Capstone Project-1
EDA
Hotel Booking Analysis

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STEPS INVOLVE IN DISCUSSION OF HOTEL BOOKING ANALYSIS

- Business problem overview
- Objective
- Introduction to data
- Data summary
- Exploratory data analysis and visualization
- Analyzing summary
- Challenges
- Conclusion

BUSINESS PROBLEM OVERVIEW

- Hotel booking analysis is extremely important for any business.

- By using this analysis we can easily understand customer's requirement and it's helps us in growing business.

- Hotel Bookings depends on various factors and if those aren't properly managed can lead to fall of hotel. Factors which affect bookings include food type, prices, month of year, country etc. Our main objective is to perform Data Analysis of Hotel bookings and to give insights to hotel management which will boost their performance.

OBJECTIVE

- Exploring and Cleaning the Dataset.

- To establish relationship between various features of the Dataset.

- Present these relationships using various Data Visualization. Techniques.

- Draw the useful insights from it.

INTRODUCTION TO DATA

Firstly, let's get to know data. While we are analyzing data , we use pandas library.

- info(): It informs about data columns and data types.

- head(): It returns the first five data.

- tail(): It returns the last five data.

- columns(): It returns data columns

- shape(): It gives number of columns and rows in tuple.

# DATA SUMMARY

- There are 119390 observation with various types of field in our dataset
- Columns Information

• Hotel	• is_cancelled	• Lead_time
• Arrival_date_year	• Arrival_date_month	• Arrival_date_week_num.
• Arrival_date_day_of_month	• Stay_in_weekend_nights	• Stay_in_week_nights
• Adults	• Children	• Babies
• Meal	• Country	• Market_sagment
• Distribution_channel	• Is_repeated_guest	• Previous_cancellations
• Not_cancelled	• Reserved_room_type	• Assigned_room_type
• Booking_changes	• Deposite_type	• Agent
• Company	• Days_in_waiting_list	• Customer_type
• Adr	• Requird_car_parking_spa.	• Total_of_special_req.
• Reservation_status	• Reservation_status_date	

