Passenger_Data_Analysis_Report

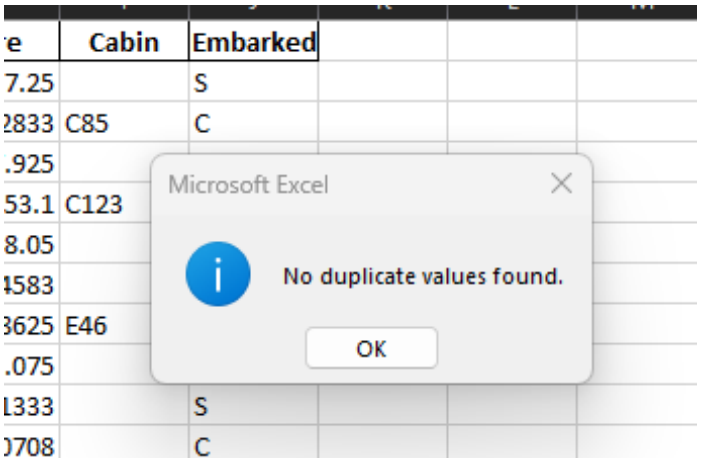
Objective

To explore, clean, analyze, and visualize the Titanic passenger dataset to extract meaningful insights, and present the findings in a clear, professional dashboard.

