```
 1 C:\Users\kavan\PyCharmMiscProject\.venv\Scripts\python.exe "C:\Users\kavan\
   PyCharmMiscProject\AIML INTERNSHIP\task6.py"
 2 Dataset loaded successfully!
 3
 4    MedInc  HouseAge  AveRooms  ...  Latitude  Longitude  MedHouseVal
 5 0  8.3252      41.0  6.984127  ...     37.88    -122.23        4.526
 6 1  8.3014      21.0  6.238137  ...     37.86    -122.22        3.585
 7 2  7.2574      52.0  8.288136  ...     37.85    -122.24        3.521
 8 3  5.6431      52.0  5.817352  ...     37.85    -122.25        3.413
 9 4  3.8462      52.0  6.281853  ...     37.85    -122.25        3.422
10
11 [5 rows x 9 columns]
12
13 Dataset Info:
14 <class 'pandas.core.frame.DataFrame'>
15 RangeIndex: 20640 entries, 0 to 20639
16 Data columns (total 9 columns):
17  #   Column      Non-Null Count  Dtype
18 ---  ------      --------------  -----
19  0   MedInc      20640 non-null  float64
20  1   HouseAge    20640 non-null  float64
21  2   AveRooms    20640 non-null  float64
22  3   AveBedrms   20640 non-null  float64
23  4   Population  20640 non-null  float64
24  5   AveOccup    20640 non-null  float64
25  6   Latitude    20640 non-null  float64
26  7   Longitude   20640 non-null  float64
```

```
27   8   MedHouseVal  20640 non-null  float64
28  dtypes: float64(9)
29  memory usage: 1.4 MB
30  None
31
32  Dataset Description:
33              MedInc       HouseAge   ...        Longitude     MedHouseVal
34  count  20640.000000  20640.000000  ...   20640.000000    20640.000000
35  mean       3.870671     28.639486  ...    -119.569704        2.068558
36  std        1.899822     12.585558  ...       2.003532        1.153956
37  min        0.499900      1.000000  ...    -124.350000        0.149990
38  25%        2.563400     18.000000  ...    -121.800000        1.196000
39  50%        3.534800     29.000000  ...    -118.490000        1.797000
40  75%        4.743250     37.000000  ...    -118.010000        2.647250
41  max       15.000100     52.000000  ...    -114.310000        5.000010
42
43  [8 rows x 9 columns]
44
45  Feature matrix shape: (20640, 8)
46  Target vector shape: (20640,)
47
48  Training set size: (16512, 8)
49  Testing set size : (4128, 8)
50
51  Linear Regression model trained successfully!
52
53  Actual vs Predicted (Sample):
```

```
54    Actual Price  Predicted Price
55 0      0.47700         0.719123
56 1      0.45800         1.764017
57 2      5.00001         2.709659
58 3      2.18600         2.838926
59 4      2.78000         2.604657
60 5      1.58700         2.011754
61 6      1.98200         2.645500
62 7      1.57500         2.168755
63 8      3.40000         2.740746
64 9      4.46600         3.915615
65
66 Model Evaluation:
67 Mean Absolute Error (MAE): 0.5332001304956557
68 Root Mean Squared Error (RMSE): 0.7455813830127758
69
70 Feature Coefficients:
71      Feature  Coefficient
72 3   AveBedrms     0.783145
73 0      MedInc     0.448675
74 1    HouseAge     0.009724
75 4  Population    -0.000002
76 5     AveOccup    -0.003526
77 2    AveRooms    -0.123323
78 6    Latitude    -0.419792
79 7   Longitude    -0.433708
80
```

```
81 Task 6 Completed Successfully!
82
83 Process finished with exit code 0
84
```