

# Capstone Project

## Hotel Booking Analysis

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# Content

- Importing libraries and Database
- Summary of Data
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# Importing Libraries and Database

Imported these libraries in order to work on Database.

- NumPy
- Pandas
- Matplotlib
- Seaborn

# Summary of Data

About Data - This Database consists of information between 2 different hotels over 3 years (2015 to 2017).

Size of Data:

- Rows - 119390
- Columns – 32

# Data wrangling

Data cleaning -

- This Database consists of null values 'Nan'.
- Replaced those null values with zero.

Data preparation -

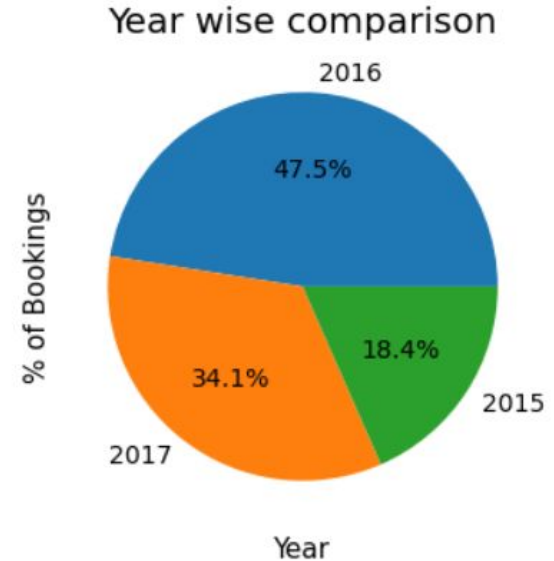
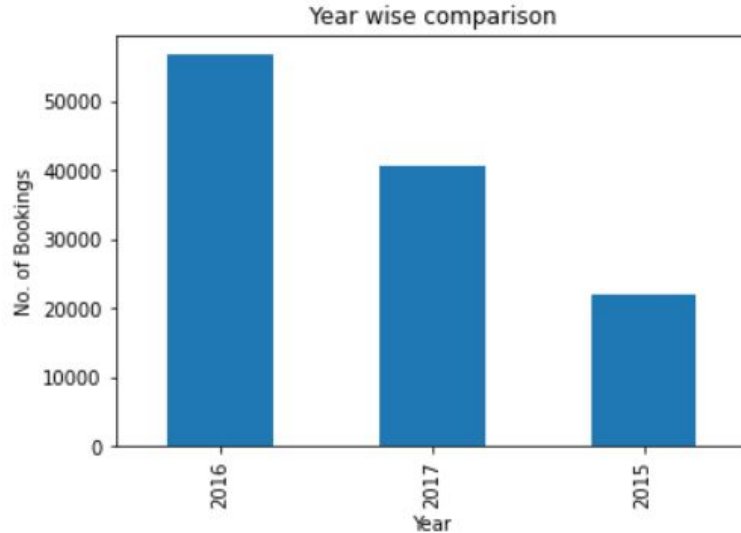
- Database consist of different types of data types.
- Data types : integer, float, object
- Converted the 'Float' Data type into 'integer' Data type

# Data Analysis

- Year wise Comparison of Hotel Bookings
- Month wise comparison of bookings
- Total bookings cancelled
- Booking percentage between 2 hotels
- Repeated guests percentage between 2 hotels
- Booking types for Market segment
- Number of night stays in Hotels
- Total number of special requests

