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1 C:\Users\kavan\PyCharmMiscProject\venv\Scripts\python.exe "C:\Users\kavan\PyCharmMiscProject\AIML INTERNSHIP\task7.py"
2 Dataset loaded successfully!
3
4      survived  pclass      sex   age   ...
5      0          3    male  22.0   ...
6      1          1  female  38.0   ...
7      2          3    female  26.0   ...
8      3          1  female  35.0   ...
9      4          0    male  35.0   ...
10
11 [5 rows x 15 columns]
12
13 Dataset Info:
14 <class 'pandas.core.frame.DataFrame'>
15 RangeIndex: 891 entries, 0 to 890
16 Data columns (total 15 columns):
17 #   Column   Non-Null Count   Dtype  
18 --- 
19  0   survived   891 non-null   int64  
20  1   pclass     891 non-null   int64  
21  2   sex        891 non-null   object  
22  3   age        714 non-null   float64
23  4   sibsp     891 non-null   int64  
24  5   parch     891 non-null   int64  
25  6   fare       891 non-null   float64
26  7   embarked   889 non-null   object
```

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27   8   class      891 non-null  category
28   9   who        891 non-null  object
29  10  adult_male  891 non-null  bool
30  11  deck       203 non-null  category
31  12  embark_town 889 non-null  object
32  13  alive      891 non-null  object
33  14  alone      891 non-null  bool
34 dtypes: bool(2), category(2), float64(2), int64(4), object(5)
35 memory usage: 80.7+ KB
36 None
37
38 Missing Values:
39 survived      0
40 pclass         0
41 sex            0
42 age           177
43 sibsp          0
44 parch          0
45 fare           0
46 embarked       2
47 class          0
48 who            0
49 adult_male     0
50 deck           688
51 embark_town    2
52 alive          0
53 alone          0
```

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54 dtype: int64
55 C:\Users\kavan\PyCharmMiscProject\AIML INTERNSHIP\task7.py:24: FutureWarning: A
      value is trying to be set on a copy of a DataFrame or Series through chained
      assignment using an inplace method.
56 The behavior will change in pandas 3.0. This inplace method will never work because
      the intermediate object on which we are setting values always behaves as a copy.
57
58 For example, when doing 'df[col].method(value, inplace=True)', try using 'df.method
      ({col: value}, inplace=True)' or df[col] = df[col].method(value) instead, to perform
      the operation inplace on the original object.
59
60
61 df["age"].fillna(df["age"].median(), inplace=True)
62 C:\Users\kavan\PyCharmMiscProject\AIML INTERNSHIP\task7.py:25: FutureWarning: A
      value is trying to be set on a copy of a DataFrame or Series through chained
      assignment using an inplace method.
63 The behavior will change in pandas 3.0. This inplace method will never work because
      the intermediate object on which we are setting values always behaves as a copy.
64
65 For example, when doing 'df[col].method(value, inplace=True)', try using 'df.method
      ({col: value}, inplace=True)' or df[col] = df[col].method(value) instead, to perform
      the operation inplace on the original object.
66
67
68 df["embark_town"].fillna(df["embark_town"].mode()[0], inplace=True)
69
70 Train size: (712, 10)
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71 Test size : (179, 10)
72
73 Logistic Regression model trained successfully!
74
75 Evaluation Metrics:
76 Accuracy : 0.8044692737430168
77 Precision: 0.7931034482758621
78 Recall  : 0.6666666666666666
79 F1 Score : 0.7244094488188977
80
81 Confusion Matrix:
82 [[98 12]
83 [23 46]]
84
85 AUC Score: 0.844137022397892
86
87 Task 7 Completed Successfully!
88
89 Process finished with exit code 0
90
```