National University
of computer and emerging sciences

Assignment No :

#1

Roll No :

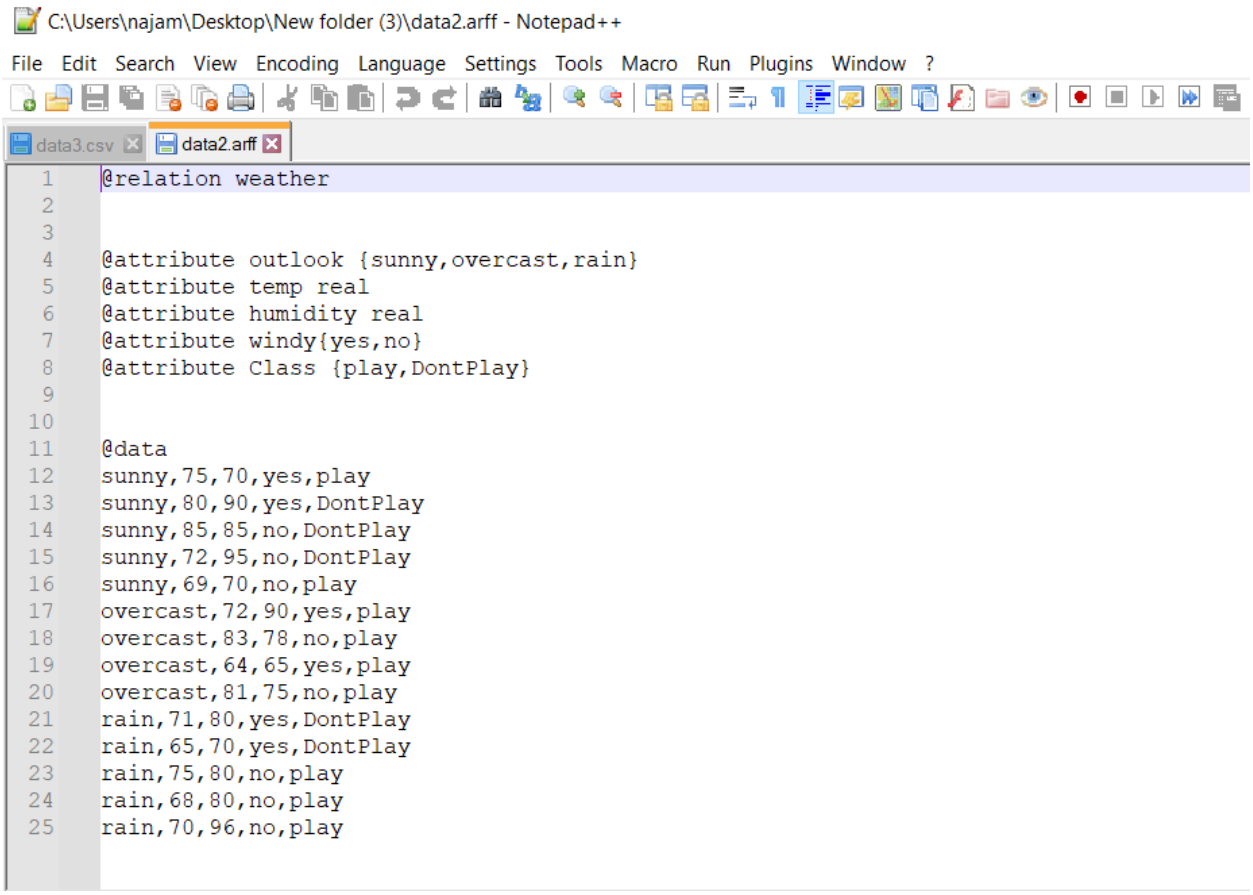
P18-0101

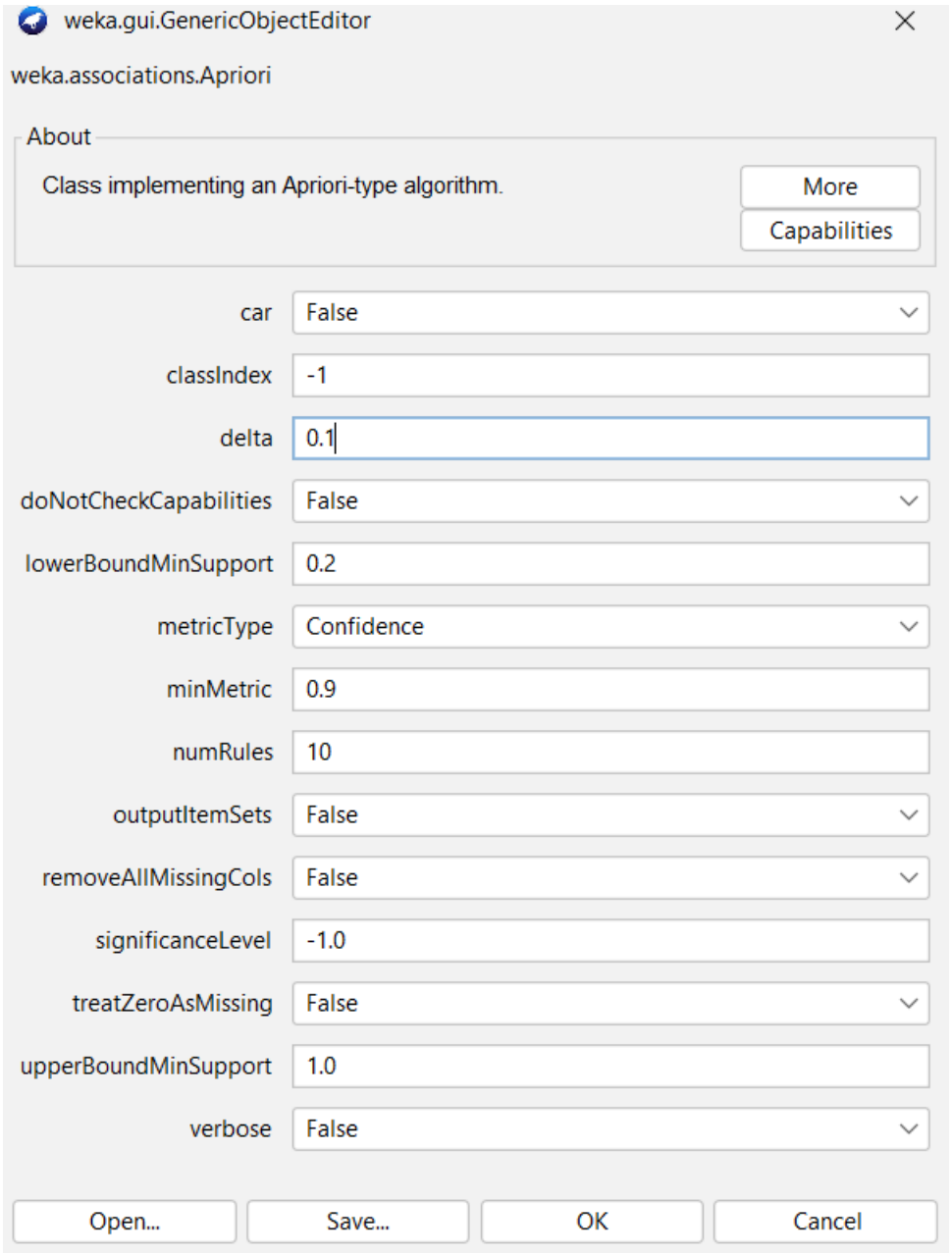
Name :

