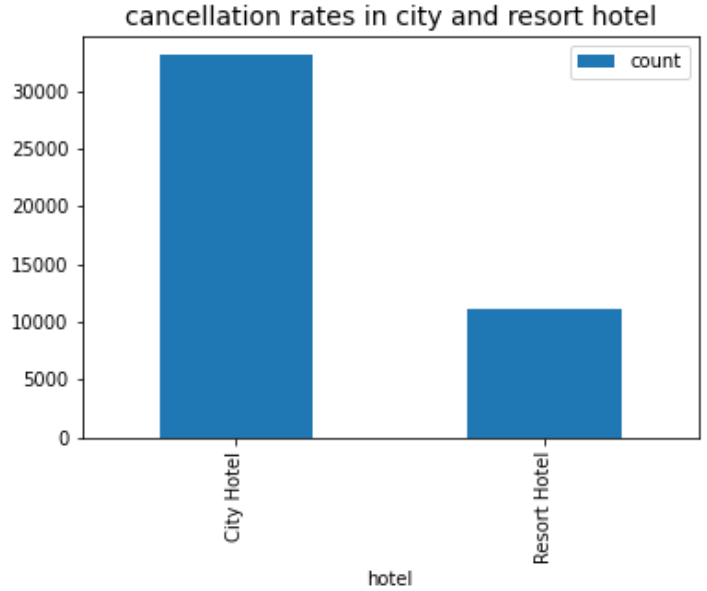
Total 2 types of hotel booking present: Resort Type_33.30%,

: Citytype_66.69%



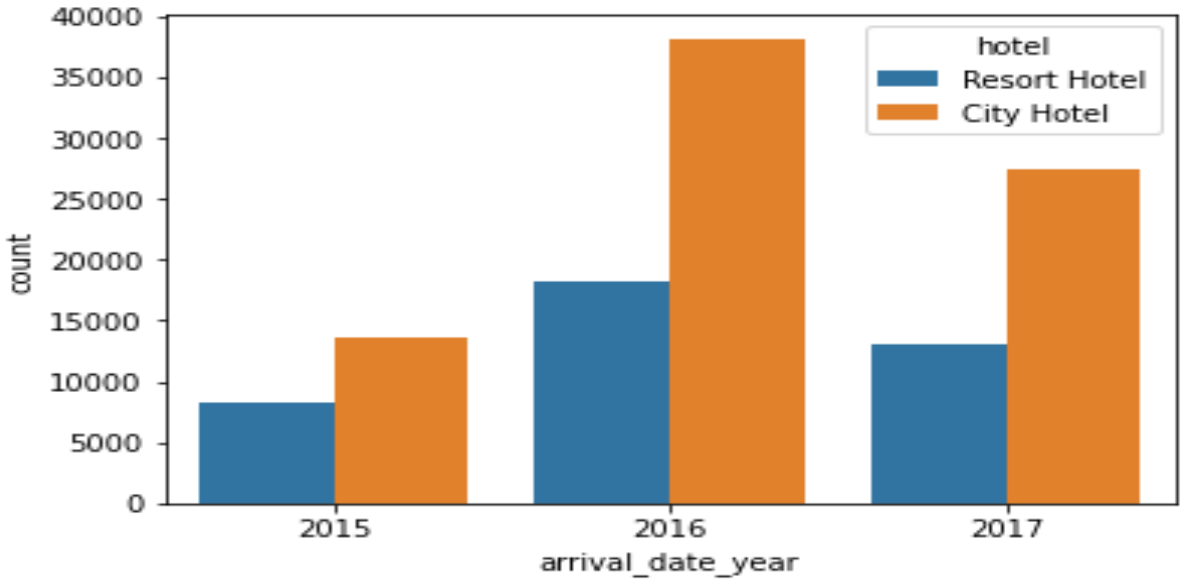
# EDA

2) Analysis for canceled and non canceled booking: it seems most of the booking are not cancelled but around 33% booking are cancelled in which most of the cancellation are from city hotel.