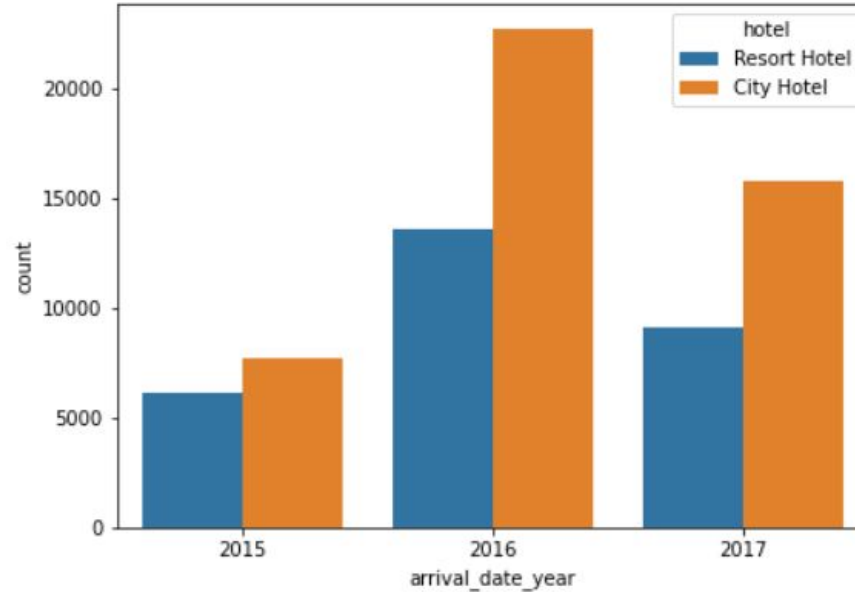
# Data Visualization

## 1. Year wise Comparison of Hotel Bookings



2016 is the most productive year with 47.5%.

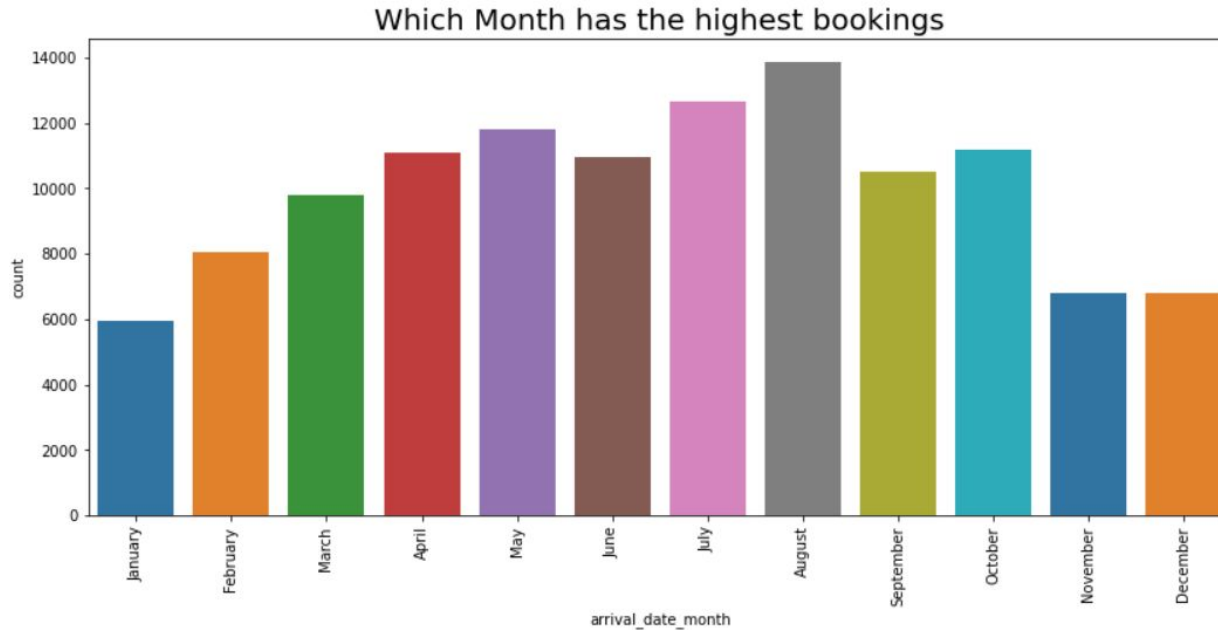
## Year wise Booking between two types of Hotels



City Hotels has more number of Bookings.

