Viewer ✕

Relation: contact-lenses

No.	1: age	2: spectacle-prescrip	3: astigmatism	4: tear-prod-rate	5: contact-lenses
	Nominal	Nominal	Nominal	Nominal	Nominal
1	young	myope	no	reduced	none
2	young	myope	no	normal	soft
3	young	myope	yes	reduced	none
4	young	myope	yes	normal	hard
5	young	hypermetrope	no	reduced	none
6	young	hypermetrope	no	normal	soft
7	young	hypermetrope	yes	reduced	none
8	young	hypermetrope	yes	normal	hard
9	pre-...	myope	no	reduced	none
10	pre-...	myope	no	normal	soft
11	pre-...	myope	yes	reduced	none
12	pre-...	myope	yes	normal	hard
13	pre-...	hypermetrope	no	reduced	none
14	pre-...	hypermetrope	no	normal	soft
15	pre-...	hypermetrope	yes	reduced	none
16	pre-...	hypermetrope	yes	normal	none
17	pres...	myope	no	reduced	none
18	pres...	myope	no	normal	none
19	pres...	myope	yes	reduced	none
20	pres...	myope	yes	normal	hard
21	pres...	hypermetrope	no	reduced	none
22	pres...	hypermetrope	no	normal	soft
23	pres...	hypermetrope	yes	reduced	none
24	pres...	hypermetrope	yes	normal	none

[Add instance] [Undo] [OK] [Cancel]

Viewer ✕

Relation: iris

No.	1: sepallength Numeric	2: sepalwidth Numeric	3: petallength Numeric	4: petalwidth Numeric	5: class Nominal
1	5.1	3.5	1.4	0.2	Iris-s...
2	4.9	3.0	1.4	0.2	Iris-s...
3	4.7	3.2	1.3	0.2	Iris-s...
4	4.6	3.1	1.5	0.2	Iris-s...
5	5.0	3.6	1.4	0.2	Iris-s...
6	5.4	3.9	1.7	0.4	Iris-s...
7	4.6	3.4	1.4	0.3	Iris-s...
8	5.0	3.4	1.5	0.2	Iris-s...
9	4.4	2.9	1.4	0.2	Iris-s...
10	4.9	3.1	1.5	0.1	Iris-s...
11	5.4	3.7	1.5	0.2	Iris-s...
12	4.8	3.4	1.6	0.2	Iris-s...
13	4.8	3.0	1.4	0.1	Iris-s...
14	4.3	3.0	1.1	0.1	Iris-s...
15	5.8	4.0	1.2	0.2	Iris-s...
16	5.7	4.4	1.5	0.4	Iris-s...
17	5.4	3.9	1.3	0.4	Iris-s...
18	5.1	3.5	1.4	0.3	Iris-s...
19	5.7	3.8	1.7	0.3	Iris-s...
20	5.1	3.8	1.5	0.3	Iris-s...
21	5.4	3.4	1.7	0.2	Iris-s...
22	5.1	3.7	1.5	0.4	Iris-s...
23	4.6	3.6	1.0	0.2	Iris-s...
24	5.1	3.3	1.7	0.5	Iris-s...
25	4.8	3.4	1.9	0.2	Iris-s...
26	5.0	3.0	1.6	0.2	Iris-s...
27	5.0	3.4	1.6	0.4	Iris-s...
28	5.2	3.5	1.5	0.2	Iris-s...
29	5.2	3.4	1.4	0.2	Iris-s...

Add instance | Undo | OK | Cancel

Weka Explorer

Preprocess | **Classify** | Cluster | Associate | Select attributes | Visualize

Classifier

Choose | **RandomForest** -P 100 -I 100 -num-slots 1 -K 0 -M 1.0 -V 0.001 -S 1

Test options

- ◉ Use training set
- ○ Supplied test set   Set...
- ○ Cross-validation   Folds 10
- ○ Percentage split   %   66

More options...

