**🚢 30 Days of Data Challenge - Day 3: Titanic Survival Analysis**

**Project Overview 📝**

This project is an **Exploratory Data Analysis (EDA)** of the historical Titanic passenger manifest, completed as part of the 30-Days of Data Challenge.

The primary goal was to move beyond simple counts and create an **interactive dashboard** in Power BI to analyze the demographics and uncover the key statistical factors influencing survival.

**🎯 Key Questions Addressed**

* **Survival by Class:** What was the survival probability for 1st, 2nd, and 3rd class passengers?
* **Gender Bias:** What was the difference in survival rates between male and female passengers?
* **Age Profile:** Did children and the elderly have different survival chances compared to the general population?
* **Fare vs. Survival:** Was there a correlation between the ticket price a passenger paid and their outcome?

**🛠️ Tools & Technologies**

| **Tool** | **Purpose** |
| --- | --- |
| **Power BI Desktop** | Visualization, Dashboard Creation, and Data Modeling. |
| **Power Query** | Data cleaning, transformation, and handling of missing values (e.g., Age). |
| **DAX** | Creating explicit measures for key metrics (e.g., Average Survival Rate). |
| **Source Data** | titanic\_dataset.csv |

**📊 Dashboard Summary**

The final Power BI dashboard provides an interactive view of these findings:

1. **Survival Rate by Class:** A clear visualization showing the dramatic difference in survival rates across the three classes.
2. **Age Distribution Analysis:** Histograms comparing the age of survivors vs. non-survivors.
3. **Passenger Metrics:** KPI cards displaying total passengers, overall survival rate, and counts by embarkation port.

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**📁 Repository Contents**

* **Titanic\_Analysis.pbix**: The **full Power BI project file** containing all the imported data, Power Query steps, DAX measures, and the completed dashboard.
* **titanic\_dataset.csv**: The raw dataset used for the analysis.
* **README.md**: This document.

**Get Started**

To view and interact with the full analysis:

1. Ensure you have **Power BI Desktop** installed.
2. Download the **Titanic\_Analysis.pbix** file from this repository.
3. Open the file in Power BI Desktop.