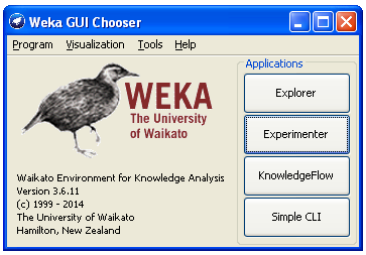
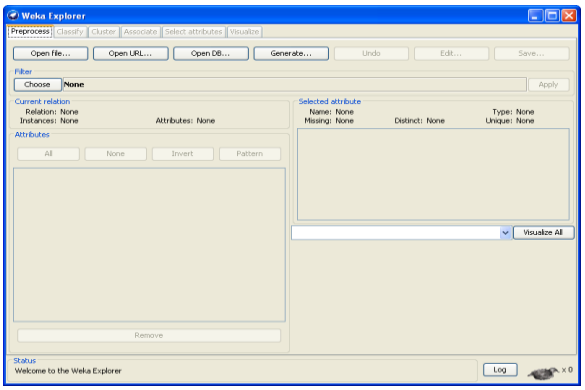
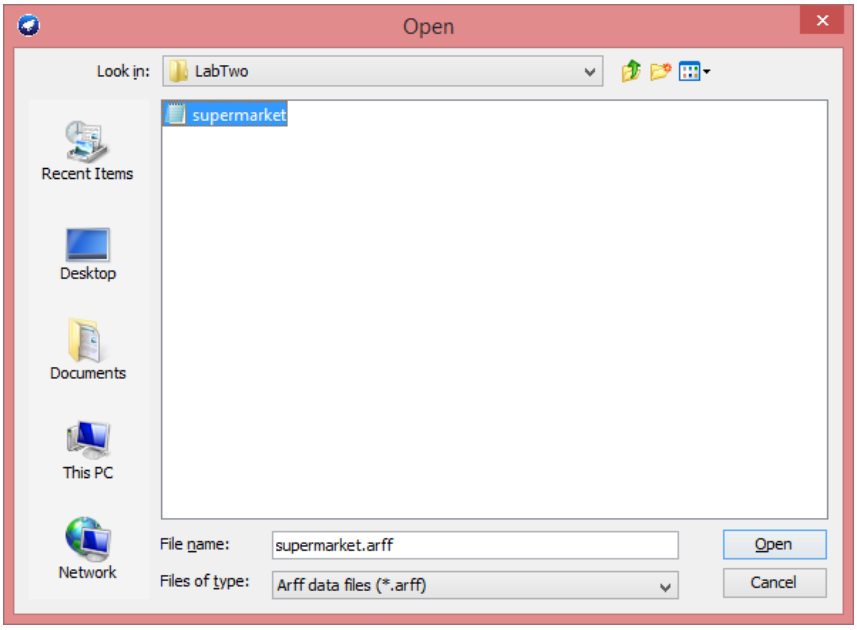
Lab Exercise Two
Mining Association Rule with WEKA Explorer

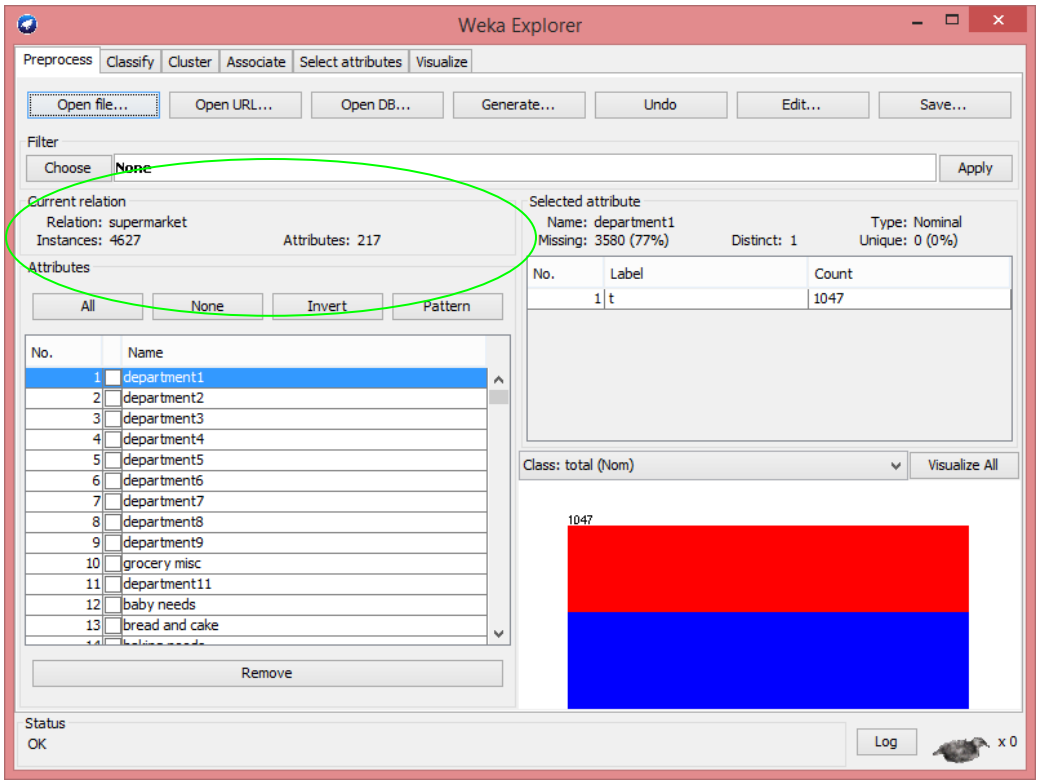
1. Fire up WEKA to get the GUI Chooser panel. Select Explorer from the four choices on the right side.