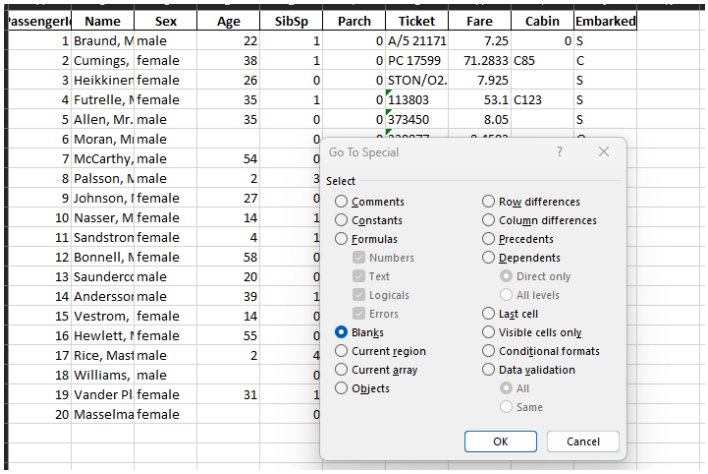
Tasks Performed

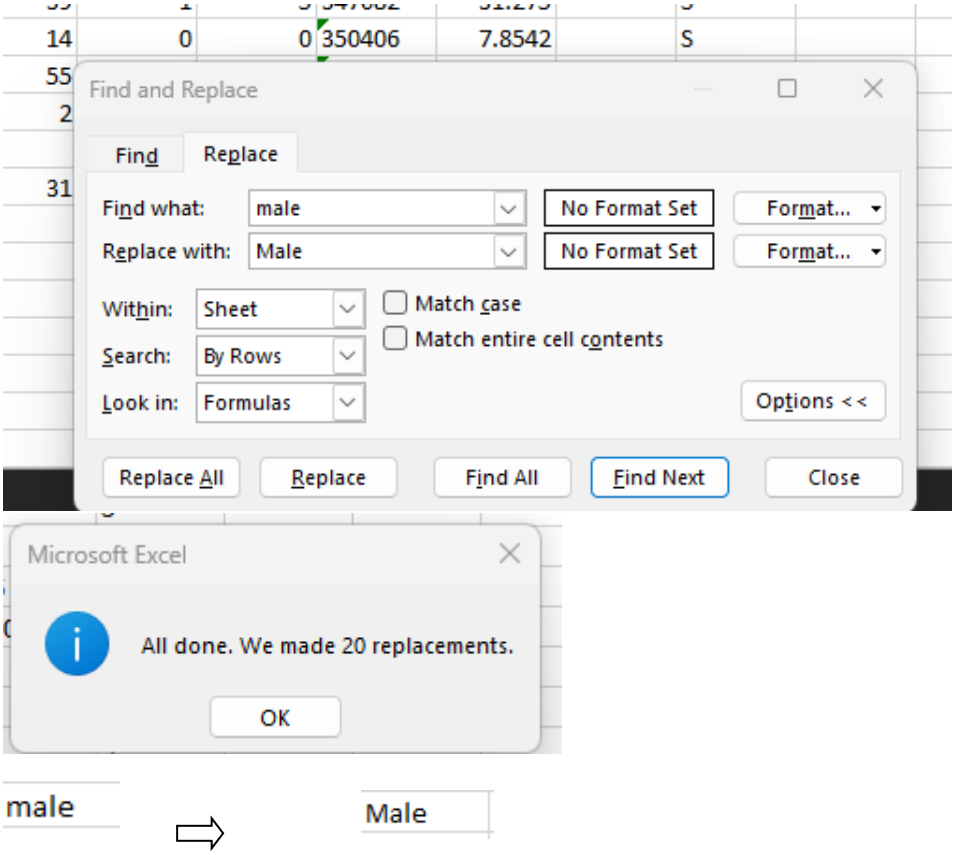
Data Cleaning

- Removed duplicate rows (0 found).



- Handled 16 missing values by filling them with 0.



- Standardized inconsistent categories (e.g., gender labels).
- 

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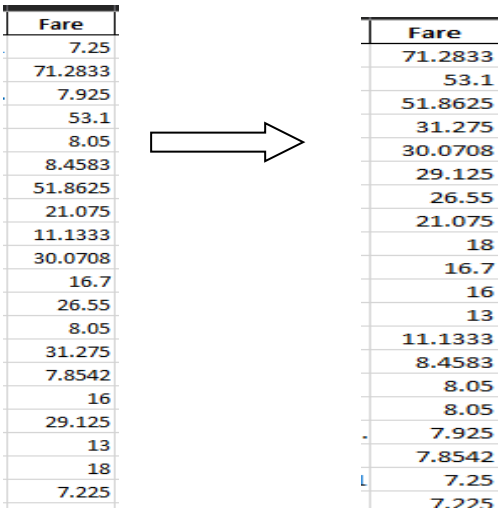
Data Analysis

- Calculated highest, lowest, and average fares.
- 

Fare
7.25
71.2833
7.925
53.1
8.05
8.4583
51.8625
21.075
11.1333
30.0708
16.7
26.55
8.05
31.275
7.8542
16
29.125
13
18
7.225

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71.2833
53.1
51.8625
31.275
30.0708
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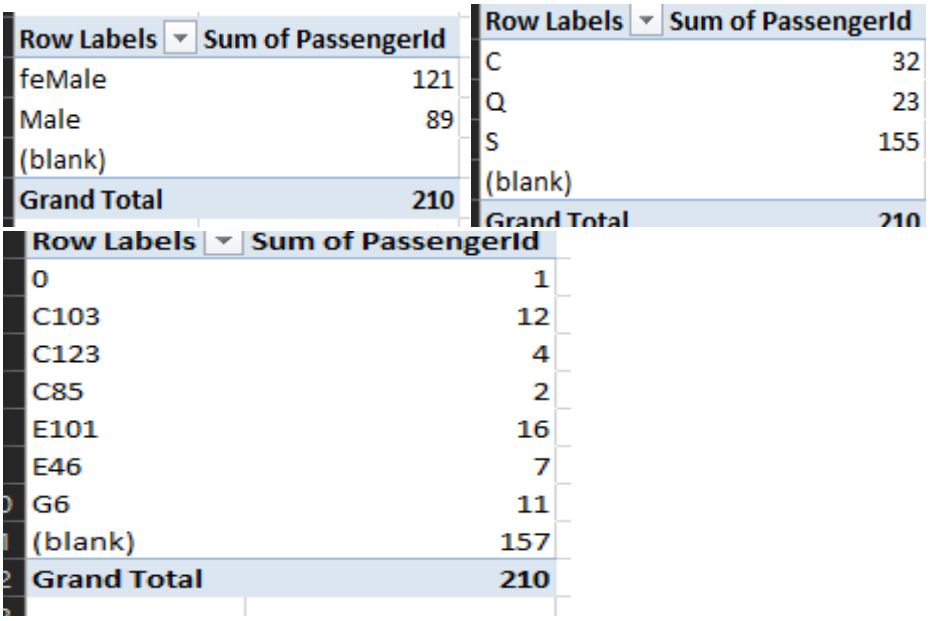
7.925
7.8542
7.25
7.225

- LARGEST ⟹ 71.2833
- SMALLEST ⟹ 7.225
- AVERAGE ⟹ 22.19937
- Counted passengers by gender, embarked port, and class.
- 

