**Capstone Project Submission**

**Instructions:**

i) Please fill in all the required information.

ii) Avoid grammatical errors.

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| **Team Member’s Name, Email and Contribution:** |
| 1. Name - Vishal Dhore   Email I’d – [vishaldhore409@gamil.com](mailto:vishaldhore409@gamil.com)  Mob No – 8007834687  Contribution -   1. Data Sorting and Wrangling 2. Project Presentation 3. Project Summary Template 4. Approach towards plan 5. Data Visualization 6. Name - Pandurang Sakhare   Email I’d – sakharepandurang000@gmail.com  Mob No – 9096617042  Contribution -   1. Data Analysis 2. Technical Documentation 3. Bar Plot and Histogram Plot 4. Sorting of values 5. Reference Paper |
| **Please paste the GitHub Repo link.**  Github link - [VishalDhore005](https://github.com/VishalDhore005)/[Capstone\_Project](https://github.com/VishalDhore005/Capstone_Project)  Pandurang9421/Capstone-Project-1 |
| **Google Colab –**  **https://colab.research.google.com/drive/1Rg7\_DWWwOPr6Sa\_s5DxmNzOUUu3VBvlv?usp=sharing#scrollTo=QxleHobh4Vek** |
| **Please write a short summary of your Capstone project and its components. Describe the problem statement, your approaches and your conclusions. (200-400 words)**  **Problem Definition:**  For this project we will be analyzing Hotel Booking data. 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.  Hotel industry is a very volatile industry and the bookings depends on above factors and many more.  The main objective behind this project is to explore and analyse data to discover important factors that govern the bookings and give insights to hotel management which can perform various campaigns to boost the business and performance. |
| We are provided with a hotel bookings dataset.  Out main objective is perform EDA on the given dataset and draw useful conclusions about general trends in hotel bookings and how factors governing hotel bookings interact with each other  **EDA on Given Data Set :**  **Cleaning data**  Cleaning data is crucial step before EDA as it will remove the ambiguous data that can affect the outcome of EDA.  While cleaning data we will perform following steps: \ 1) Remove duplicate rows \ 2) Handling missing values. \ 3) Convert columns to appropriate data types. \ 4) Adding important columns **Handling null values**  * Null values in Columns, Company and agent were replaced by 0. * Null values in column country were replaced by 'others'. * Null values in column children were replaced by the mean of the column.  **Converting columns to appropriate data types**  * Changed data type of children, company, agent to int type. * Changed data type of reservation\_status\_date to date type.   **Performed EDA and tried answering the following questions:**  1) Which agent made most of bookings?  2) Which room type is in most demand and which room type generates highest adr?  3) What is the most preferred meal by customers?  4) Percentage of bookings in each hotels?  5) Which hotel has high chance that its customer will return for another stay?  6) Which is the most common channel for booking hotels?  7) Which hotel has higher bookings cancellation rate?  8) Which channel is mostly used for early booking of hotels? |
| **Conclusion :**   * Around 60% bookings are for City hotel and 40% bookings are for Resort hotel, therefore City Hotel is busier than Resort hotel. Also the overall of City hotel is slightly higher than Resort hotel. * Mostly guests stay for less than 5 days in hotel and for longer stays Resort hotel is preferred. * Both hotels have significantly higher booking cancellation rates and very few guests less than 3 % return for another booking in City hotel. 5% guests return for stay in Resort hotel. * Most of the guests came from European countries, with most no. of guest coming from Portugal. * Guests use different channels for making bookings out of which most preferred way is TA/TO. * For hotels higher ADR deals come via GDS channel, so hotels should increase their popularity on this channel. * Almost 30% of bookings via TA/TO are cancelled. |
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