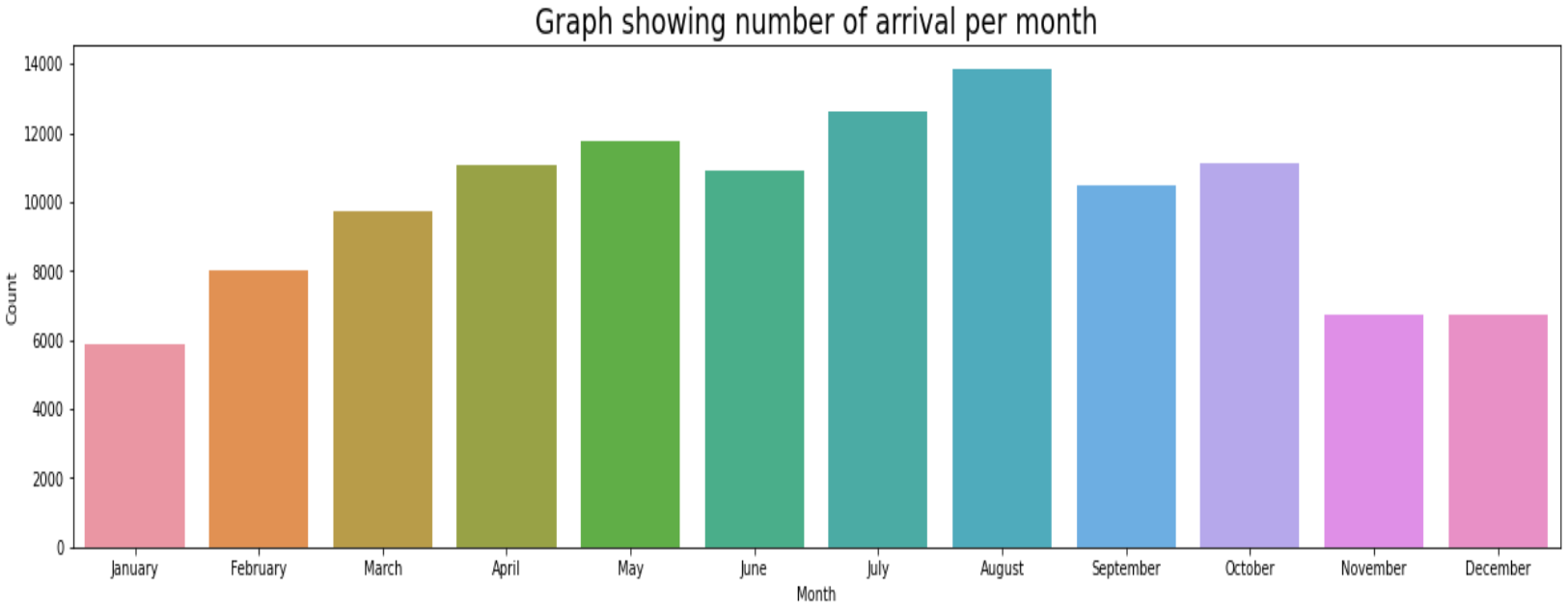


# EDA

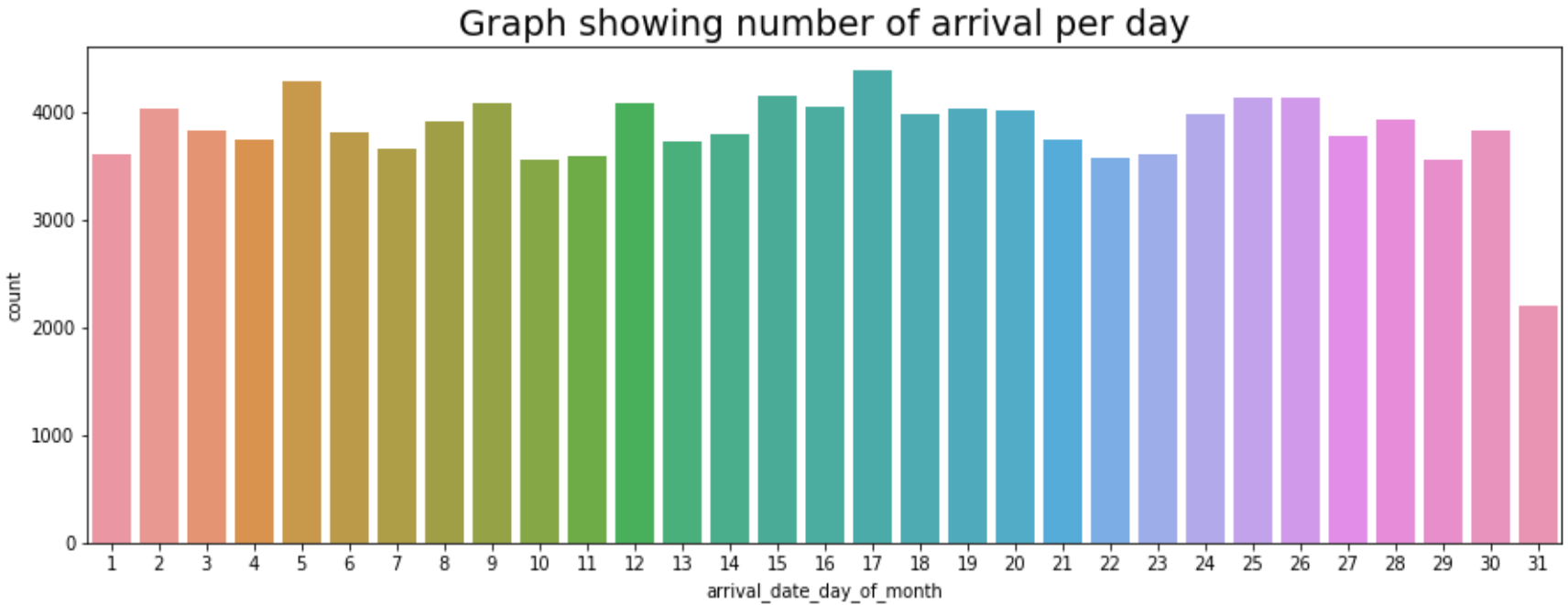
3)Analysis on Arrival Period: Highest number of arrival was 2016,and with monthly basics increasing and peak trend is May to august due to summer.