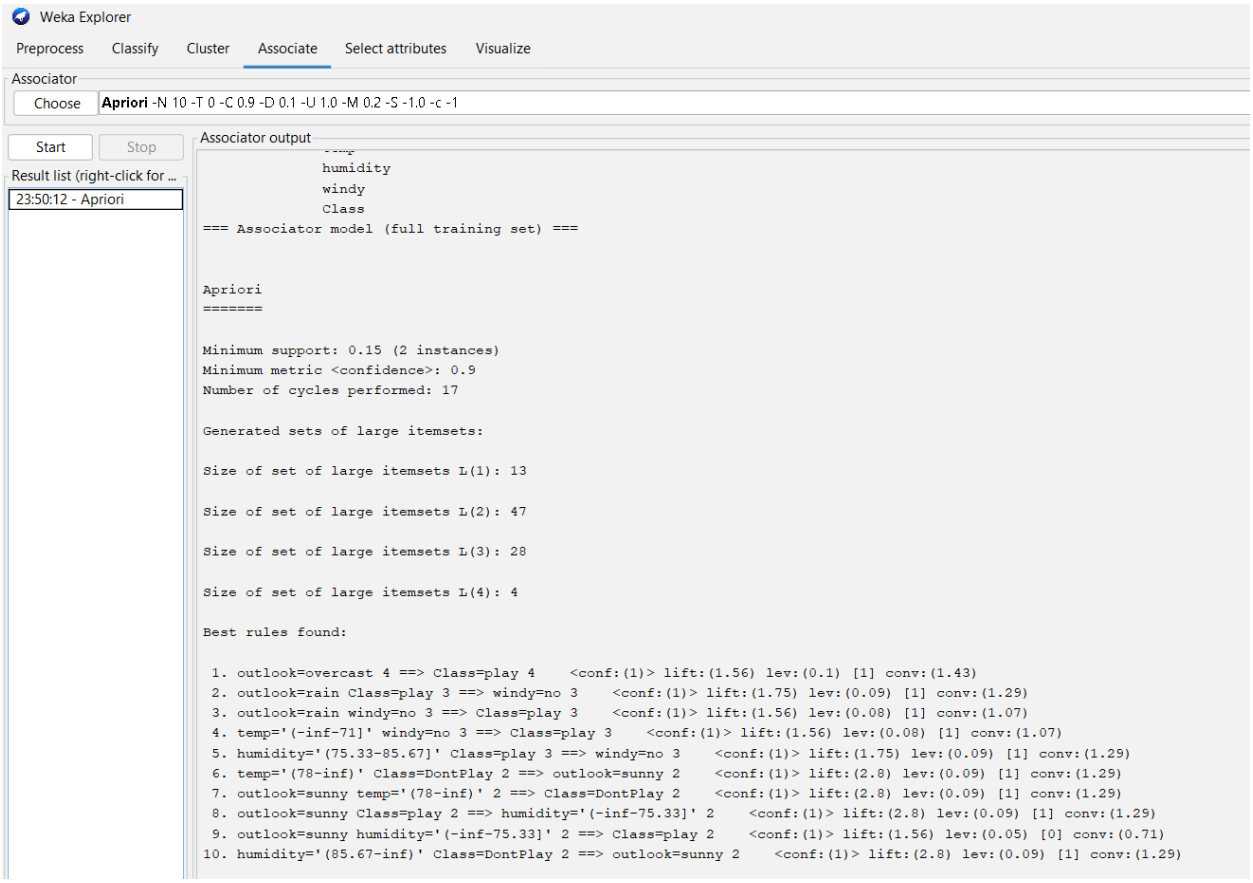
Uzair Ammar

