

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

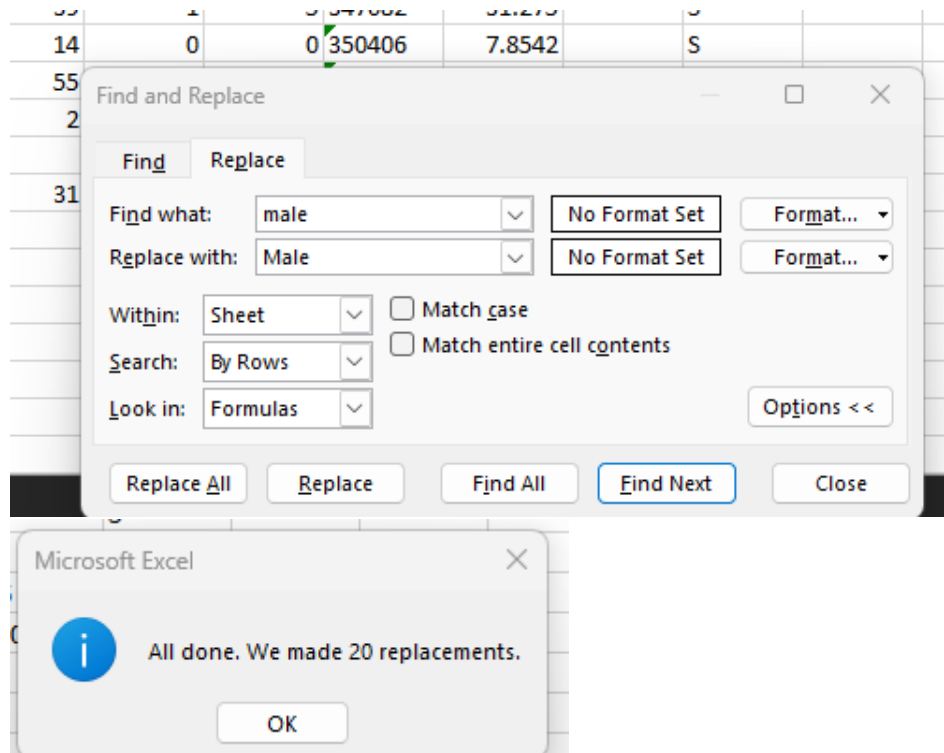
- Removed duplicate rows (0 found).

e	Cabin	Embarked
7.25		S
2833	C85	C
.925		
53.1	C123	
8.05		
1583		
3625	E46	
.075		
1333		S
708		C

- Handled 16 missing values by filling them with 0.

PassengerId	Name	Sex	Age	SibSp	Parch	Ticket	Fare	Cabin	Embarked
1	Braund, M	male	22	1	0	A/5 21171	7.25	0	S
2	Cumings, female	female	38	1	0	PC 17599	71.2833	C85	C
3	Heikkinen, female	female	26	0	0	STON/O2.	7.925		S
4	Futrelle, female	female	35	1	0	113803	53.1	C123	S
5	Allen, Mr.	male	35	0	0	373450	8.05		S
6	Moran, M	male		0	0				
7	McCarthy, male	male	54	0	0				
8	Palsson, N	male	2	3	0				
9	Johnson, female	female	27	0	0				
10	Nasser, M	female	14	1	0				
11	Sandstrom, female	female	4	1	0				
12	Bonnell, female	female	58	0	0				
13	Saunders, male	male	20	0	0				
14	Andersson, male	male	39	1	0				
15	Vestrom, female	female	14	0	0				
16	Hewlett, female	female	55	0	0				
17	Rice, Mrs.	male		2	4				
18	Williams, male	male		0	0				
19	Vander Planck, female	female	31	1	0				
20	Masselman, female	female		0	0				

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



- male

➡

Male

Data Analysis

- Calculated highest, lowest, and average fares.