Row Labels	Sum of PassengerId
feMale	121
Male	89
(blank)	
Grand Total	210

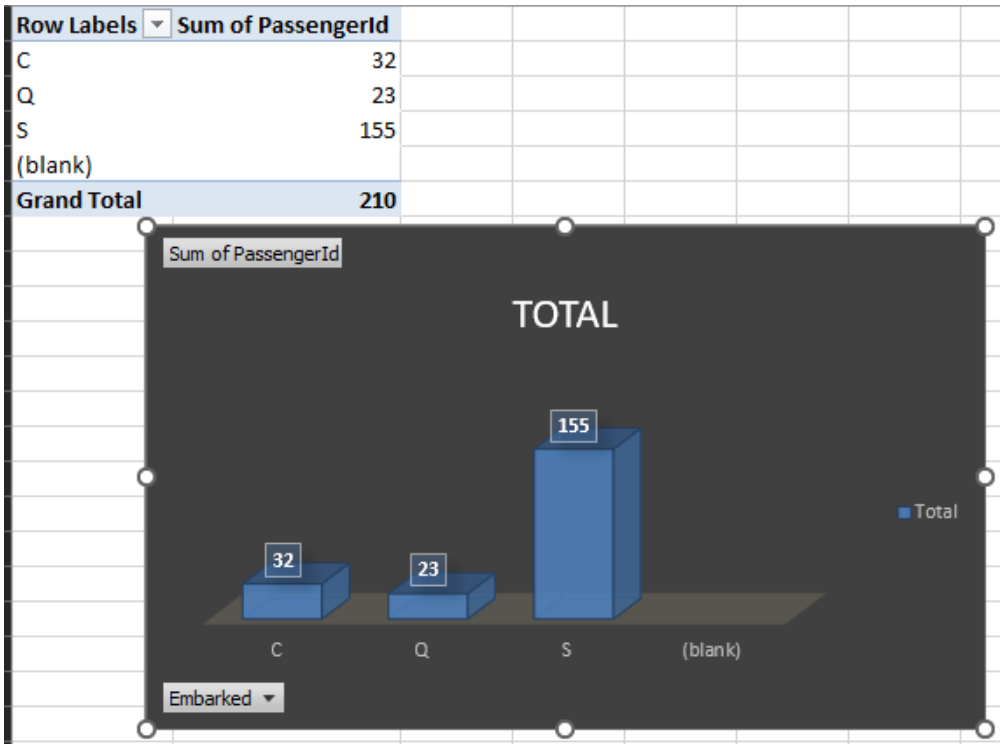
Row Labels	Sum of PassengerId
C	32
Q	23
S	155
(blank)	
Grand Total	210

Row Labels	Sum of PassengerId
0	1
C103	12
C123	4
C85	2
E101	16
E46	7
G6	11
(blank)	157
Grand Total	210

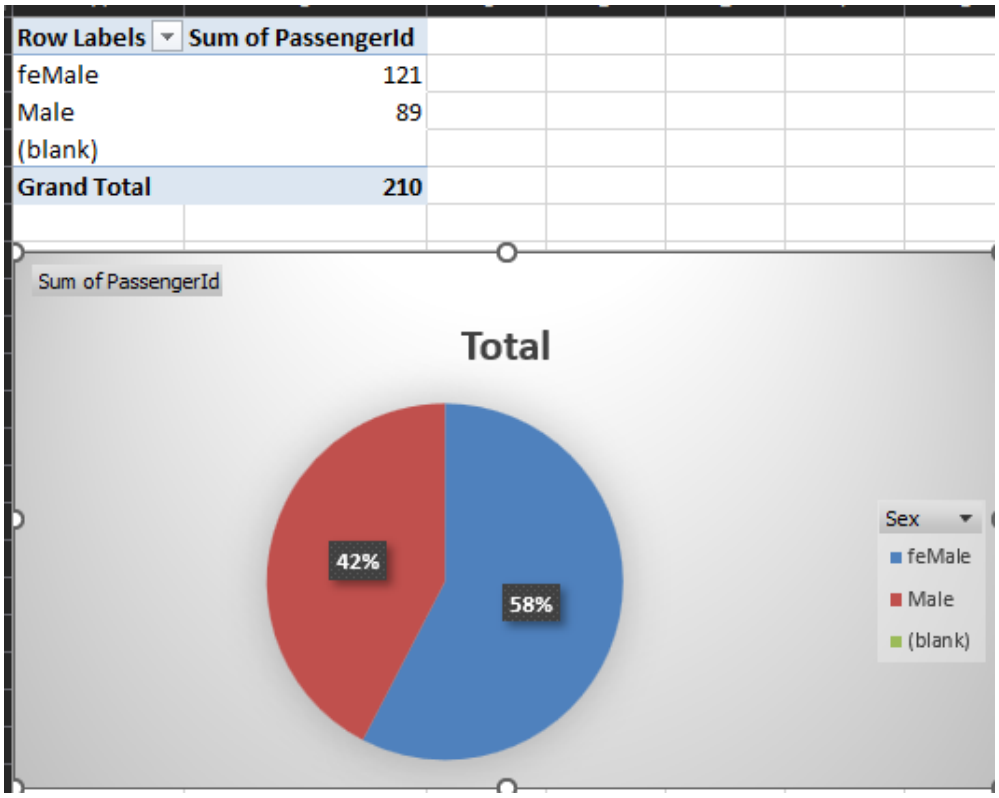
- Observed trends and anomalies in the data.

