

# Task 5 – Exploratory Data Analysis (EDA)

**Dataset:** Titanic Dataset

## Objective

The objective of this task is to perform Exploratory Data Analysis (EDA) to understand the structure of the dataset, identify patterns, relationships, and trends using statistical summaries and data visualizations.

## Exploratory Analysis Performed

Univariate Analysis: Examined individual variables such as age distribution and gender composition to understand overall data distribution.

Bivariate Analysis: Analyzed relationships between two variables such as survival vs gender and fare vs survival to identify influencing factors.

Multivariate Analysis: Used correlation analysis to understand relationships among multiple numerical variables.

## Key Insights

- Majority of passengers were between 20 and 40 years of age.
- Female passengers had a higher survival rate compared to males.
- Passengers paying higher fares showed better survival chances.
- Passenger class had a noticeable influence on survival probability.

## Conclusion

The EDA process helped uncover meaningful patterns and relationships within the dataset. These insights demonstrate how visual and statistical exploration can support data-driven decision making.