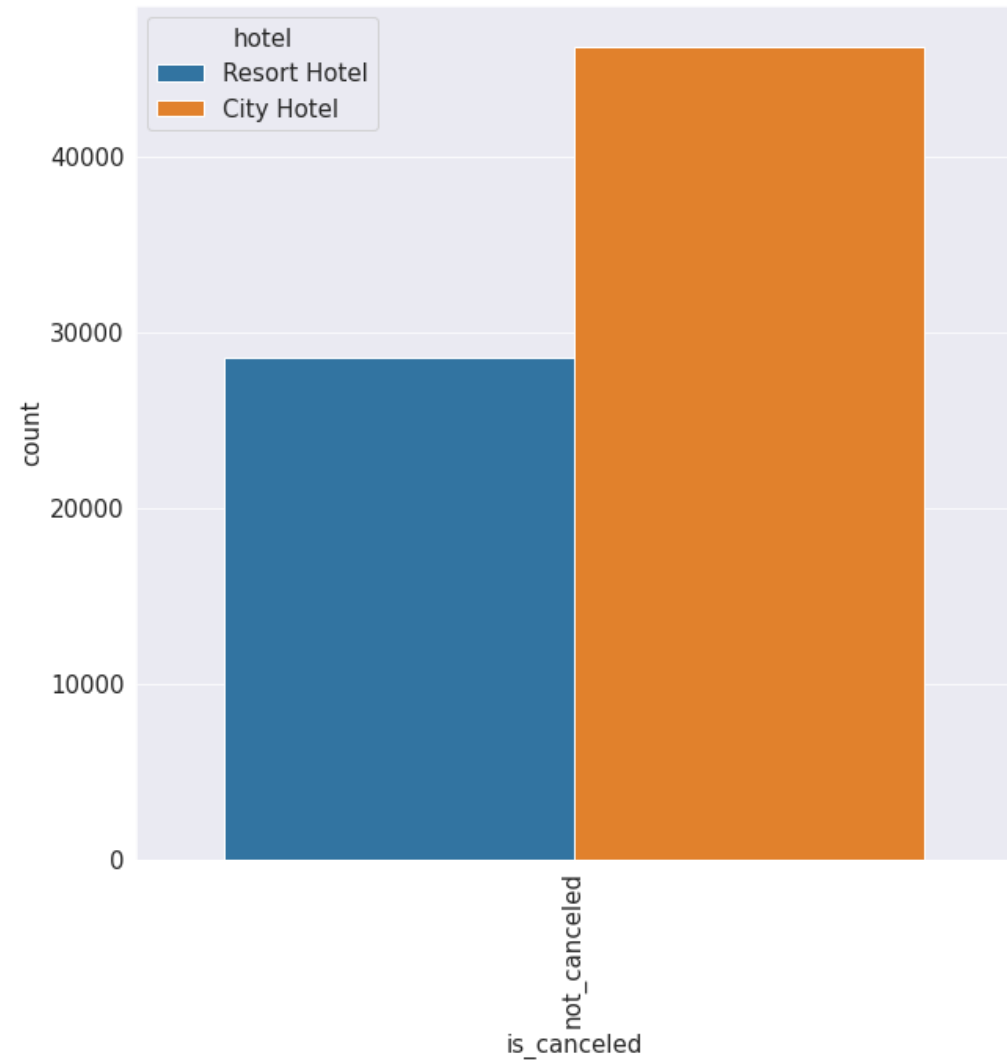# EXPLORATORY DATA ANALYSIS & VISUALIZATION

Hotel