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

- LARGEST → 71.2833
- SMALLEST → 7.225
- AVERAGE → 22.19937

- Counted passengers by gender, embarked port, and class.

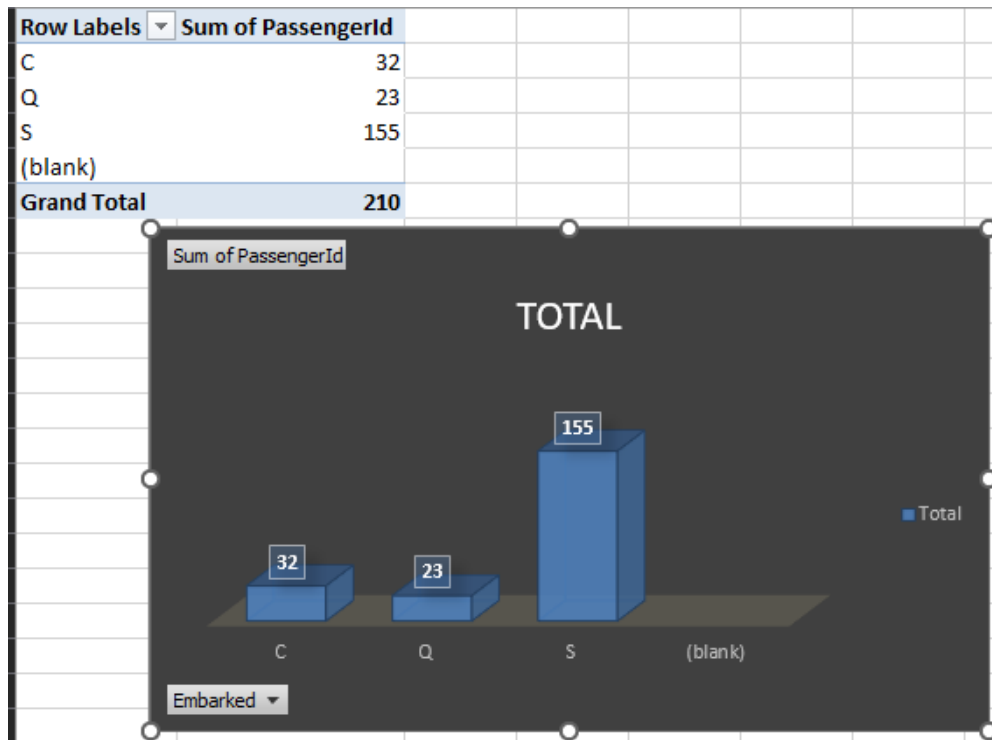
Row Labels	Sum of PassengerId	Row Labels	Sum of PassengerId
feMale	121	C	32
Male	89	Q	23
(blank)		S	155
Grand Total	210	(blank)	
		Grand Total	210