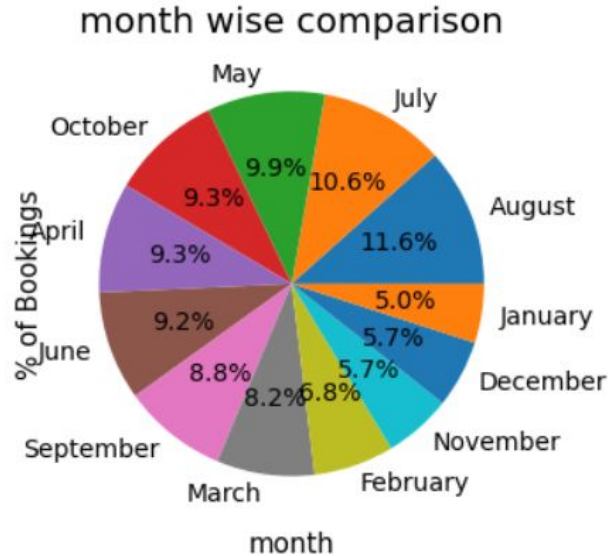


## 2. Month Wise Comparison of bookings



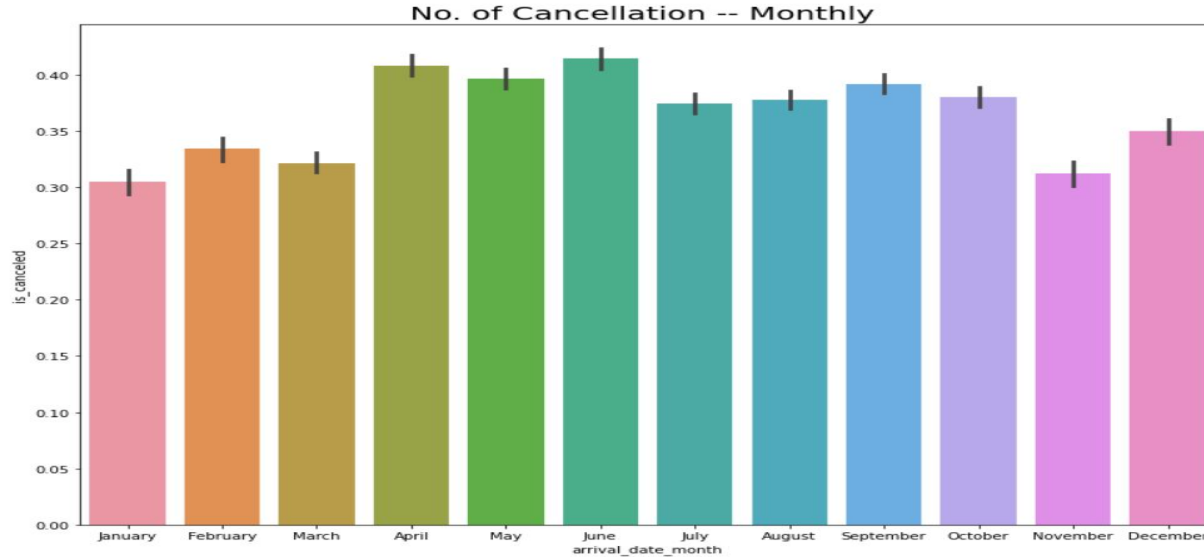
August has highest number of Bookings

## Month wise comparison of Bookings in percentage



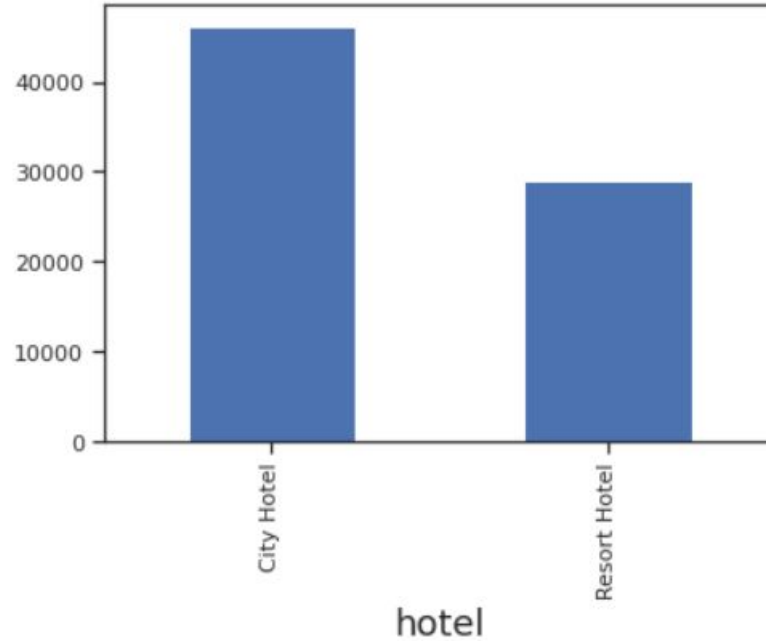
August has 11.6% number of Bookings, which is highest.