Data Visualization

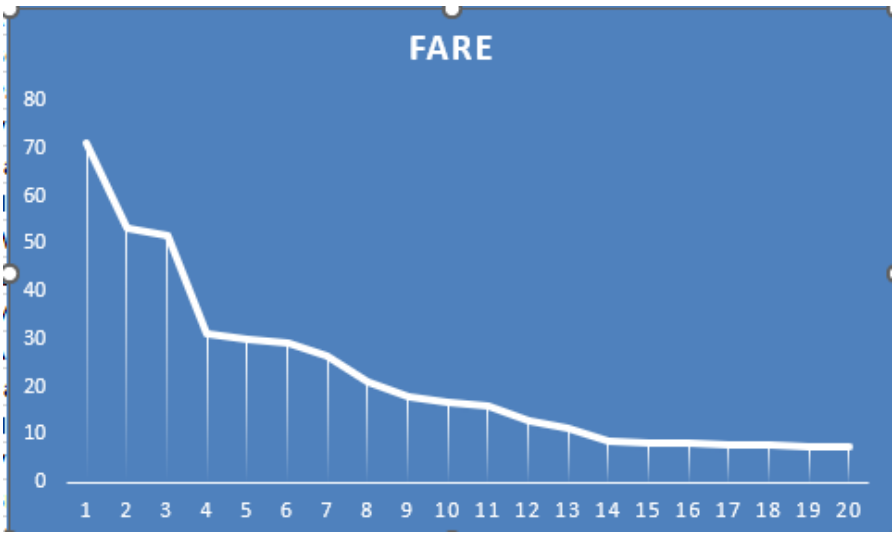
- Created a **Bar Chart** to show passengers by embarkation port.



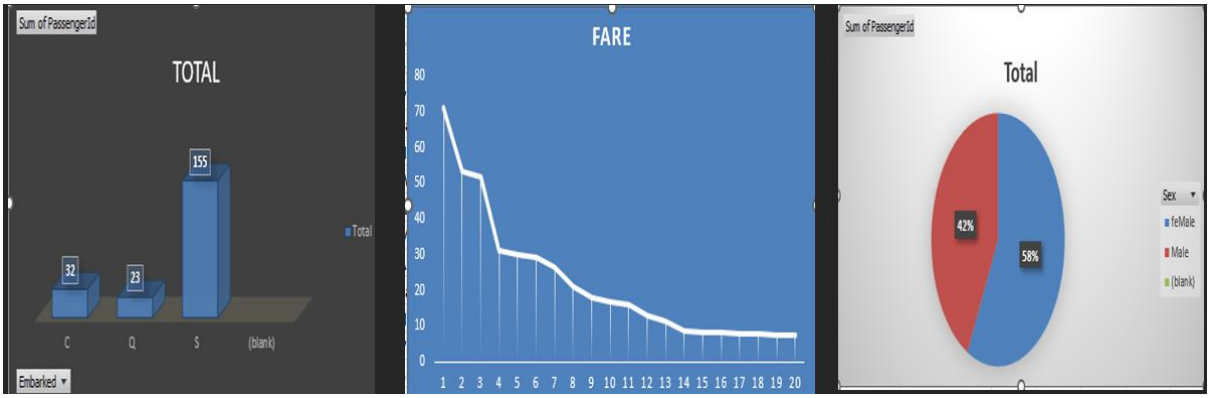
- Created a **Pie Chart** to show gender distribution.



