**Exploratory Data Analysis Report - Titanic Dataset**

This report presents the findings from exploratory data analysis (EDA) conducted on the Titanic dataset.

The primary goal was to uncover patterns, trends, and relationships among features that influenced passenger survival during the Titanic disaster.

1. Demographics & Survival Patterns:

* Females had a much higher survival rate than males.
* Children (Age < 10) showed higher survival, supporting the "women and children first" rule.
* The median age of survivors was lower than non-survivors.

2. Socioeconomic Impact:

* 1st class passengers had significantly higher survival rates.
* Fare and Pclass are negatively correlated; higher class meant higher fare and better survival odds.

3. Fare Insights:

* Fare distribution is right-skewed with several high-paying outliers.
* Higher fares generally correlate with increased survival probability.

4. Data Quality:

* Age column contains missing values.
* No critical multicollinearity found in numeric features.

5. Correlation Analysis:

* Fare is positively correlated with survival.
* Pclass is negatively correlated with survival.

Visuals used include histograms, boxplots, bar plots, pairplots, and heatmaps.