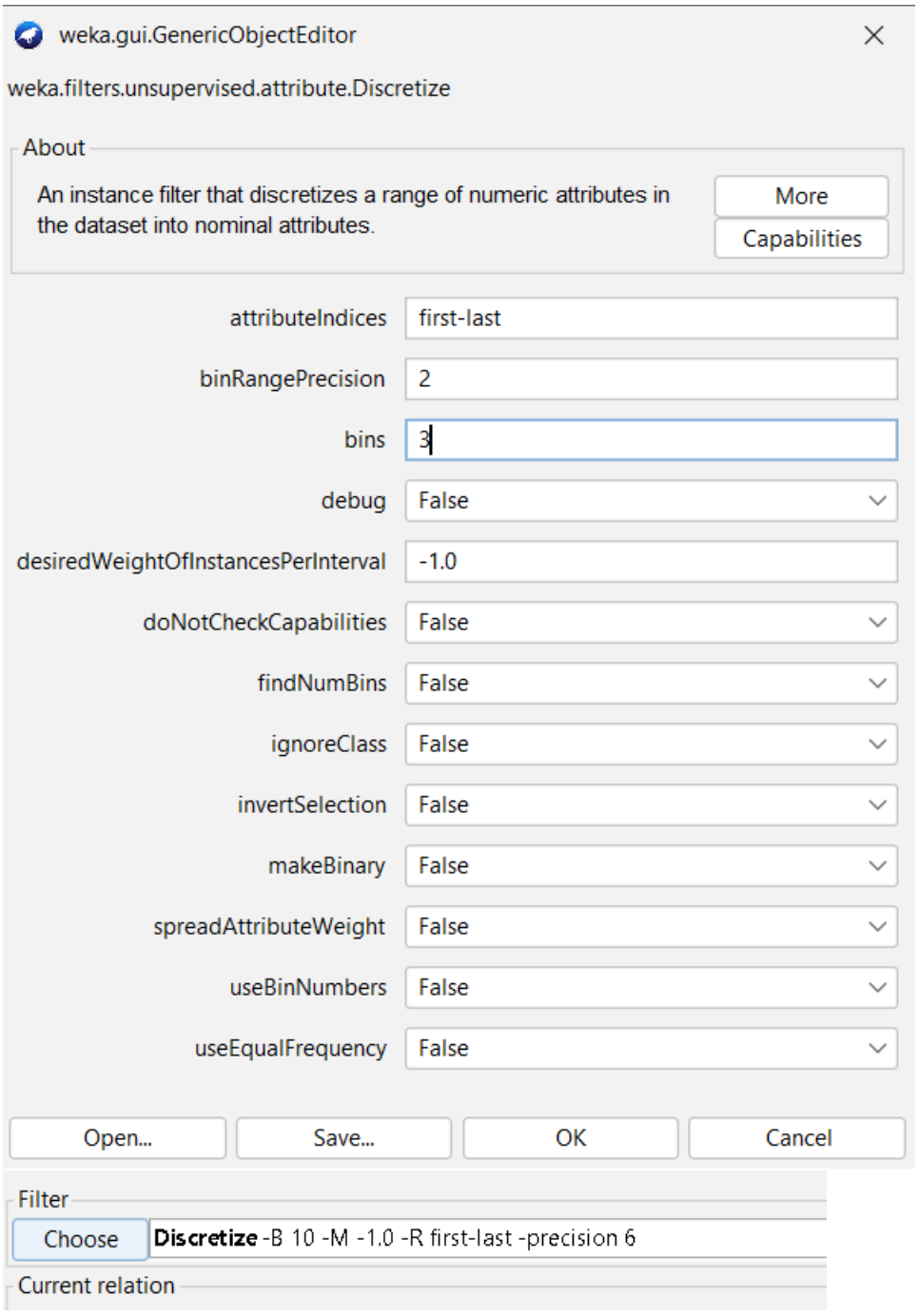
Subject :