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

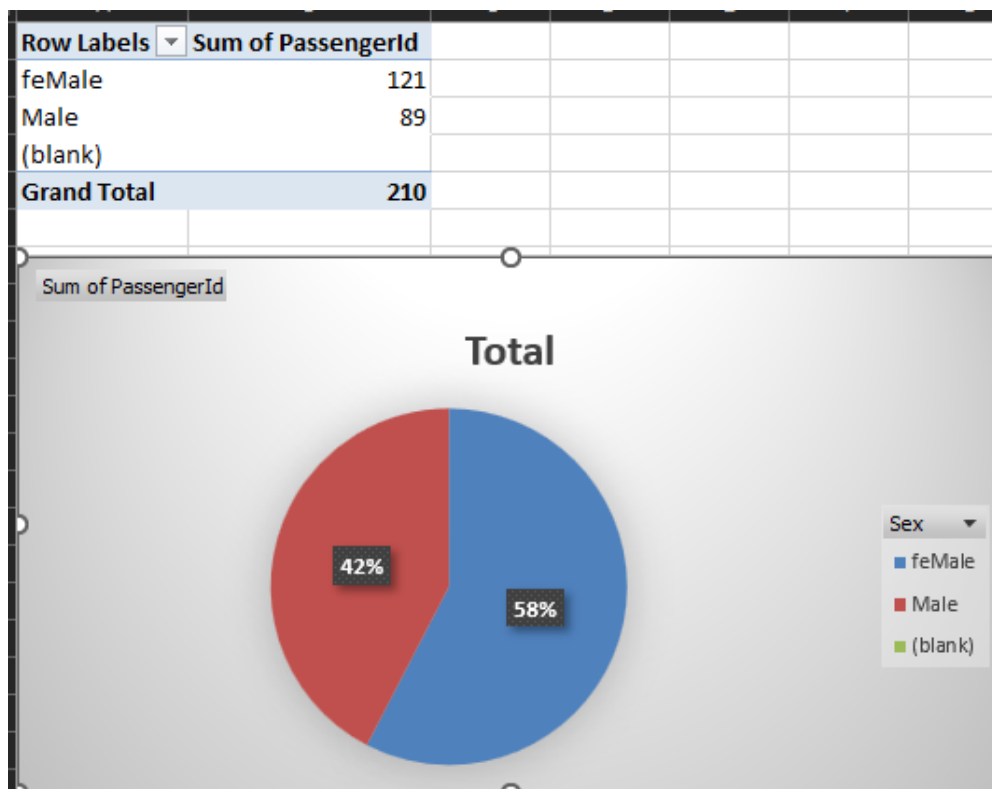
- Observed trends and anomalies in the data.

Data Visualization

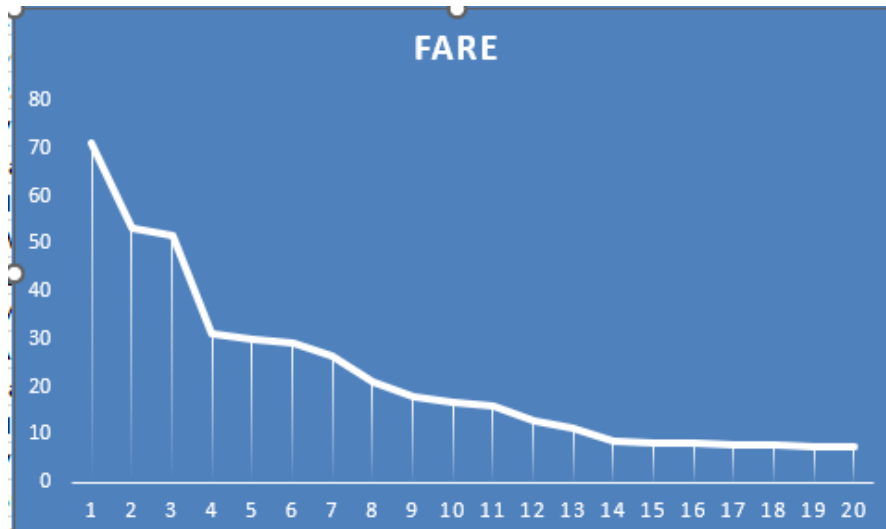
- Created a **Bar Chart** to show passengers by embarkation port.