# EDA: Month Wise Arrival

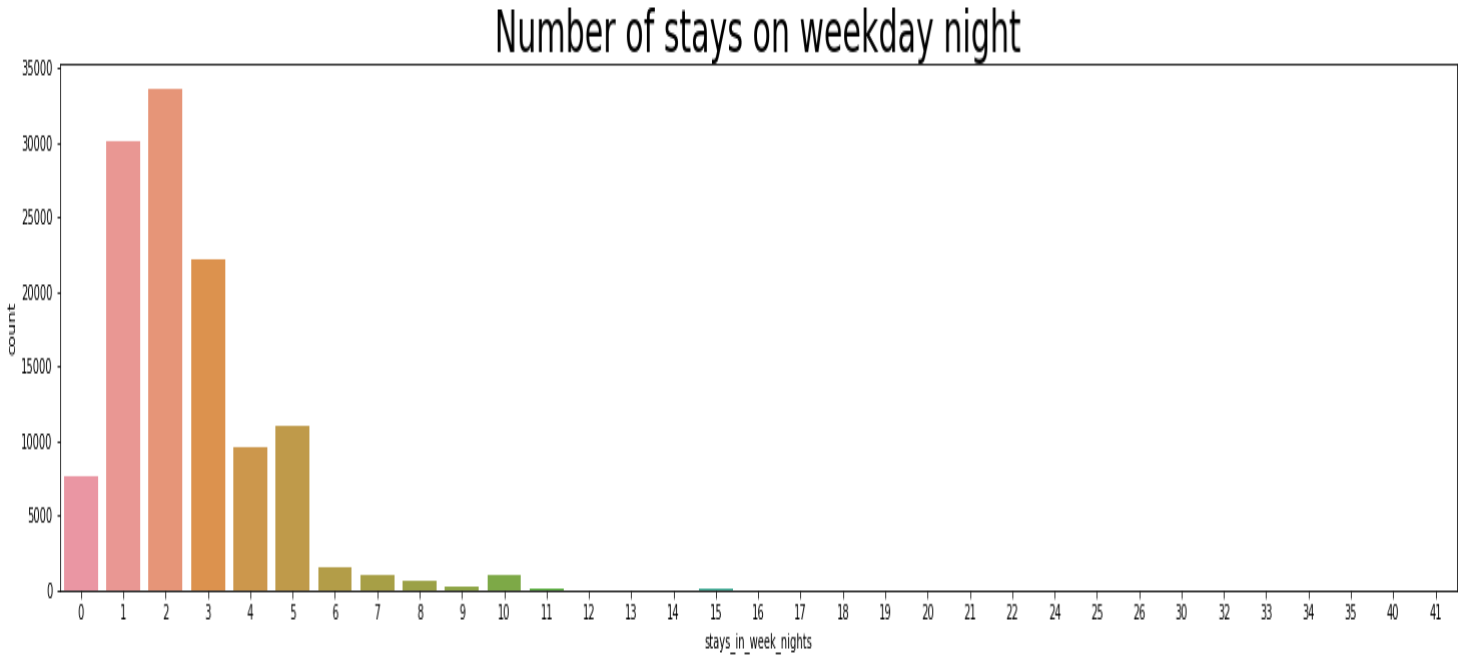


# EDA: Day Wise arrival



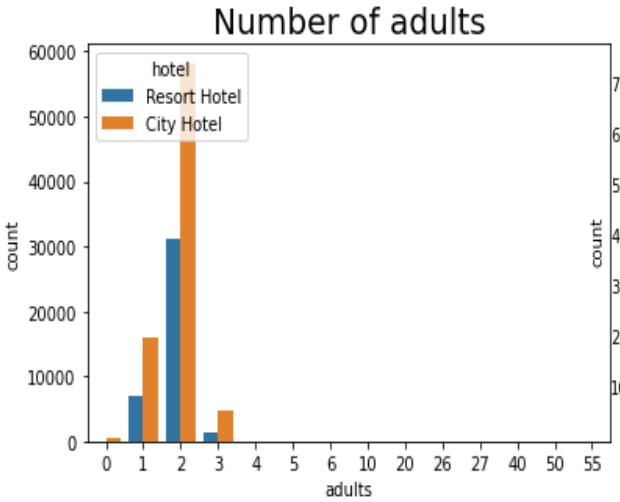
# EDA

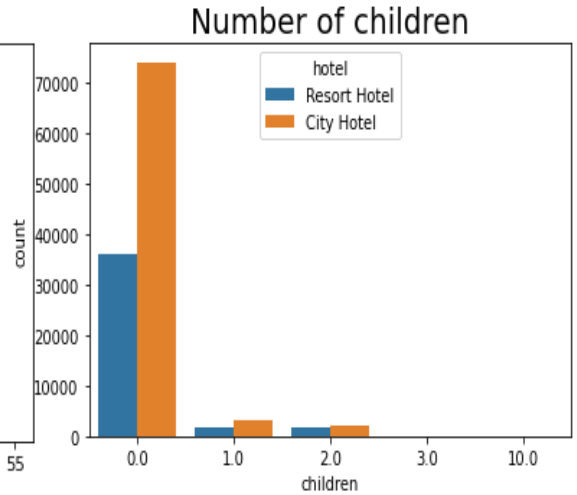
3) Stay is Over Weekend or weekdays: Random, no such Pattern for weekday and weekend.

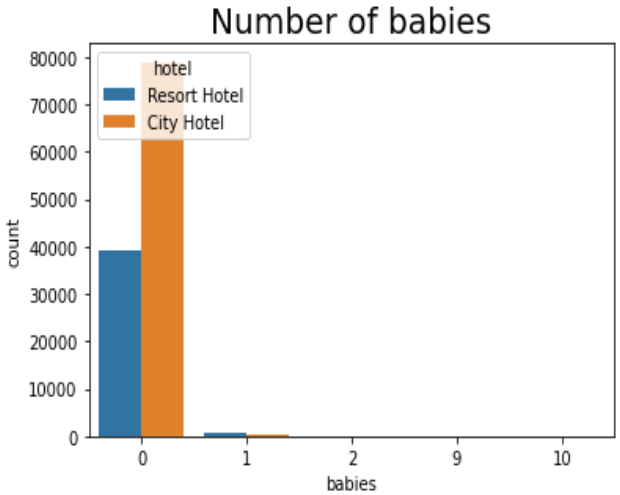

Number of stays on weekday night
count
35000
30000
25000
20000
15000
10000
5000
0
0 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 24 25 26 30 32 33 34 35 40 41
stays_in_week_nights

# EDA

4)Types Of Visitors: It seems that majority of the visitors travel in pair. Those that travel with children or babies have no specific preference for the type of hotel. We do see that those bringing babies along prefer resort hotels.