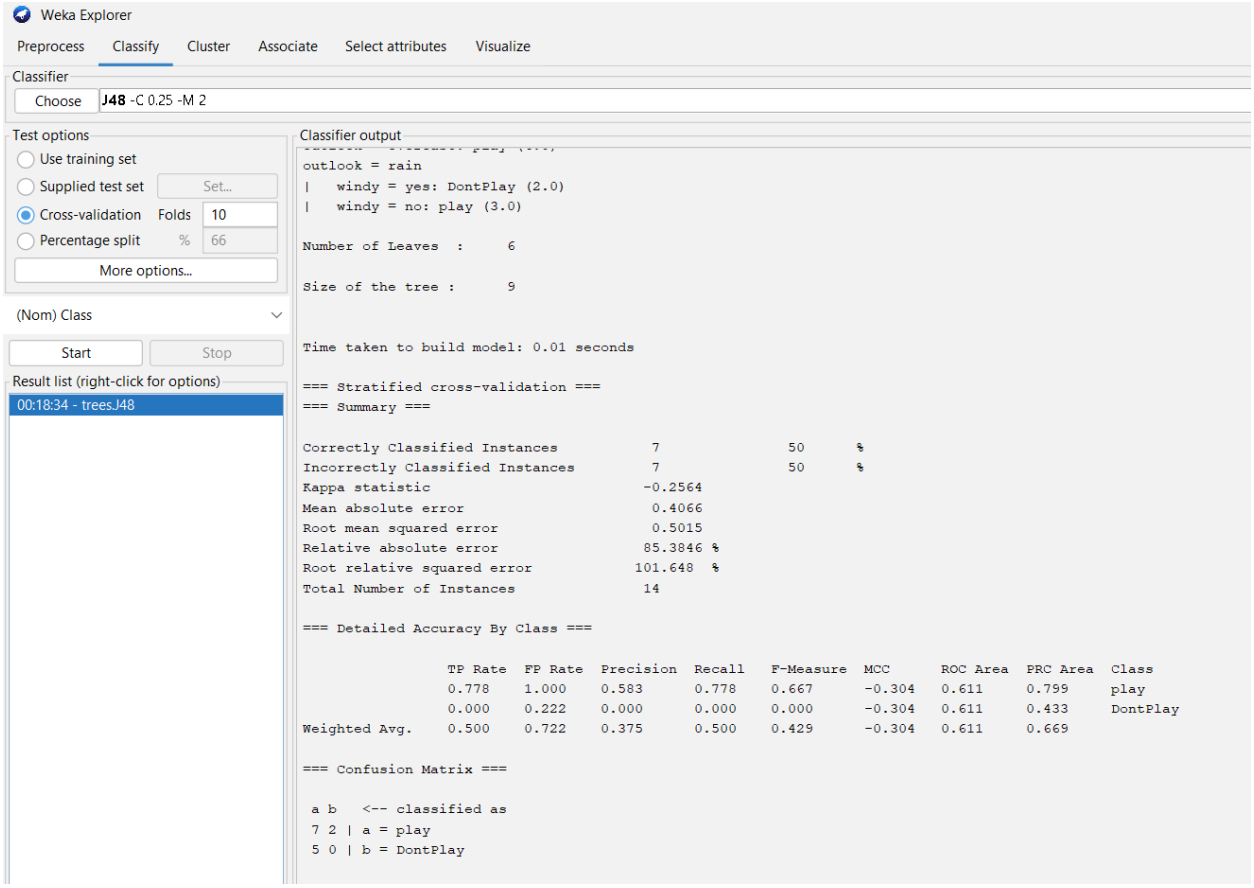
Applied Machine Learning

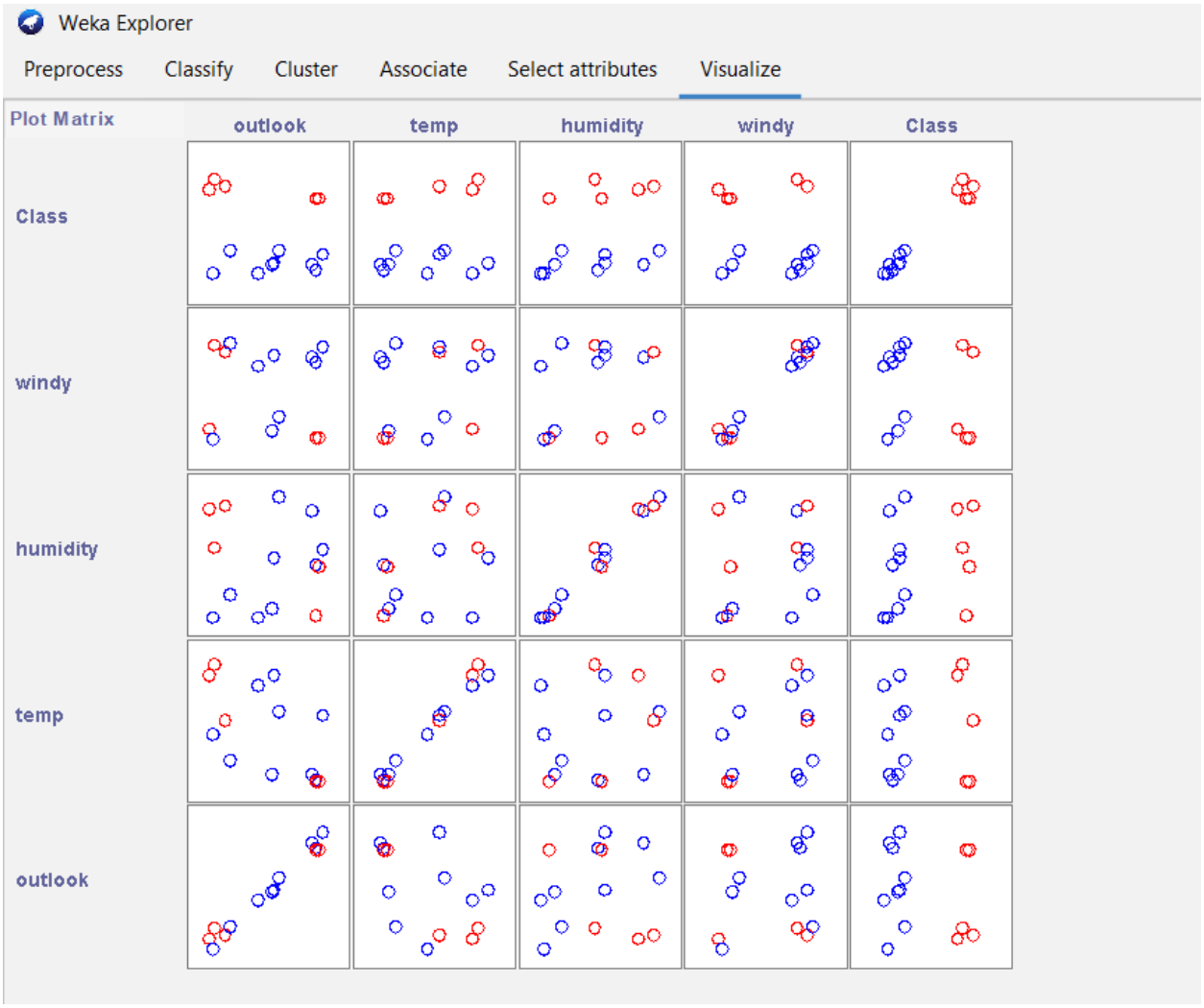

C:\Users\najam\Desktop\New folder (3)\data2.arff - Notepad++
File Edit Search View Encoding Language Settings Tools Macro Run Plugins Window ?
data3.csv
data2.arff
@relation weather
@attribute outlook {sunny,overcast,rain}
@attribute temp real
@attribute humidity real
@attribute windy{yes,no}
@attribute Class {play,DontPlay}
@data
sunny,75,70,yes,play
sunny,80,90,yes,DontPlay
sunny,85,85,no,DontPlay
sunny,72,95,no,DontPlay
sunny,69,70,no,play
overcast,72,90,yes,play
overcast,83,78,no,play
overcast,64,65,yes,play
overcast,81,75,no,play
rain,71,80,yes,DontPlay
rain,65,70,yes,DontPlay
rain,75,80,no,play
rain,68,80,no,play
rain,70,96,no,play


weka.gui.GenericObjectEditor
weka.associations.Apriori
About
Class implementing an Apriori-type algorithm.
More
Capabilities
car
False
classIndex
-1
delta
0.1
doNotCheckCapabilities
False
lowerBoundMinSupport
0.2
metricType
Confidence
minMetric
0.9
numRules
10
outputItemSets
False
removeAllMissingCols
False
significanceLevel
-1.0
treatZeroAsMissing
False
upperBoundMinSupport
1.0
verbose
False
Open...
Save...
OK
Cancel


