# Titanic Dataset — Exploratory Data Analysis (EDA) Report

This report describes the EDA process applied to the Titanic training dataset. It contains the methodology, recommended plots, suggested data cleaning steps, and expected business insights. Run the provided Jupyter notebook to generate exact figures.

Methodology:
1. Load data and inspect using df.info(), df.describe(), df.isnull().sum().
2. Clean column names, convert types, and handle missing values.
3. Univariate analysis (histograms, boxplots).
4. Bivariate analysis (countplots, barplots by target variable).
5. Correlation analysis for numeric variables.
6. Grouping to derive business insights (e.g., survival by sex/pclass).

Expected Key Insights (typical for Titanic):
- Females have a significantly higher survival rate than males.
- Passengers in 1st class had higher survival probability.
- Children and passengers with higher fares tended to have better survival rates.
Note: Please run the notebook to compute exact percentages and figures for your version of the dataset.

Deliverables included in the GitHub repository:
- Titanic_EDA_Notebook.ipynb (Jupyter notebook with full EDA code)
- Titanic_EDA_Report.pdf (this report)
- titanic_train_cleaned.csv (cleaned dataset produced by the notebook)
- README.md summarizing steps and findings