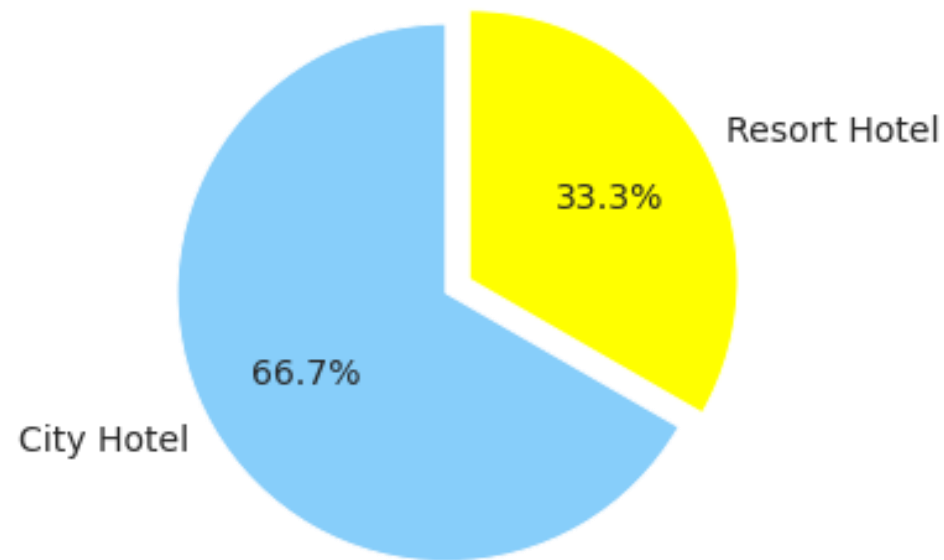
Total users were 117807
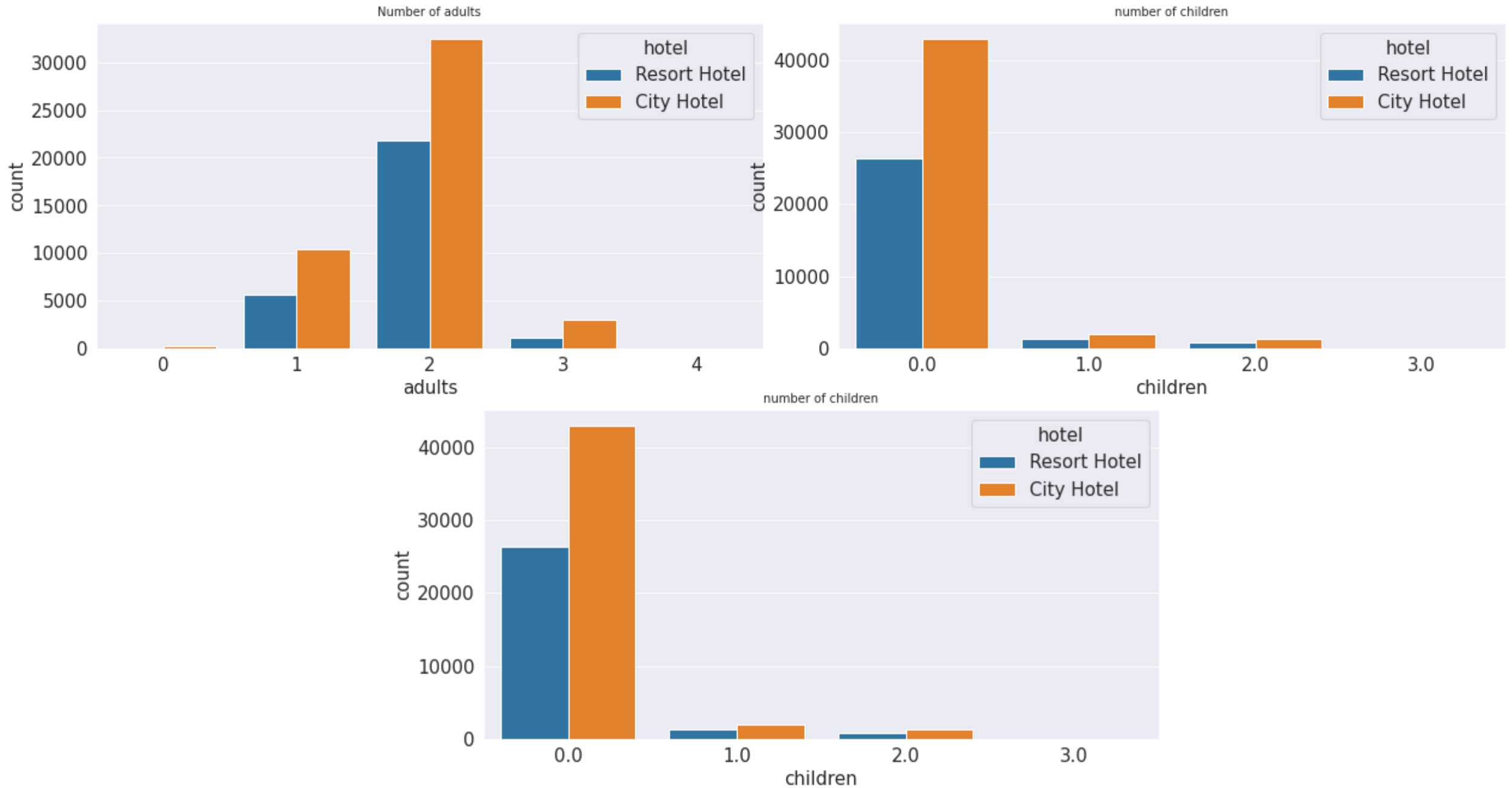
City hotel=79301