# Month wise percentage of cancellations



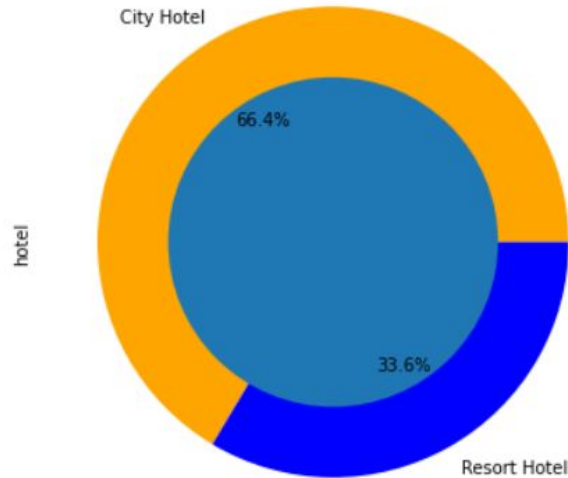
Number of Cancellations are highest in June.

### 3. How many bookings were cancelled?



City Hotels has higher number of Cancellations.

## 4. Booking percentage between 2 hotels

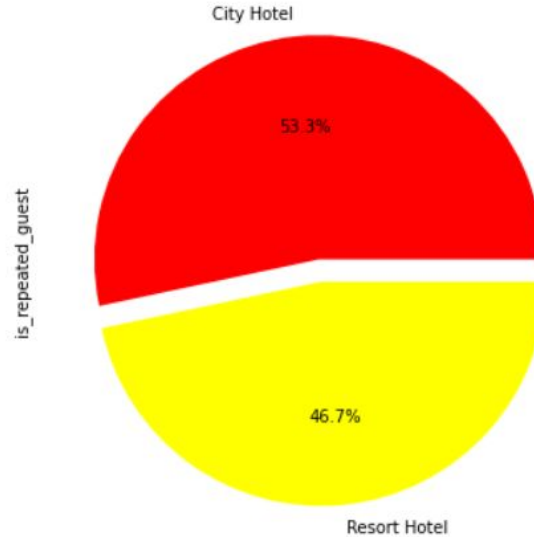


City Hotel has more booking percentage than Resort Hotel.