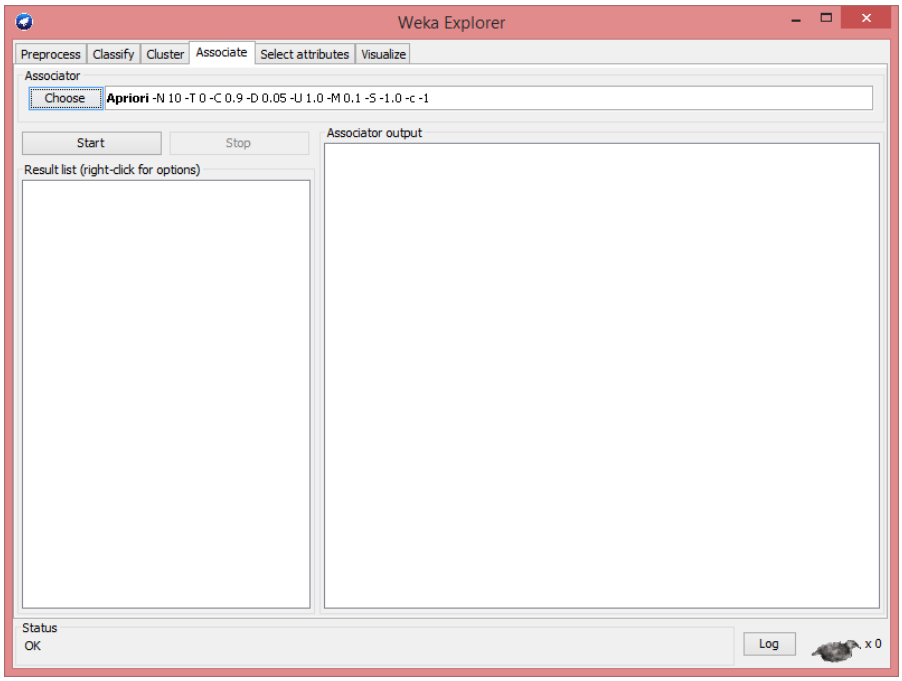
2. We are on ***Preprocess*** now. Click the ***Open file*** button to bring up a standard dialog through which you can select a file. Choose the ***supermarket.arff*** file.