Resort hotel=38596

ANALYSIS OF BOOKING CANCELLED OR NOT

• It seems that majority booking of city hotel was not cancelled compared To resort hotel.
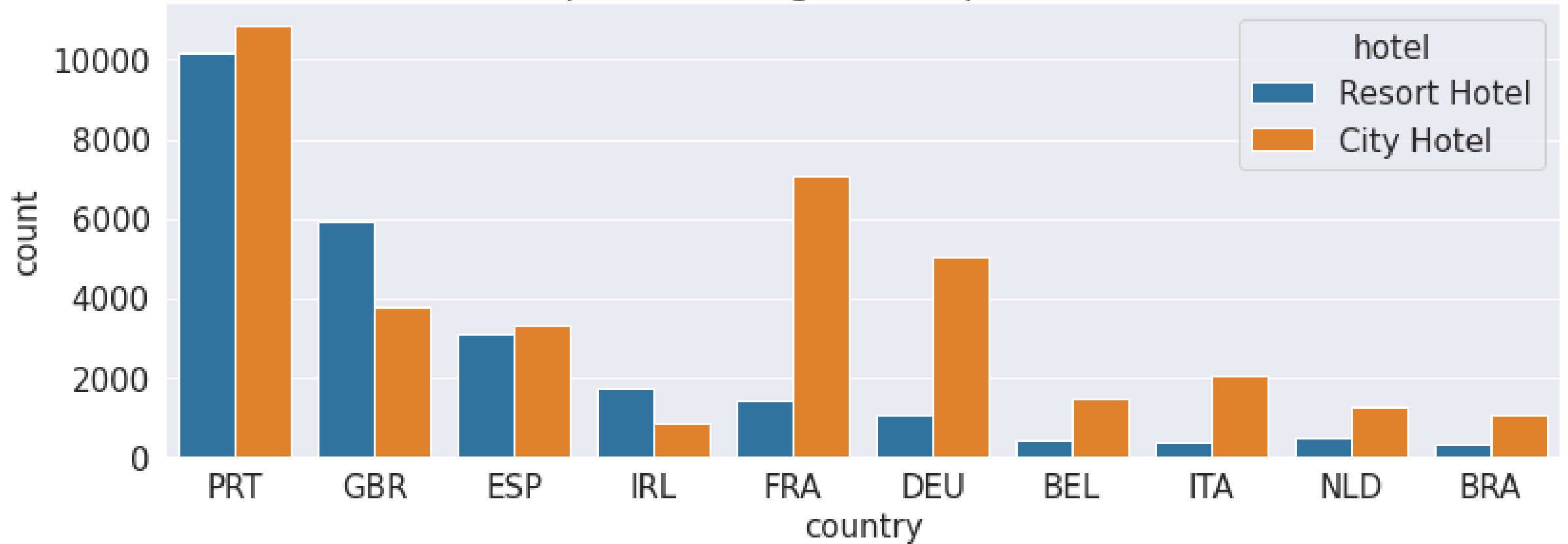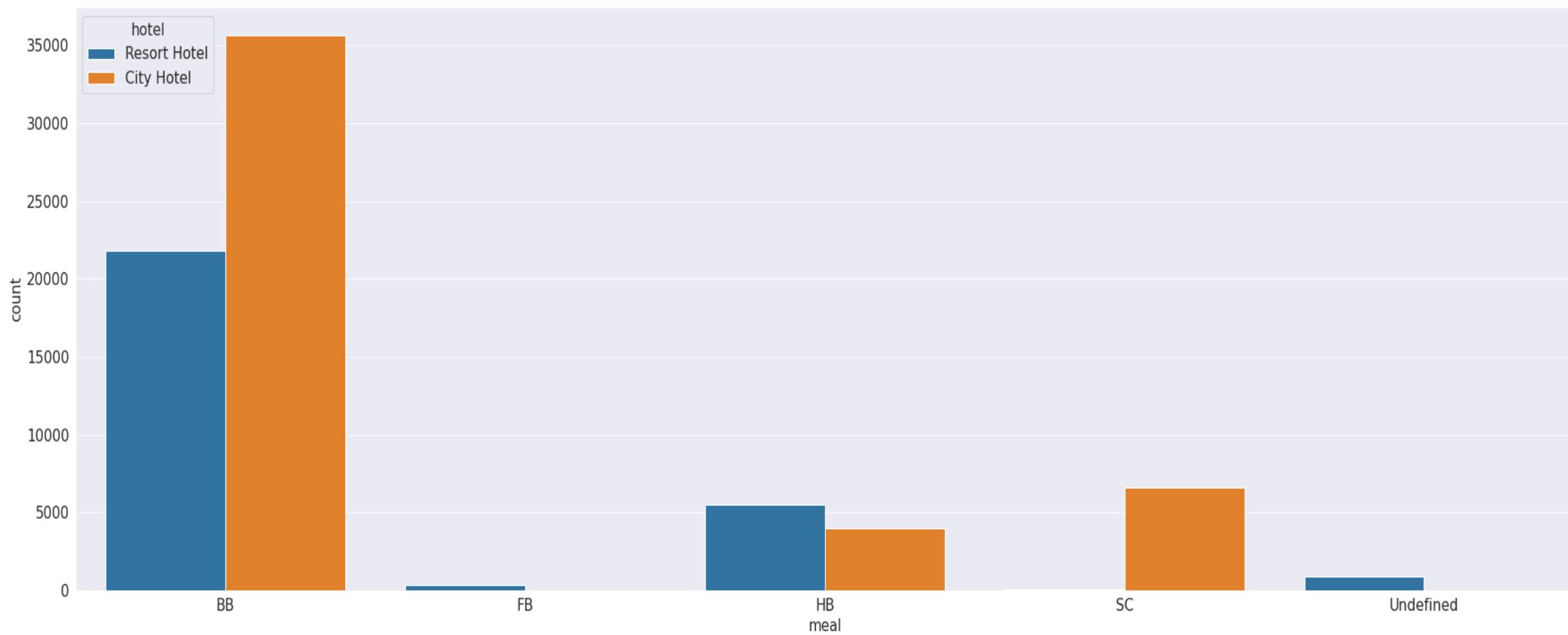
VISITORS