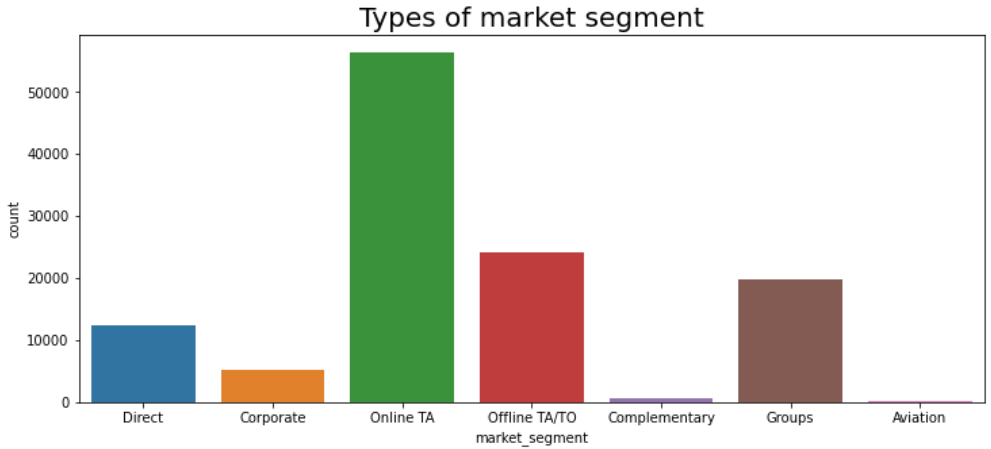
# EDA

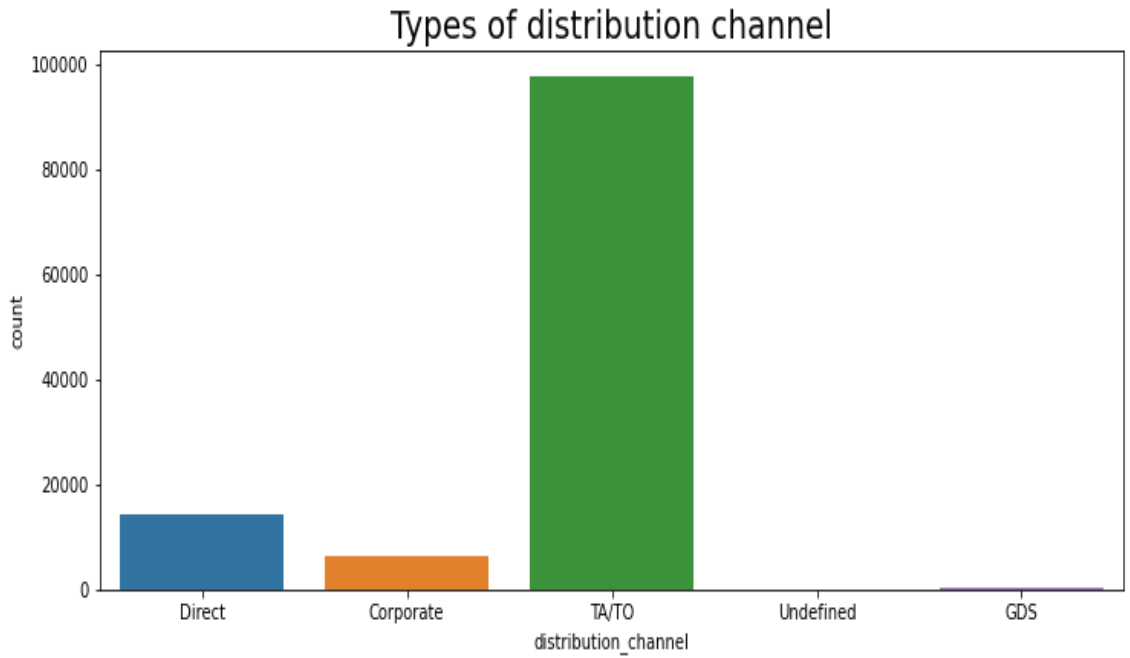
5) Visitors Country: We have a huge number of visitors from western europe, namely France,UK and Portugal being the highest.