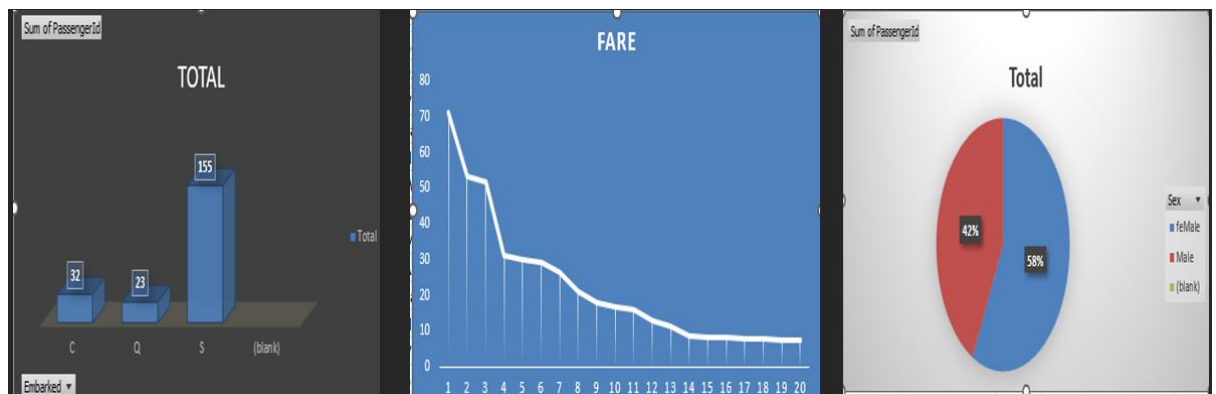
- Created a **Pie Chart** to show gender distribution.



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



- Combined all charts into a professional dashboard.



Key Insights

Counted passengers by:

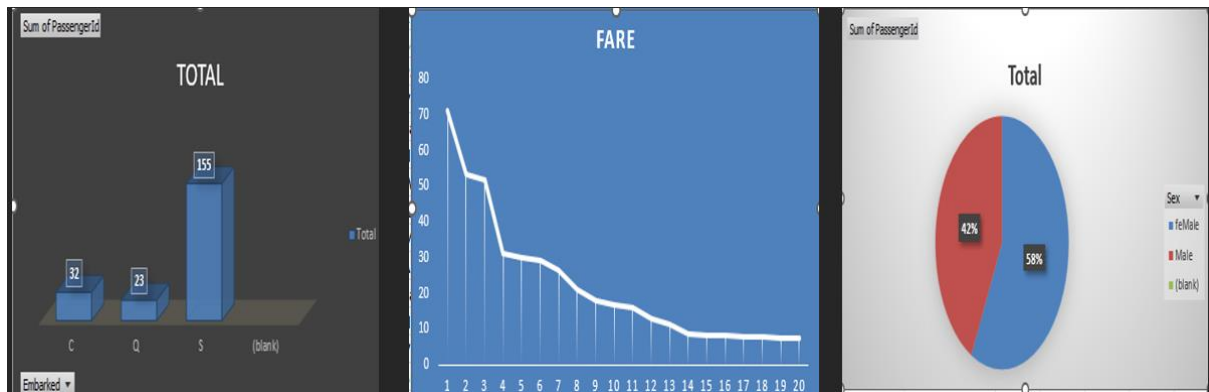
- Gender:** Female (121), Male (89)
- Embarkation Port:** S (155), C (32), Q (23)

Calculated Fare statistics:

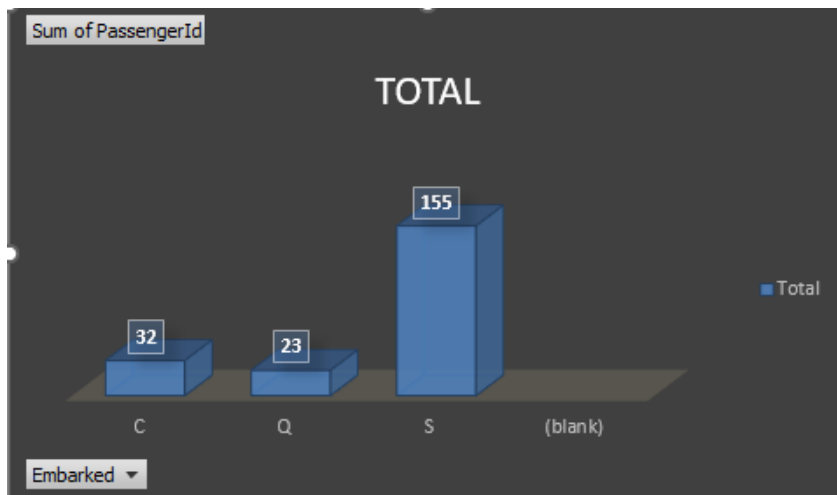
- Largest Fare:** 71.2833
 - Smallest Fare:** 7.225
 - Average Fare:** 22.19937
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Visualizations