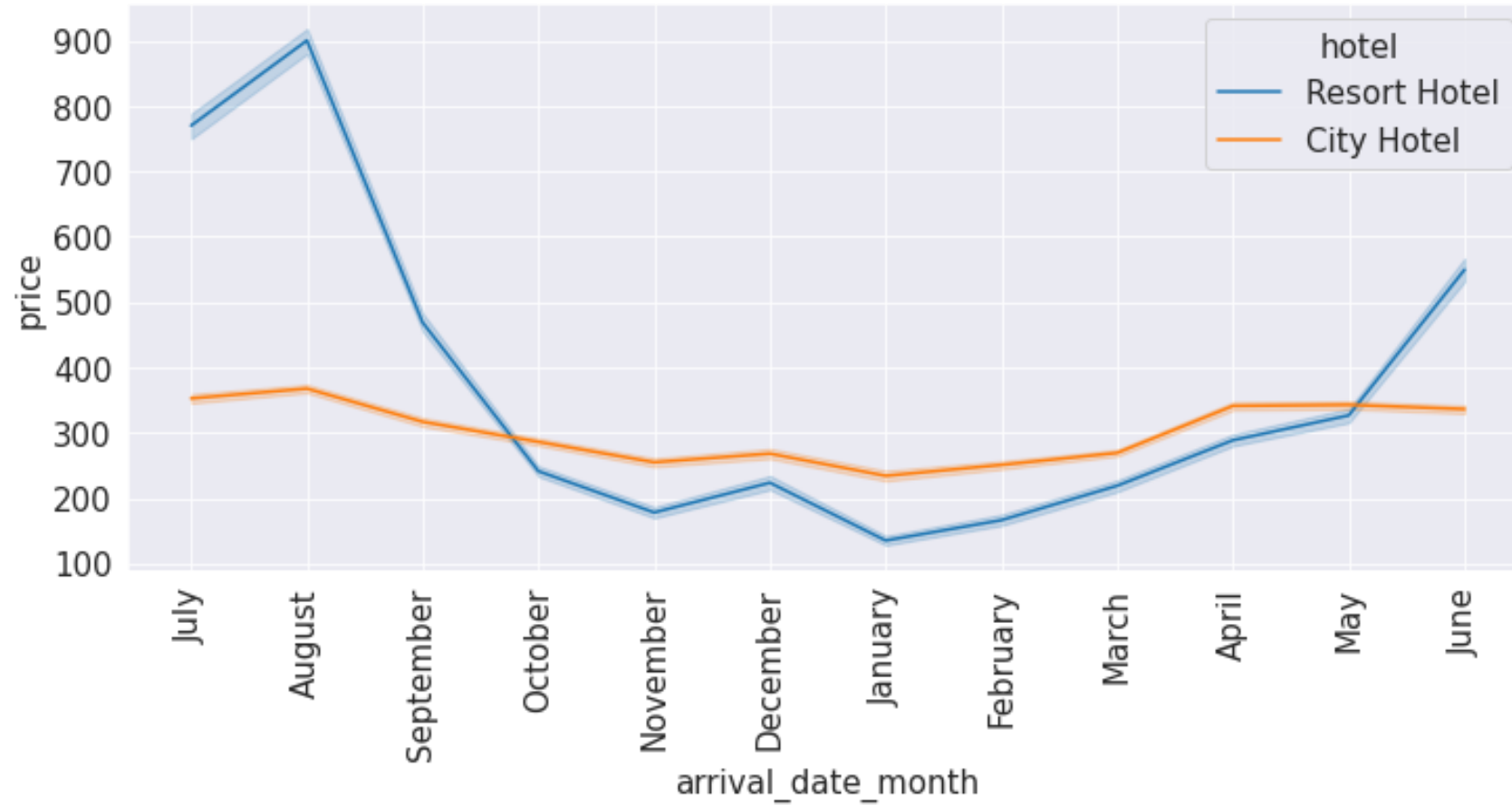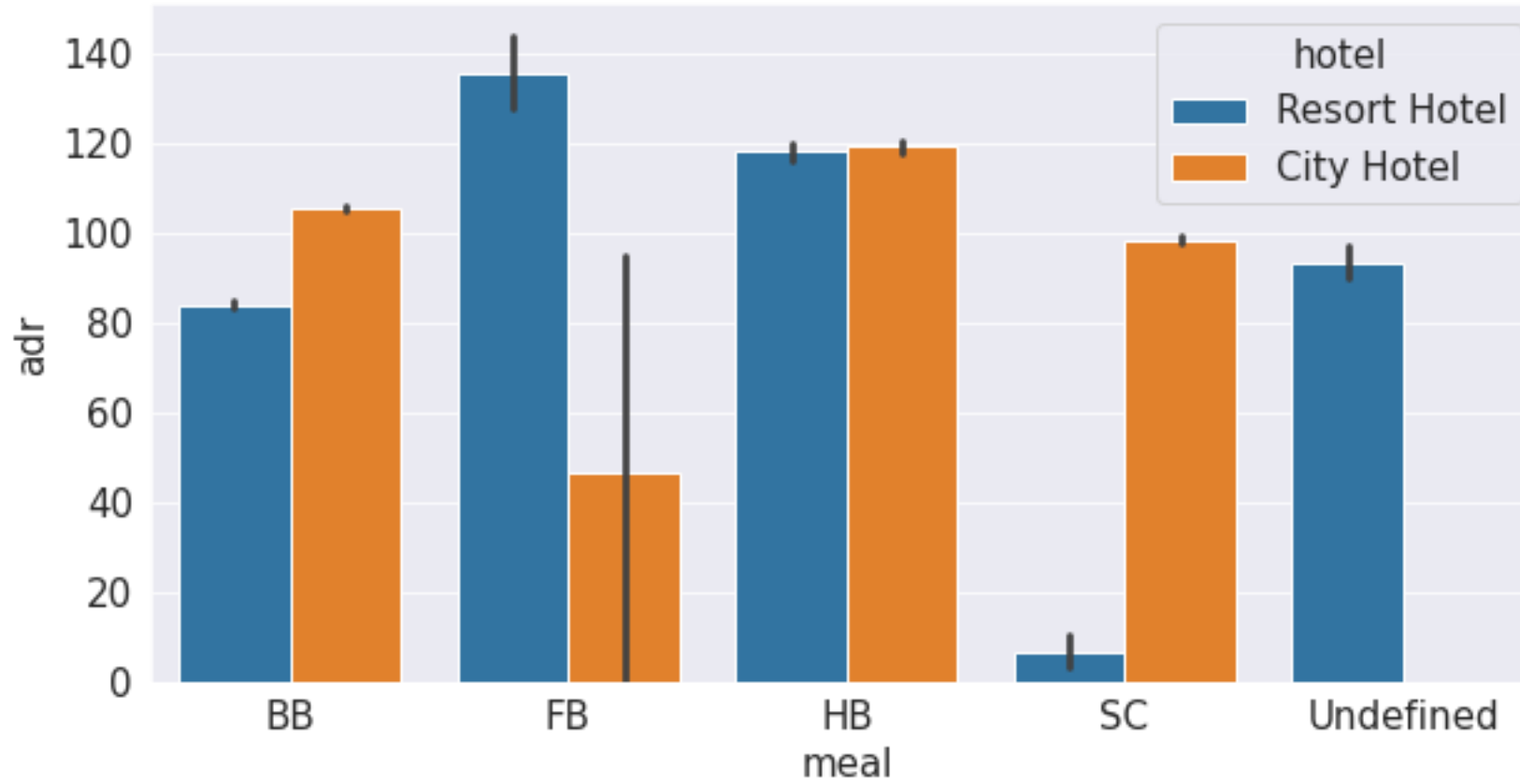# From which country more numbers of visitors