(Nom) contact-lenses

Start | Stop

Result list (right-click for options)

17:45:14 - trees.RandomForest

Classifier output

```
=== Summary ===

Correctly Classified Instances          24                100      %
Incorrectly Classified Instances         0                  0      %
Kappa statistic                          1
Mean absolute error                      0.0794
Root mean squared error                  0.1269
Relative absolute error                 21.5698 %
Root relative squared error             29.9236 %
Total Number of Instances               24

=== Detailed Accuracy By Class ===

              TP Rate  FP Rate  Precision  Recall  F-Measure  MCC    ROC Area  PRC Area  Class
              1.000    0.000    1.000      1.000   1.000      1.000  1.000     1.000     soft
              1.000    0.000    1.000      1.000   1.000      1.000  1.000     1.000     hard
              1.000    0.000    1.000      1.000   1.000      1.000  1.000     1.000     none
Weighted Avg. 1.000    0.000    1.000      1.000   1.000      1.000  1.000     1.000

=== Confusion Matrix ===

 a  b  c   <-- classified as
 5  0  0 |  a = soft
 0  4  0 |  b = hard
 0  0 15 |  c = none
```

Status

OK

Log   x 0

Preprocess | Classify | Cluster | Associate | Select attributes | Visualize

Associator

Choose | **Apriori** -N 10 -T 0 -C 0.9 -D 0.05 -U 1.0 -M 0.1 -S -1.0 -c -1

Start   Stop

Associator output

Result list (right-clic...

17:45:57 - Apriori

```
=======

Minimum support: 0.2 (5 instances)
Minimum metric <confidence>: 0.9
Number of cycles performed: 16


Generated sets of large itemsets:


Size of set of large itemsets L(1): 11


Size of set of large itemsets L(2): 21


Size of set of large itemsets L(3): 6


Best rules found:

 1. tear-prod-rate=reduced 12 ==> contact-lenses=none 12    <conf:(1)> lift:(1.6) lev:(0.19) [4] conv:(4.5)
 2. spectacle-prescrip=myope tear-prod-rate=reduced 6 ==> contact-lenses=none 6    <conf:(1)> lift:(1.6) lev:(0.09) [2] conv:(2.25)
 3. spectacle-prescrip=hypermetrope tear-prod-rate=reduced 6 ==> contact-lenses=none 6    <conf:(1)> lift:(1.6) lev:(0.09) [2] conv:(2.25)
 4. astigmatism=no tear-prod-rate=reduced 6 ==> contact-lenses=none 6    <conf:(1)> lift:(1.6) lev:(0.09) [2] conv:(2.25)
 5. astigmatism=yes tear-prod-rate=reduced 6 ==> contact-lenses=none 6    <conf:(1)> lift:(1.6) lev:(0.09) [2] conv:(2.25)
 6. contact-lenses=soft 5 ==> astigmatism=no 5    <conf:(1)> lift:(2) lev:(0.1) [2] conv:(2.5)
 7. contact-lenses=soft 5 ==> tear-prod-rate=normal 5    <conf:(1)> lift:(2) lev:(0.1) [2] conv:(2.5)
 8. tear-prod-rate=normal contact-lenses=soft 5 ==> astigmatism=no 5    <conf:(1)> lift:(2) lev:(0.1) [2] conv:(2.5)
 9. astigmatism=no contact-lenses=soft 5 ==> tear-prod-rate=normal 5    <conf:(1)> lift:(2) lev:(0.1) [2] conv:(2.5)
10. contact-lenses=soft 5 ==> astigmatism=no tear-prod-rate=normal 5    <conf:(1)> lift:(4) lev:(0.16) [3] conv:(3.75)
```

Status

OK

Log   x 0

Weka Explorer

Clusterer

Choose | **SimpleKMeans** -init 0 -max-candidates 100 -periodic-pruning 10000 -min-density 2.0 -t1 -1.25 -t2 -1.0 -N 2 -A "weka.core.EuclideanDistance -R first-last" -I 500 -num-slots 1 -S 10

Cluster mode

- ● Use training set
- ○ Supplied test set   Set...
- ○ Percentage split   % 66
- ○ Classes to clusters evaluation
  - (Nom) contact-lenses ▼
- ☑ Store clusters for visualization

Ignore attributes

Start   Stop

Result list (right-click for options)

