```
C:\Users\adity\PycharmProjects\pythonProject\.venv\Scripts\python.exe "C:\Users\adity\PycharmProjects\pythonProject\MachineLearningProjects\DAILY WEATHER DATA ANALYSIS USING DECISION TREE CLASSIFICATION.py"
Columns are:  Index(['number', 'air_pressure_9am', 'air_temp_9am', 'avg_wind_direction_9am',
       'avg_wind_speed_9am', 'max_wind_direction_9am', 'max_wind_speed_9am',
       'rain_accumulation_9am', 'rain_duration_9am', 'relative_humidity_9am',
       'relative_humidity_3pm'],
      dtype='object')
Data:
       number  air_pressure_9am  ... relative_humidity_9am relative_humidity_3pm
0           0        918.060000  ...             42.420000             36.160000
1           1        917.347688  ...             24.328697             19.426597
2           2        923.040000  ...              8.900000             14.460000
3           3        920.502751
```

```
12   ...              12.189102
                  12.742547
13 4           4        921.160000
     ...              92.410000
                  76.740000
14 ...       ...                ...   ...
                    ...
   ...
15 1090    1090        918.900000
     ...              26.020000
                  38.180000
16 1091    1091        918.710000
     ...              90.350000
                  73.340000
17 1092    1092        916.600000
     ...              45.590000
                  52.310000
18 1093    1093        912.600000
     ...              64.840000
                  58.280000
19 1094    1094        921.530000
     ...              14.560000
                  15.100000
20
21 [1095 rows x 11 columns]
22 Null Data:
23         number  air_pressure_9am  ...
   relative_humidity_9am
   relative_humidity_3pm
24 16         16        917.890000
     ...              48.990000
```

```
24                  51.190000
25 111       111         915.290000
     ...                 21.500000
                         29.690000
26 177       177         915.900000
     ...                 29.260000
                         46.500000
27 262       262         923.596607
     ...                 17.990876
                         16.461685
28 277       277         920.480000
     ...                 52.580000
                         54.030000
29 334       334         916.230000
     ...                 31.880000
                         32.900000
30 358       358         917.440000
     ...                 13.880000
                         25.930000
31 361       361         920.444946
     ...                 12.278715
                          7.618649
32 381       381         918.480000
     ...                 20.640000
                         14.350000
33 409       409                NaN
     ...                 18.487385
                         20.356594
34 517       517         920.570000
     ...                 79.880000
                         84.530000
```

```
35 519       519          916.250000
     ...                   72.550000
                        74.390000
36 546       546                NaN
     ...                   87.870000
                        70.770000
37 620       620          921.200000
     ...                   59.790000
                        77.750000
38 625       625          912.400000
     ...                   86.840000
                        64.740000
39 656       656          920.830000
     ...                   23.770000
                        51.630000
40 670       670          910.920000
     ...                   80.560000
                        88.220000
41 672       672          922.448945
     ...                   16.753670
                        17.804720
42 705       705          911.900000
     ...                   77.630000
                        59.130000
43 731       731          922.970167
     ...                   34.807753
                        18.418179
44 737       737          917.895130
     ...                   13.771311
                        16.792455
45 788       788          917.923442
```

```
45   ...                 6.939692
                  18.793825
46 840      840          918.043767
     ...                 11.911222
                  18.154358
47 848      848          915.250000
     ...                 91.000000
                  90.780000
48 861      861          919.065408
     ...                 12.497839
                  13.438518
49 869      869                NaN
     ...                 85.270000
                  90.260000
50 998      998          914.140000
     ...                 24.200000
                  41.380000
51 1031    1031          922.669195
     ...                 18.920805
                  19.641841
52 1035    1035          919.670000
     ...                 56.860000
                  50.650000
53 1063    1063          917.300185
     ...                 14.972668
                  20.966267
54 1066    1066          919.564869
     ...                 11.657314
                  17.331823
55
56 [31 rows x 11 columns]
```

```
1095
1064
Total rows dropped:  31
0       1
1       0
2       0
3       0
4       1
       ..
1090    1
1091    1
1092    1
1093    1
1094    0
Name: high_humidity_label, Length: 1064
, dtype: int32
Y Data:
    high_humidity_label
0                     1
1                     0
2                     0
3                     0
4                     1
Columns in X:  Index(['air_pressure_9am
', 'air_temp_9am', '
avg_wind_direction_9am',
       'avg_wind_speed_9am', '
max_wind_direction_9am', '
max_wind_speed_9am',
       'rain_accumulation_9am', '
rain_duration_9am'],
```

```
82       dtype='object')
83 Columns in Y:  Index(['
   high_humidity_label'], dtype='object')
84 X_train is as under:
85      air_pressure_9am  air_temp_9am
     ...  rain_accumulation_9am
   rain_duration_9am
86 841        918.370000     72.932000
     ...                      0.0
                   0.0
87 75         920.100000     53.492000
     ...                      0.0
                   0.0
88 95         927.610000     54.896000
     ...                      0.0
                   0.0
89 895        919.235153     65.951112
     ...                      0.0
                   0.0
90 699        919.888128     68.687822
     ...                      0.0
                   0.0
91
92 [5 rows x 8 columns]
93 X_test is as under:
94      air_pressure_9am  air_temp_9am
     ...  rain_accumulation_9am
   rain_duration_9am
95 456        918.800000     80.384000
     ...                      0.0
                   0.0
```

```
 96 845         921.613372     68.658973
      ...                          0.0
                   0.0
 97 693         917.900000     76.802000
      ...                          0.0
                   0.0
 98 259         914.830000     74.570000
      ...                          0.0
                   0.0
 99 723         917.010000     51.836000
      ...                          0.0
                   0.0
100
101 [5 rows x 8 columns]
102 y_train is as under:
103      high_humidity_label
104 841                    0
105 75                     1
106 95                     0
107 895                    0
108 699                    0
109 y_test is as under:
110      high_humidity_label
111 456                    0
112 845                    0
113 693                    1
114 259                    1
115 723                    1
116 Let us describe y_train
117 Sample Predictions:
118  [0 0 1 1 1 1 0 0 0 1]
```

```
119 Sample Y Test(Actual Data):
120  456     0
121 845     0
122 693     1
123 259     1
124 723     1
125 224     1
126 300     1
127 442     0
128 585     1
129 1057    1
130 Name: high_humidity_label, dtype:
    int32
131 Accuracy:
132  0.8153409090909091
133
134 Process finished with exit code 0
135
```