MOST PREFERRED FOOD

BEST DAILY RATE

VARIATION IN ADR WITH MEAL TYPE

BEST TIME TO BOOK HOTEL

- **City Hotel** [2015, 2016, 2017]
- **Resort Hotel** [2015, 2016, 2017]

ANALYZING SUMMARY

➢Here, some points which can help in business:

- Huge portion of hotel was city hotel.

- Best time to book hotel is 2016 and 2017.

- Majority of booking in month od august.

- Mostly visitors are adults(2 members).

- We have a huge numbers of visitors from Portugal country.

- Most prefer meal is BB(breakfast with bread).

- Price of resort hotel is much higher than the city hotel.

CHALLENGES

- Reading the dataset and understanding the meaning of some columns.

- Handling NaN values, null values and duplicate values.

- Designing multiple visualizations to summarize the information in the dataset and successfully communicate the results and trends to the reader.

- Need to plot different graphs for better understanding of data.

CONCLUSION

- Portugal, Great Britain, and France are native place of most customers.

- August is the most busiest month.

- Most of our customers were brought in by Online Travel Agents.

- Bed and Breakfast is most preferred meal package.

- In 2016, we had most customers considering overall customers whereas city hotel had more bookings compared to resort hotels.

- Most of the time, people come in pair.

- Room Type A is MOST favorite room type among customers.

- The majority of reservations are for City Hotels.

- The number of repeated guests is too low.

Thank You