17:46:17 - SimpleKMeans

Clusterer output

```
Missing values globally replaced with mean/mode

Final cluster centroids:
                                        Cluster#
Attribute              Full Data            0            1
                         (24.0)        (12.0)       (12.0)
=========================================================
age                       young         young        young
spectacle-prescrip        myope         myope        myope
astigmatism                  no            no           no
tear-prod-rate          reduced        normal      reduced
contact-lenses             none          soft         none




Time taken to build model (full training data) : 0.02 seconds

=== Model and evaluation on training set ===

Clustered Instances

0      12 ( 50%)
1      12 ( 50%)
```

Status

OK

Log   x 0

Weka Explorer

Preprocess | Classify | Cluster | Associate | Select attributes | Visualize

Classifier

Choose | RandomForest -P 100 -I 100 -num-slots 1 -K 0 -M 1.0 -V 0.001 -S 1

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)

17:47:20 - trees.RandomForest

Classifier output

```
=== Summary ===

Correctly Classified Instances         150               100      %
Incorrectly Classified Instances         0                 0      %
Kappa statistic                          1
Mean absolute error                      0.0156
Root mean squared error                  0.0628
Relative absolute error                  3.52   %
Root relative squared error             13.3147 %
Total Number of Instances              150

=== Detailed Accuracy By Class ===

                 TP Rate  FP Rate  Precision  Recall  F-Measure  MCC     ROC Area  PRC Area  Class
                 1.000    0.000    1.000      1.000   1.000      1.000   1.000     1.000     Iris-setosa
                 1.000    0.000    1.000      1.000   1.000      1.000   1.000     1.000     Iris-versicolor
                 1.000    0.000    1.000      1.000   1.000      1.000   1.000     1.000     Iris-virginica
Weighted Avg.    1.000    0.000    1.000      1.000   1.000      1.000   1.000     1.000

=== Confusion Matrix ===

  a  b  c   <-- classified as
 50  0  0 |  a = Iris-setosa
  0 50  0 |  b = Iris-versicolor
  0  0 50 |  c = Iris-virginica
```

Status

OK

Log | x 0

Weka Explorer

Preprocess | Classify | Cluster | Associate | Select attributes | Visualize

Associator

Choose | **FilteredAssociator** -F "weka.filters.MultiFilter -F \"weka.filters.unsupervised.attribute.ReplaceMissingValues \"" -c -1 -W weka.associations.Apriori -- -N 10 -T 0 -C 0.9 -D 0.05 -U 1.0 -M 0.1 -S -1.0 -c -1

Start | Stop

Associator output

Result list (right-click for option...

17:47:51 - FilteredAssociator

```
=== Run information ===

Scheme:        weka.associations.FilteredAssociator -F "weka.filters.MultiFilter -F \"weka.filters.unsupervised.attribute.ReplaceMissingValues \"" -c -1 -W weka.a
Relation:      iris
Instances:     150
Attributes:    5
               sepallength
               sepalwidth
               petallength
               petalwidth
               class
```

Status

See error log

Log | x 0

Weka Explorer

| Preprocess | Classify | Cluster | Associate | Select attributes | Visualize |

Clusterer

Choose | **SimpleKMeans** -init 0 -max-candidates 100 -periodic-pruning 10000 -min-density 2.0 -t1 -1.25 -t2 -1.0 -N 2 -A "weka.core.EuclideanDistance -R first-last" -I 500 -num-slots 1 -S 10

Cluster mode

- ◉ Use training set
- ◯ Supplied test set   Set...
- ◯ Percentage split   % 66
- ◯ Classes to clusters evaluation
  - (Nom) class ▾
- ☑ Store clusters for visualization

Ignore attributes

Start   Stop

Result list (right-click for options)

17:48:31 - SimpleKMeans

Clusterer output

```
Missing values globally replaced with mean/mode

Final cluster centroids:
                                        Cluster#
Attribute            Full Data              0               1
                       (150.0)         (100.0)          (50.0)
=================================================================
sepallength             5.8433           6.262           5.006
sepalwidth               3.054           2.872           3.418
petallength             3.7587           4.906           1.464
petalwidth              1.1987           1.676           0.244
class              Iris-setosa Iris-versicolor     Iris-setosa



Time taken to build model (full training data) : 0.03 seconds

=== Model and evaluation on training set ===

Clustered Instances

0      100 ( 67%)
1       50 ( 33%)
```

Status

OK   Log   x 0