City Hotel – 66.4%

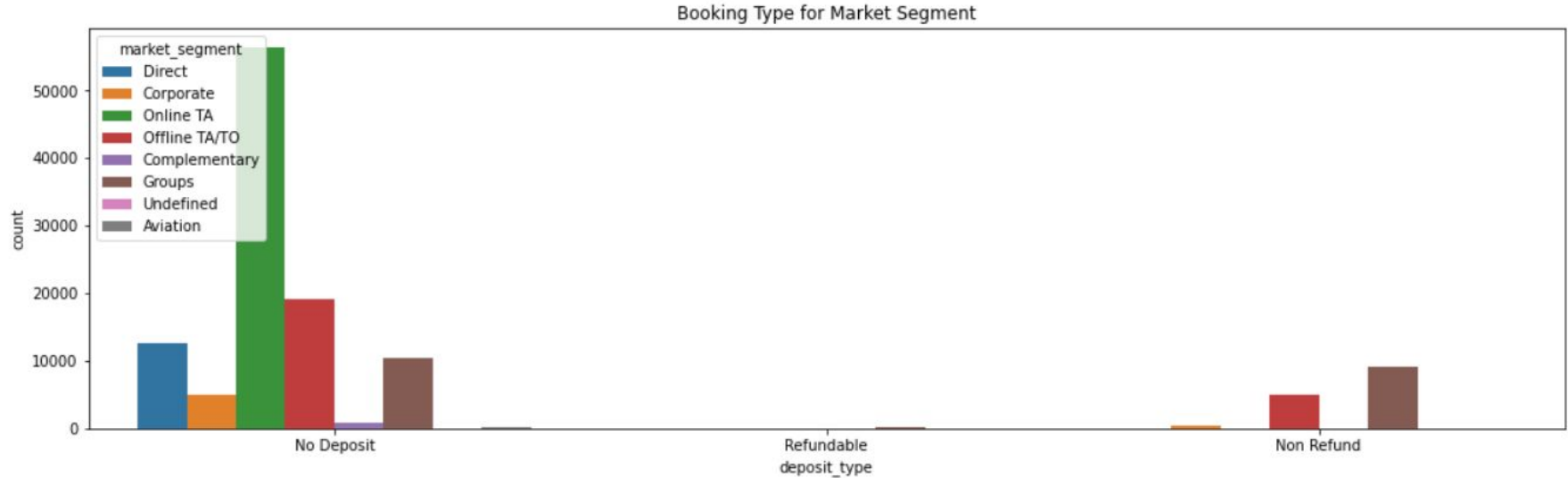
Resort Hotel – 33.6%

## 5. Repeated guests percentage between 2 hotels



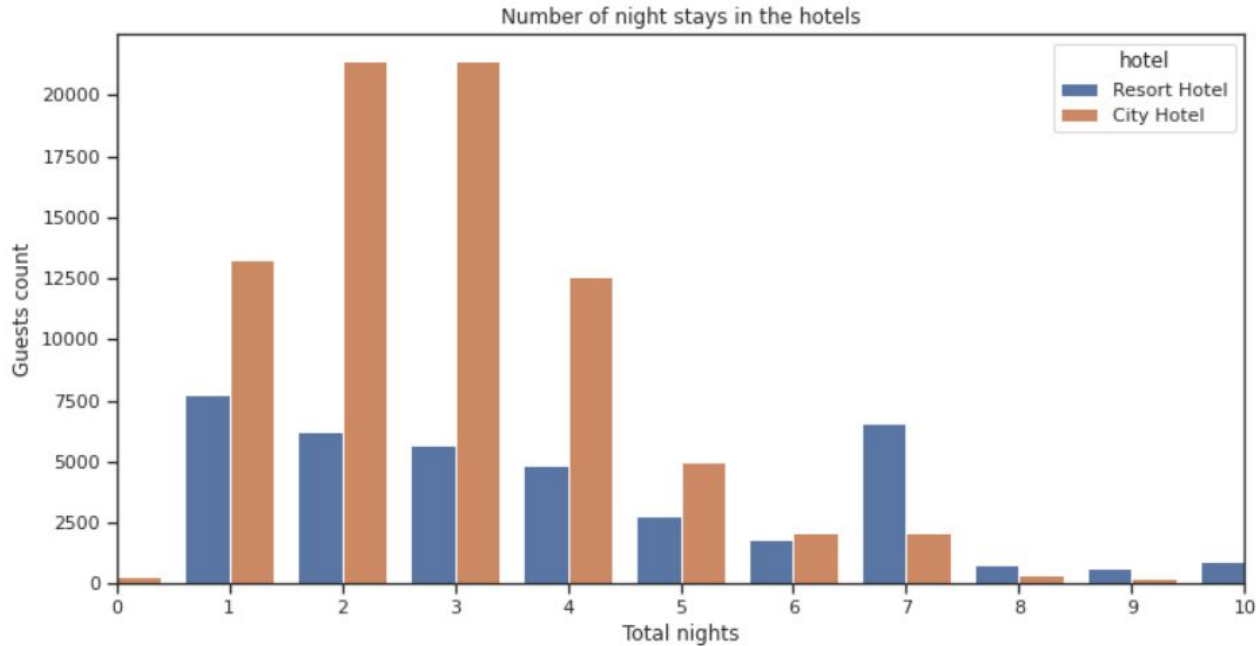
City Hotel has more repeated guests with 53.3%.