- Created a **Line Chart** to show fare trends across passengers.



- Combined all charts into a professional dashboard.



Key Insights

Counted passengers by:

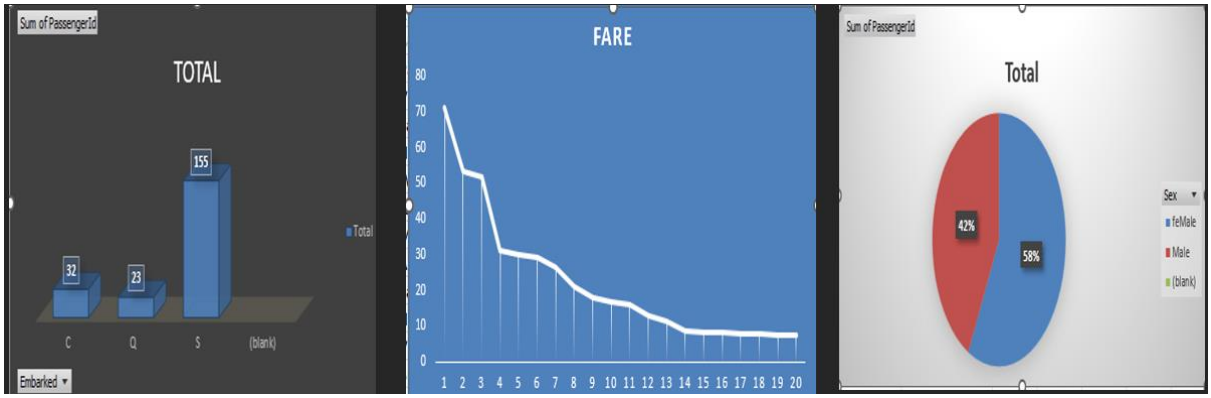
- **Gender: Female (121), Male (89)**
- **Embarkation Port: S (155), C (32), Q (23)**

Calculated Fare statistics:

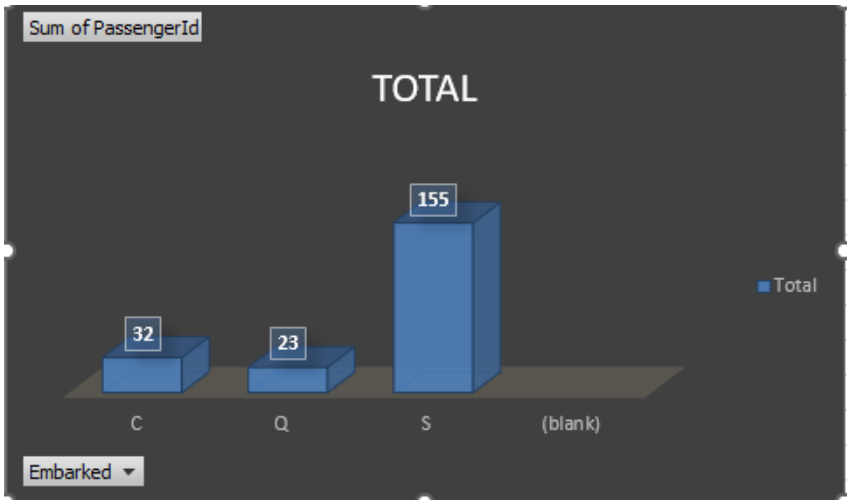
- **Largest Fare: 71.2833**
- **Smallest Fare: 7.225**
- **Average Fare: 22.19937**

