Assignment No 3: Demonstration of classification rule process on WEKA data-set using Naive Bayes algorithm.

weather.nominal.arff file

Note: This is the pre-installed data set file available in Weka

      Path to file: C:\Program Files\Weka-3-8-6\data

Algorithm: In Classify "Choose" → *classifier → bayes → NaiveBayes*

Output:

```
=== Run information ===

Scheme:        weka.classifiers.bayes.NaiveBayes
Relation:      weather.symbolic
Instances:     14
Attributes:    5
               outlook
               temperature
               humidity
               windy
               play
Test mode:     10-fold cross-validation

=== Classifier model (full training set) ===

Naive Bayes Classifier

                 Class
Attribute         yes      no
                (0.63)  (0.38)
===============================
outlook
  sunny            3.0     4.0
  overcast         5.0     1.0
  rainy            4.0     3.0
  [total]         12.0     8.0

temperature
  hot              3.0     3.0
  mild             5.0     3.0
  cool             4.0     2.0
  [total]         12.0     8.0

humidity
  high             4.0     5.0
  normal           7.0     2.0
  [total]         11.0     7.0

windy
  TRUE             4.0     4.0
  FALSE            7.0     3.0
  [total]         11.0     7.0



Time taken to build model: 0 seconds
```

```
=== Stratified cross-validation ===
=== Summary ===

Correctly Classified Instances          8               57.1429 %
Incorrectly Classified Instances        6               42.8571 %
Kappa statistic                        -0.0244
Mean absolute error                     0.4374
Root mean squared error                 0.4916
Relative absolute error                91.8631 %
Root relative squared error            99.6492 %
Total Number of Instances              14

=== Detailed Accuracy By Class ===

                TP Rate  FP Rate  Precision  Recall  F-Measure  MCC     ROC Area  PRC Area  Class
                0.778    0.800    0.636      0.778   0.700      -0.026  0.578     0.697     yes
                0.200    0.222    0.333      0.200   0.250      -0.026  0.578     0.557     no
Weighted Avg.   0.571    0.594    0.528      0.571   0.539      -0.026  0.578     0.647

=== Confusion Matrix ===

 a b   <-- classified as
 7 2 | a = yes
 4 1 | b = no
```