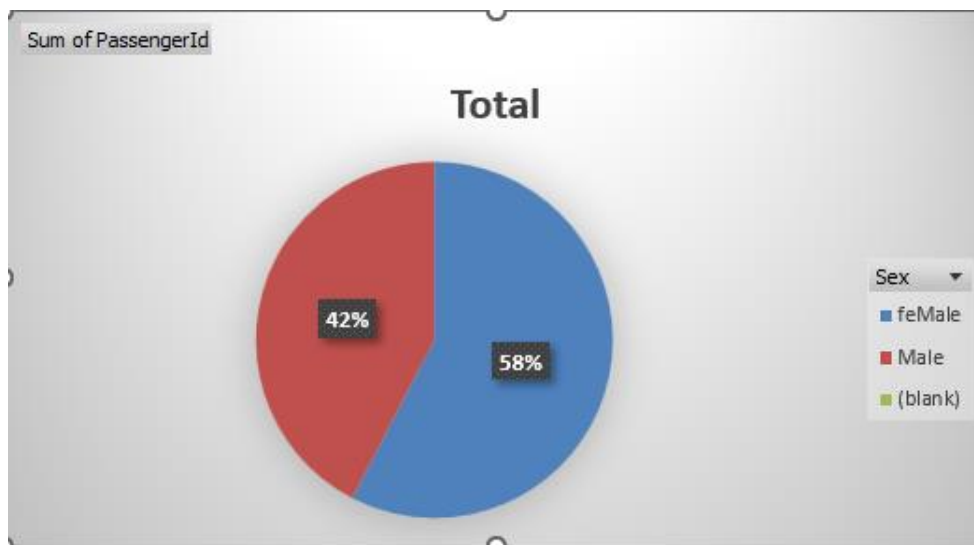
Dashboard



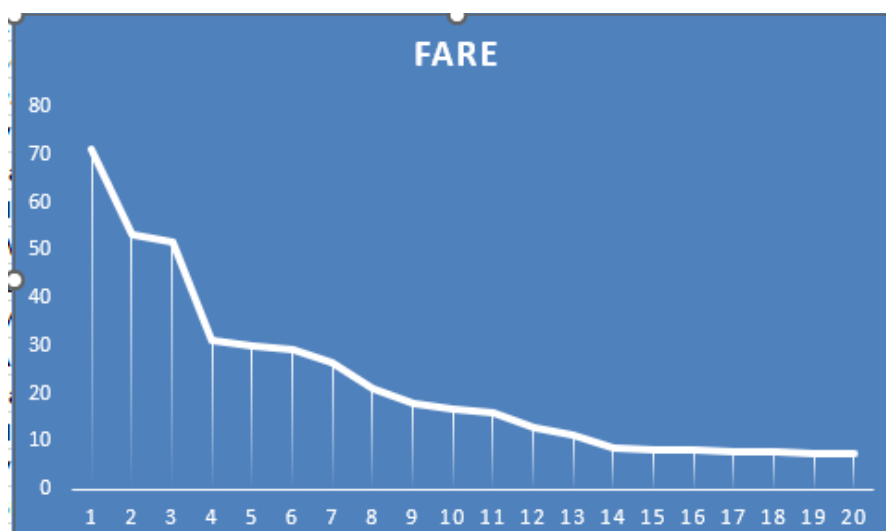
Bar Chart: Passengers by Embarkation Port



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.
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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).
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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
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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.
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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
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