Capstone Project Submission

Instructions:

i) Please fill in all the required information.

ii) Avoid grammatical errors.

Team Member's Name, Email and Contribution:
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.
Github Link:- https://github.com/YogeshAgre1/Hotel-Booking-EDA-Capstone-Project
Please write a short summary of your Capstone project and its components. Describe the problem statement, your approaches and your conclusions. (200-400 words)

We concluded from our analysis that our dataset of hotel bookings is representative of European hotels of the visitors are of European descent. The data set includes details on reservations for two types of hotels (City Hotel and Resort Hotel). Three years' worth of hotel reservations are included in the data set (2015, 2016, 2017).

We concentrated more on the data homogeneity in order to make sure that we explored the best findings from our study. We took a few actions with the data, such as eliminating duplicate and NAN values. We used the mean value to replace a few NaNs. We ensured that data consistency was kept over the entire feature. We used exploratory data analysis to better understand our dataset using the cleaned data. Using heatmaps, we looked into the relationships between different features. We were able to extrapolate graphs and charts to obtain some important data.

Our analysis revealed that the months of June through September—especially July and August—will see a spike in hotel reservations. This is because these months are usually when Europe experiences its summers, when the country's breathtaking landscapes and natural scenes are at their most beautiful and the country's tourism industry experiences a boom. One unexpected finding from the investigation was that, even while resort hotels earn more money overall than city hotels do from reservations, resort hotels earn more money in the summer. The explanation for this might be that customers like resort hotels more for these kind of activities during the summer months when they typically go on family vacations or picnics. The resort hotels profit from this, thus they typically raise the accommodation rates. Compared to couples' and families' booking trends, the singles' (alone) booking tendency is the opposite (more than 2 people). It's odd that fewer single people make reservations during the busiest travel times; one possibility is that they are travelling in groups or with their families.

The majority of reservations are made through travel agents and tour operators, while the majority of ADRs are generated through reservations made using GDS (Global Distribution System). The hotels frequently fail to give guests the room of their choice, but this rarely results in cancellation. Hotels deal with this by offering rooms that are not preferred by the clients and lowering the room rate, which lowers the overall ADR and the hotel's profit.

The provided datasets feature amazing columns with a tonne of important data, which can be used to increase business opportunities and have a very favorable effect on both the guests and the hotel owner. The project objectives of evaluating hotel booking Data and identifying critical elements accountable for engagement and success have been met as a result of the EDA methodology that I have followed. and hotel owners can make strategic business decisions using these insights.