Visualizations

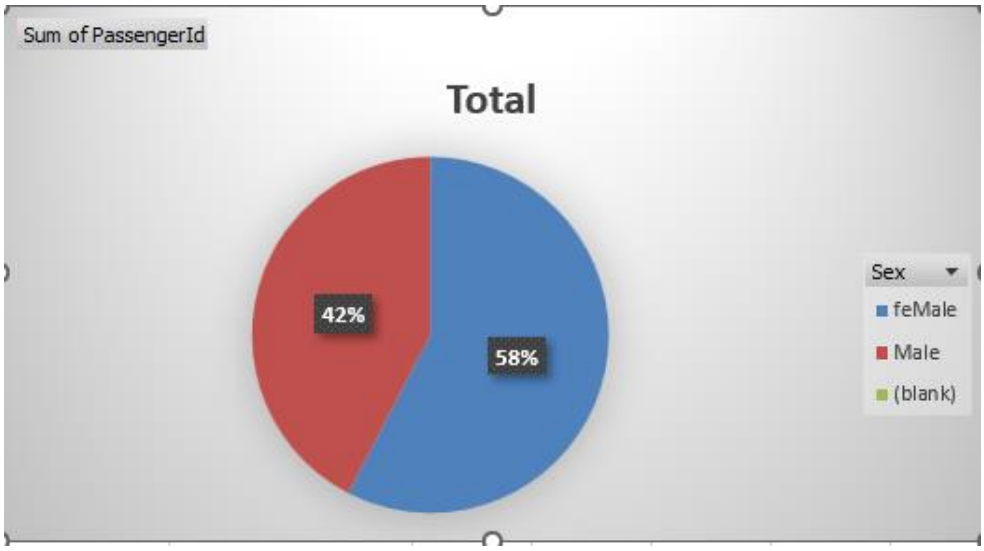
Dashboard



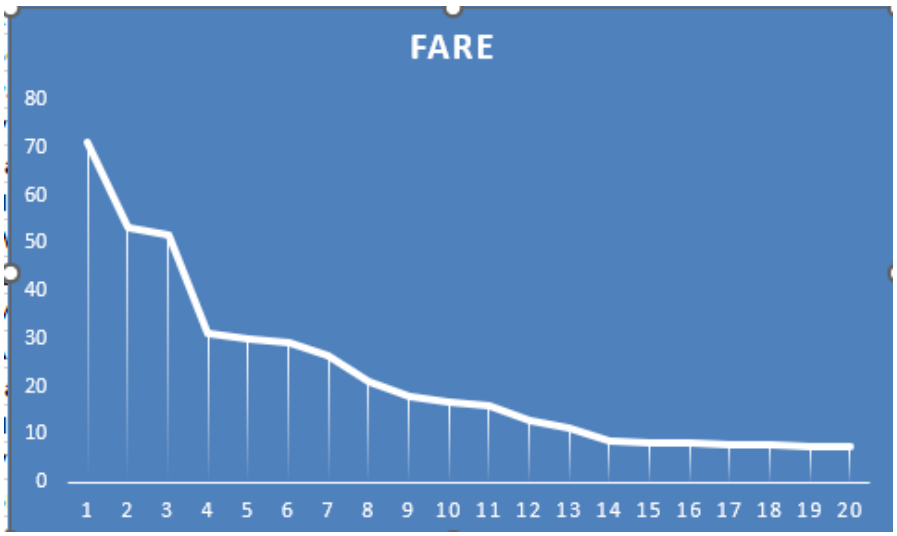
Bar Chart: Passengers by Embarkation Port



Pie Chart: Gender Distribution



Line Chart: Fare Trend



Skills Demonstrated

Step 1 — Data Exploration

✓ Opened the Titanic dataset in Excel.
✓ Understood the rows & columns (features like Name, Age, Fare, Embarked, etc.).
✓ Identified numerical vs categorical columns.

Step 2 — Data Cleaning

✓ Checked for duplicate rows → found **0 duplicates**.
✓ Found missing values → filled them (with 0 or appropriate values).
✓ Standardized inconsistent categories (e.g., male, MALE → Male).

Step 3 — Data Analysis

✓ Counted passengers by:

- **Gender:** Female (121), Male (89)
- **Embarkation Port:** S (155), C (32), Q (23)
  ✓ Calculated Fare statistics:
- **Largest Fare:** 71.2833
- **Smallest Fare:** 7.225
- **Average Fare:** 22.19937

Step 4 — Data Visualization

✓ Created key charts:

- **Bar Chart:** Passengers by Embarkation Port
- **Pie Chart:** Gender Distribution
- **Line Chart:** Fare trend across passengers
  ✓ Combined the charts into a clean **Dashboard** in Excel.

Step 5 — Reporting & Packaging

✓ Drafted a professional project report template (Objective, Tasks, Insights, Visualizations, Skills).
✓ Inserted your analysis results into the report.
✓ Planned to add screenshots of charts & dashboard into the final PDF.
✓ Learned how to save & name your files properly:

Skills You Practiced

- Data Cleaning
- Data Analysis (descriptive statistics & counts)
- Data Visualization (Bar, Pie, Line charts)
- Dashboard design
- Reporting & documentation
- Storytelling with data
