**Hotel Bookings Data Preprocessing & Storage - Report**

**Objective**

The goal of this project is to preprocess hotel booking data, handle missing values, create meaningful features, and store the cleaned dataset for further analysis.

**Data Cleaning & Preprocessing**

**1. Handling Missing Values**

* **'country'**: Filled with the most frequent value (mode).
* **'agent' & 'company'**: Filled with the median value.

**2. Date Conversion & Feature Engineering**

* Converted **'reservation\_status\_date'** into DateTime format.
* Extracted **year, month, and day** for trend analysis.
* Created **'total\_nights'** as the sum of weekend and weekday stays.
* Computed **'weekend\_stay\_ratio'** to analyze the proportion of weekend stays.

**3. Data Transformation**

* Standardized **'adr'** (Average Daily Rate) using StandardScaler to normalize the distribution.

**Data Storage & Export**

* **Cleaned data saved as:** cleaned\_hotel\_bookings.csv
* **Stored in SQLite database:** hotel\_bookings.db (table: bookings)