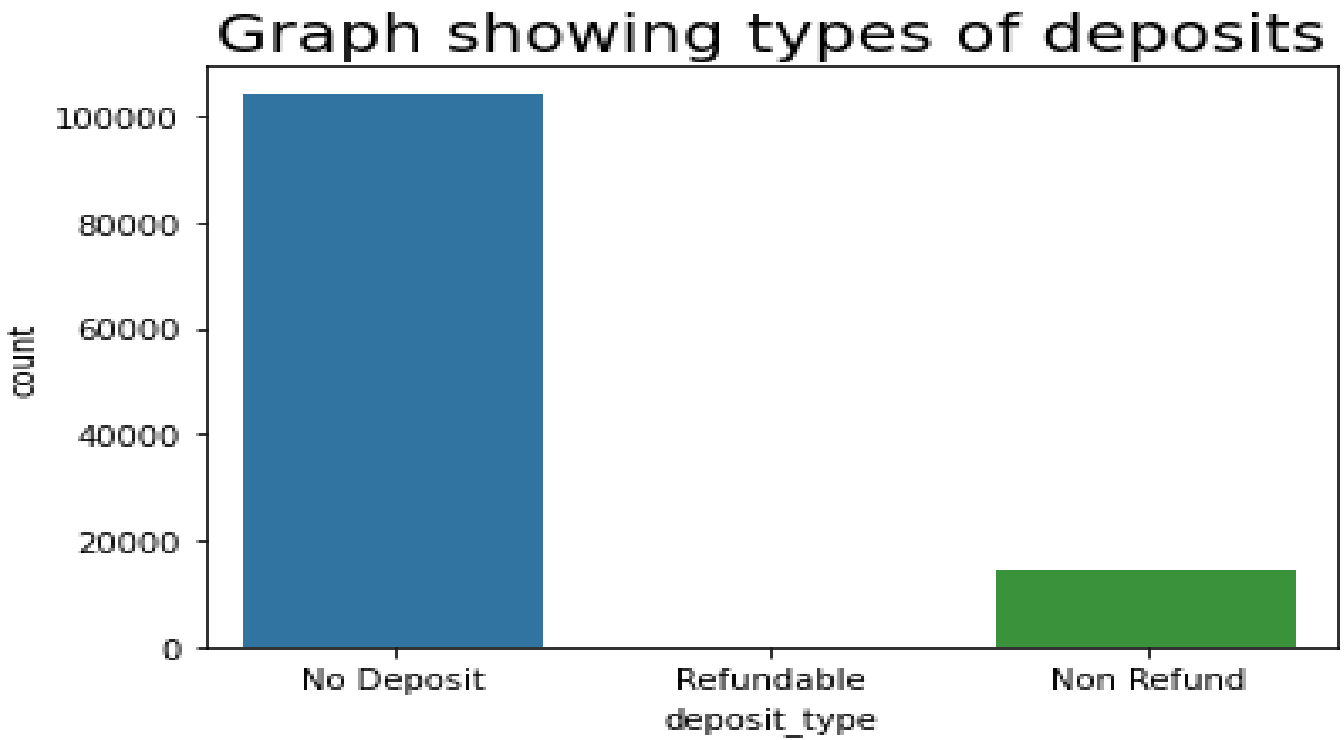
This Analysis was done by using
Import poltly.express as px

# EDA

6) **market segments and distribution channel:** Most of the booking was done through online, with TA/TO distribution channel with that non depository types, which may cause one of the biggest reason for most of the cancellation.

