Capstone Project Submission

Instructions:

i) Please fill in all the required information.

ii) Avoid grammatical errors.

Team Member's Name, Email, and Contribution:

Name: Vikas Kumar
Email: er.vikas2268@gmail.com
Contribution:

- **Prepared Technical Documentation.**
- **Contribution to Presentation.**
- **Contribution to team colab.**
- **Find the missing value, then delete it from the dataframe.**
- **Used heatmaps to analyze the relationship between the two data sets.**
- **Examination of both hotel and reservation data year-wise.**
- **Hotels lead time analysis.**
- **Based on Deposit type analysis.**
- **Contribution to writing inferences and conclusions of EDA.**

Name: Arshad Aafaq D
Email: aafaqclassic@gmail.com
Contribution:

- **Cleaning of DataSet removing null values.**
- **Contributed to the** Exploratory Data Analysis
- **Analyzed the correlation between both the data sets using heatmaps.**
- **Contributed in the Data Wrangling.**
- **Data Visualization.**
- **Prepared the presentation**
- **Prepared the summary**
- **Contributed in the collab notebook**
- **Fetched the insights from the data set.**
- **Contributed in writing inferences and conclusions of the EDA.**
- **Contributed in technical documentation.**

Name: Kaveri Shende
Email: kawerishende@gmail.com

- **Analyzed the correlation between the Data Sets**
- **Prepared the presentation.**
- **Contribution in Team Collaboratory**
- **Data cleaning and manipulation**
- **Contributed to technical documentation.**
- **Contributed to writing inferences and conclusions of the EDA**
- **Prepared individual collab**
- **Prepared the video**

Name: Sakshi Chaturvedi
Email: sakshichaturvedi0207@gmail.com
Contribution:

- **Importing data from the local drive.**
- **Importing all the important libraries**
- **Understanding the dataset (like shape, head, data information)**
- **Removing the null values and duplicates.**
- **Prepared the Presentation.**
- **Contributed in Technical documentation.**
- **Data pre-processing (like data cleaning handles null values).**
- **Done 7 questions solved (example -What is the booking rate according to the population?)**
- **Data Visualization**
- **Conclusion.**

Name: Yogesh Shivraj Agre
Email: yogeshagre62@gmail.com
Contribution:

- **In the data cleansing section, look for null values. Instead of using the 'isnull' method directly, I created a separate function called "null details" to find all of the data details.**
- **including null values, unique values, total values, and datatype.**
- **Recognized the variety of hotels that appear in our data.**
- **Determining which hotels are preferred by which age group.**
- **Focus is primarily on the presentation and colab portions.**
- **Investigated cancellation data and made several attempts to find answers.**
- **Participated in the writing of the EDA's inferences and conclusions.**

Please paste the GitHub Repo link.

https://github.com/vks2268
https://github.com/vks2268/hotel_booking_dataAnalysis

Please write a short summary of your Capstone project and its components. Describe the problem statement, your approaches, and your conclusions. (200-400 words)

The hotel sector is very unpredictable, and bookings depend on a wide range of variables, including hotel type, seasonality, day of the week, and many more. To assist the hotels in making sound planning decisions, it is crucial to analyze the patterns present in the historical data. Utilizing past data, hotels can run a number of marketing efforts to increase business.

This data set includes booking details for a city hotel and a resort hotel, column elements like as is_canceled, arrival_date_year, arrival_date_month, stays_in_weekend_nights etc, as well as details like the date the reservation was made, the length of the stay, the number of people, kids, and/or babies, and the number of parking spaces that are available.

We may utilize this research to better understand customer behavior in the hotel booking industry after analyzing the aforementioned dataset. I analyze this data set using the steps listed below: Recognize the dataset, do data cleaning, analysis, and visualization, and find the solution to some industry-type problems.

We have analyzed several significant problems that we have posed.

- Types of hotels.
- Year-wise & hotel-wise booking analysis.
- Booking rate according to the population.
- Most preferred hotel
- Type of food Preferred.
- The maximum number of guests from which country.
- Which Hotel produces more revenue?
- Most cancelations on booking.

In this research, we looked at which month was the busiest or most occupied by consumers. We came to the conclusion that August was the busiest month, with the most bookings, while January had the fewest. Further analysis revealed that City Hotel had the largest number of cancellations and the highest number of reservations. The most popular booking section is online TA. We have made an effort to study the variables influencing hotel reservations using the data at our disposal. These variables can be used to forecast upcoming reservations and report trends.