# Booking types for Market segment



Online Bookings are the most Preferred among other Booking types.

# Number of night stays in Hotels

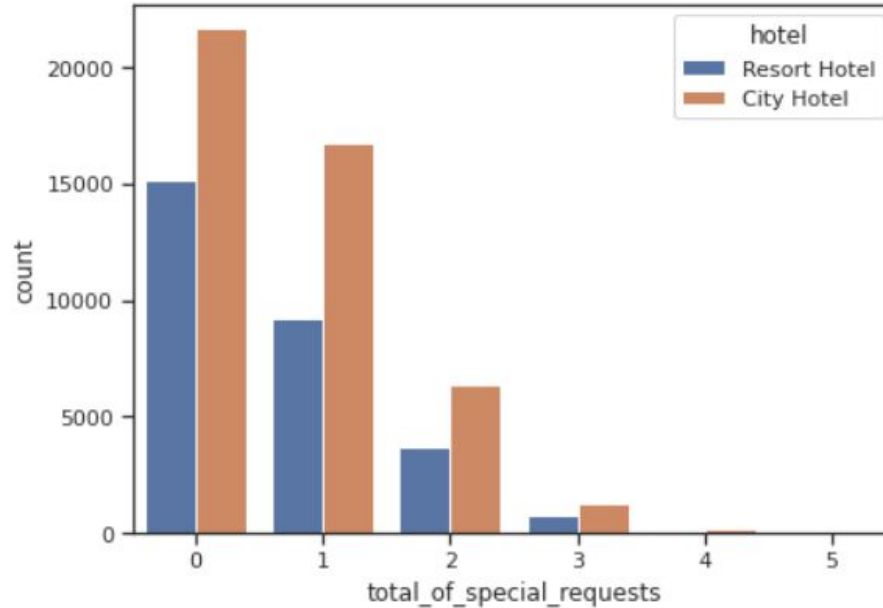


For short stay (1-5 Days), People prefer City Hotel.

For long stay (more than 6 Days), People prefer Resort Hotel.



# Total number of special requests



City Hotel has more Special requests than Resort Hotels.

# Challenges

- Data Cleaning
- Database consists of many null values in it. So, converted null values to Zero.
- Needed to convert some of float data types into int data type
- Time taken to identify Problem statements

# Conclusion

- 2016 has more number of Bookings with 47.5% and it went down to 34.1% in 2017.
- Q2 & Q3 are having higher number of Bookings.
- City Hotel has higher number of Bookings and Cancellations as well.
- Repeated guests percentage is more for City Hotel.
- Online Booking plays crucial role in Hotel Booking.
- For Short stay people choose City Hotel.
- For long stay people choose Resort Hotel.
- Number of special requests for City Hotel is higher than Resort Hotel.

# Suggestions

- Hotels can avail some discount offers in Q1 and Q4 as Bookings rate is less in these quarters.
- Hotels can promote their business online as most of the Bookings are coming from online portals.
- Special discount can be given to repeated guests.
- City Hotel can come up with special plans for long staying guests.
- Resort Hotel can come up with special plans for short staying guests.

• ***Thank You***