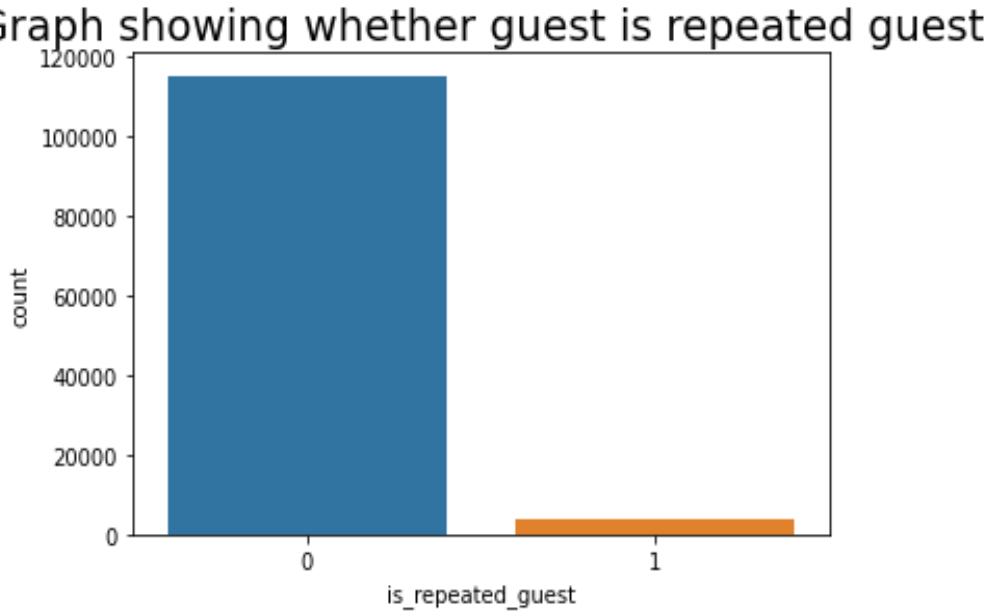



Types of distribution channel
100000
80000
60000
40000
20000
0
count
Direct
Corporate
TA/TO
Undefined
GDS
distribution_channel


Graph showing types of deposits
100000
80000
60000
40000
20000
0
count
No Deposit
Refundable
Non Refund
deposit_type

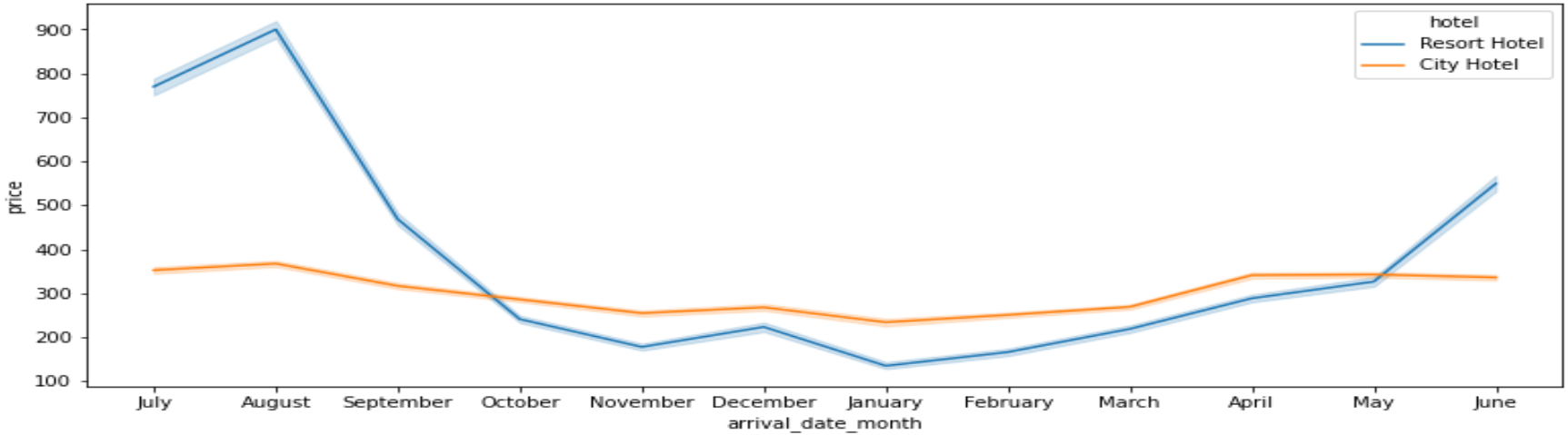
# EDA

7) Repeat of Guest : most of the guest are non repeated we can work on this, such as some coupon for repeated guest and some discount for them.



# EDA

8) Price Distribution with Respective Month: price during Oct to March is Very low. Prices of resort hotel are much higher. It seems that that is definitely, the case since resort hotels specialize in that. Prices of city hotel do not fluctuate that much.



# Summary

1. >Majority of the hotels booked are city hotel.
2. >The high rate of cancellations can be due high no deposit policies.
3. >Higest arrival will be may to August, summer period
4. >Majority of the guests are from Western Europe
5. >Nov to Jan Month is least price for hotel
6. >Majority of guest are non- repeating, we can use advertisemnet and some discount for repeated guest.

# REFERENCE


1) https://www.kaggle.com/kianwee/eda-hotel-booking-demand/notebook

2) https://jovian.ai/shivanshusingla27/hotel-booking-data-analysis-eda-project#C69

3) https://medium.com/@sergioalves94/hotel-booking-demand-eda-1e3cfdfe30b2

4) https://www.almabetter.com/