Weka Explorer
Preprocess
Classify
Cluster
Associate
Select attributes
Visualize
Associator
Choose
Apriori -N 10 -T 0 -C 0.9 -D 0.1 -U 1.0 -M 0.2 -S -1.0 -c -1
Start
Stop
Result list (right-click for ...
23:50:12 - Apriori
Associator output
humidity
windy
Class
=== Associator model (full training set) ===
Apriori
=======
Minimum support: 0.15 (2 instances)
Minimum metric <confidence>: 0.9
Number of cycles performed: 17
Generated sets of large itemsets:
Size of set of large itemsets L(1): 13
Size of set of large itemsets L(2): 47
Size of set of large itemsets L(3): 28
Size of set of large itemsets L(4): 4
Best rules found:
1. outlook=overcast 4 ==> Class=play 4 <conf:(1)> lift:(1.56) lev:(0.1) [1] conv:(1.43)
2. outlook=rain Class=play 3 ==> windy=no 3 <conf:(1)> lift:(1.75) lev:(0.09) [1] conv:(1.29)
3. outlook=rain windy=no 3 ==> Class=play 3 <conf:(1)> lift:(1.56) lev:(0.08) [1] conv:(1.07)
4. temp='(-inf-71]' windy=no 3 ==> Class=play 3 <conf:(1)> lift:(1.56) lev:(0.08) [1] conv:(1.07)
5. humidity='(75.33-85.67]' Class=play 3 ==> windy=no 3 <conf:(1)> lift:(1.75) lev:(0.09) [1] conv:(1.29)
6. temp='(78-inf)' Class=DontPlay 2 ==> outlook=sunny 2 <conf:(1)> lift:(2.8) lev:(0.09) [1] conv:(1.29)
7. outlook=sunny temp='(78-inf)' 2 ==> Class=DontPlay 2 <conf:(1)> lift:(2.8) lev:(0.09) [1] conv:(1.29)
8. outlook=sunny Class=play 2 ==> humidity='(-inf-75.33]' 2 <conf:(1)> lift:(2.8) lev:(0.09) [1] conv:(1.29)
9. outlook=sunny humidity='(-inf-75.33]' 2 ==> Class=play 2 <conf:(1)> lift:(1.56) lev:(0.05) [0] conv:(0.71)
10. humidity='(85.67-inf)' Class=DontPlay 2 ==> outlook=sunny 2 <conf:(1)> lift:(2.8) lev:(0.09) [1] conv:(1.29)


weka.gui.GenericObjectEditor
weka.filters.unsupervised.attribute.Discretize
About
An instance filter that discretizes a range of numeric attributes in the dataset into nominal attributes.
More
Capabilities
attributeIndices
first-last
binRangePrecision
2
bins
3
debug
False
desiredWeightOfInstancesPerInterval
-1.0
doNotCheckCapabilities
False
findNumBins
False
ignoreClass
False
invertSelection
False
makeBinary
False
spreadAttributeWeight
False
useBinNumbers
False
useEqualFrequency
False
Open...
Save...
OK
Cancel
Filter
Choose
Discretize -B 10 -M -1.0 -R first-last -precision 6
Current relation


Weka Explorer
Preprocess
Classify
Cluster
Associate
Select attributes
Visualize
Classifier
Choose
J48 -C 0.25 -M 2
Test options
Use training set
Supplied test set
Set...
Cross-validation
Folds
10
Percentage split
%
66
More options...
(Nom) Class
Start
Stop
Result list (right-click for options)
00:18:34 - trees.J48
Classifier output
outlook = rain
| windy = yes: DontPlay (2.0)
| windy = no: play (3.0)
Number of Leaves : 6
Size of the tree : 9
Time taken to build model: 0.01 seconds
=== Stratified cross-validation ===
=== Summary ===
Correctly Classified Instances 7 50 %
Incorrectly Classified Instances 7 50 %
Kappa statistic -0.2564
Mean absolute error 0.4066
Root mean squared error 0.5015
Relative absolute error 85.3846 %
Root relative squared error 101.648 %
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 1.000 0.583 0.778 0.667 -0.304 0.611 0.799 play
0.000 0.222 0.000 0.000 0.000 -0.304 0.611 0.433 DontPlay
Weighted Avg. 0.500 0.722 0.375 0.500 0.429 -0.304 0.611 0.669
=== Confusion Matrix ===
a b <-- classified as
7 2 | a = play
5 0 | b = DontPlay


Weka Explorer
Preprocess
Classify
Cluster
Associate
Select attributes
Visualize
Plot Matrix
outlook
temp
humidity
windy
Class
Class
windy
humidity
temp
outlook