**Titanic Dataset Summary (Exploratory Data Analysis)**

**1. Dataset Overview**

* Total passengers: **891**
* Key variables: PassengerId, Survived, Pclass, Name, Sex, Age, SibSp, Parch, Ticket, Fare, Cabin, Embarked.
* Target variable: **Survived** (0 = No, 1 = Yes).

**2. Survival Insights**

* **Overall Survival Rate:** ~38%.
* **By Gender:** Females had a much higher survival rate than males.
* **By Class:** 1st Class passengers had the highest survival rate, 3rd Class the lowest.
* **By Age:** Children had better survival rates than adults.

**3. Passenger Demographics**

* Majority of passengers were male (~65%).
* Most passengers were in the age range of **20–40 years**.
* **Pclass distribution:** Largest group was in 3rd Class, followed by 1st and 2nd Class.

**4. Fare & Class**

* Higher ticket fares were generally associated with 1st Class and higher survival chances.
* 3rd Class fares were significantly lower and had lower survival rates.

**5. Missing Data**

* **Age:** Missing values present (~19%).
* **Cabin:** Missing for most passengers (~77%).
* **Embarked:** Missing for 2 passengers.

**Key Takeaways:**

* Survival was strongly influenced by **gender, class, and age**.
* Women, children, and higher-class passengers had better chances of survival.
* Missing data, especially in Age and Cabin, needs to be addressed before deeper analysis or model building.