■ Titanic Data Analytics Project – Day 10 Final Integration

■ Project Overview

This project was created as part of the Python Data Analytics Coding Challenge (Day 10 – Final Integration) using the Titanic dataset. The objective is to analyze passenger demographics, class, and survival outcomes using Python libraries such as Pandas, NumPy, Matplotlib, and Seaborn.

■ Tools & Libraries Used

Python 3, Pandas, NumPy, Matplotlib, Seaborn

■ Key Steps

1. **Data Import & Cleaning** – Handled missing values, removed duplicates, and verified data types. 2. **Exploration** – Used head(), info(), describe(), and value_counts() for dataset understanding. 3. **Visualization** – Plotted survival by gender and class, age and fare distribution, and correlation heatmap. 4. **Insights** – Identified key survival trends and correlations.

■ Key Insights

- Females and first-class passengers had the highest survival rates. - Fare positively correlates with survival probability. - Lower-class passengers faced higher mortality rates.

■ Learnings

This project enhanced understanding of real-world data analysis through: - Cleaning and preprocessing of missing or inconsistent data. - Statistical analysis and visual storytelling. - Deriving actionable insights from exploratory data analysis (EDA).

■ Files Included

File Name	Description
Titanic_Data_Analytics_Day10.ipynb	Google Colab notebook with full code
Titanic_Data_Analytics_Day10_Documentation.pdf	Comprehensive project documentation
Titanic_Project_README.pdf	This summary README for GitHub

■ Author

Your Name Here – Python Data Analytics Challenge Participant