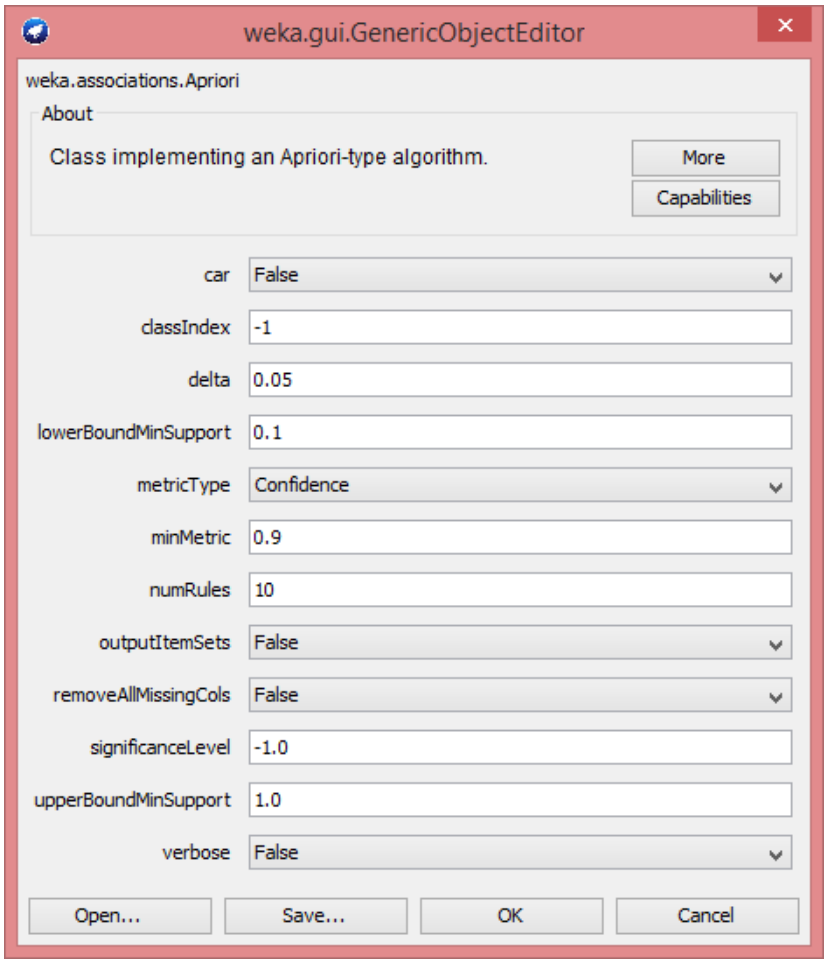


3. To see the original dataset, click the Edit button, a viewer window opens with dataset loaded.

4. Click Associate Tab on top of the window.

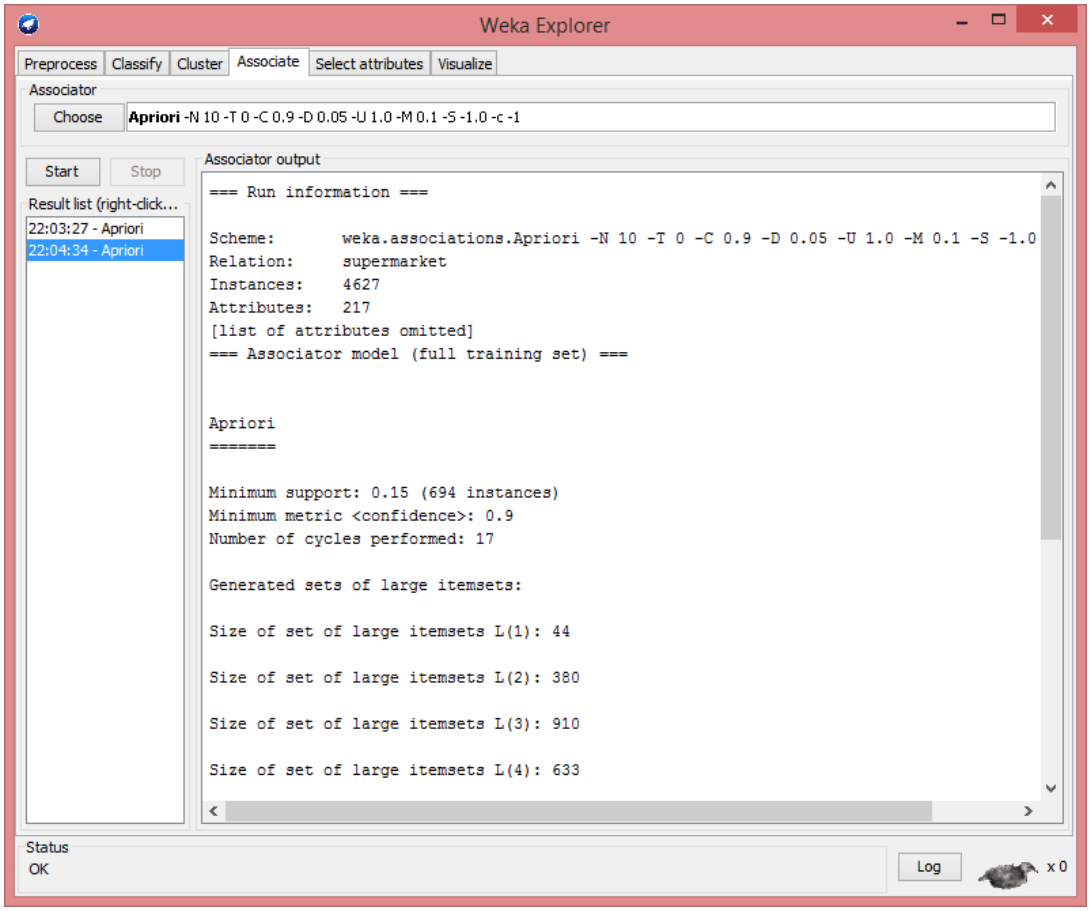


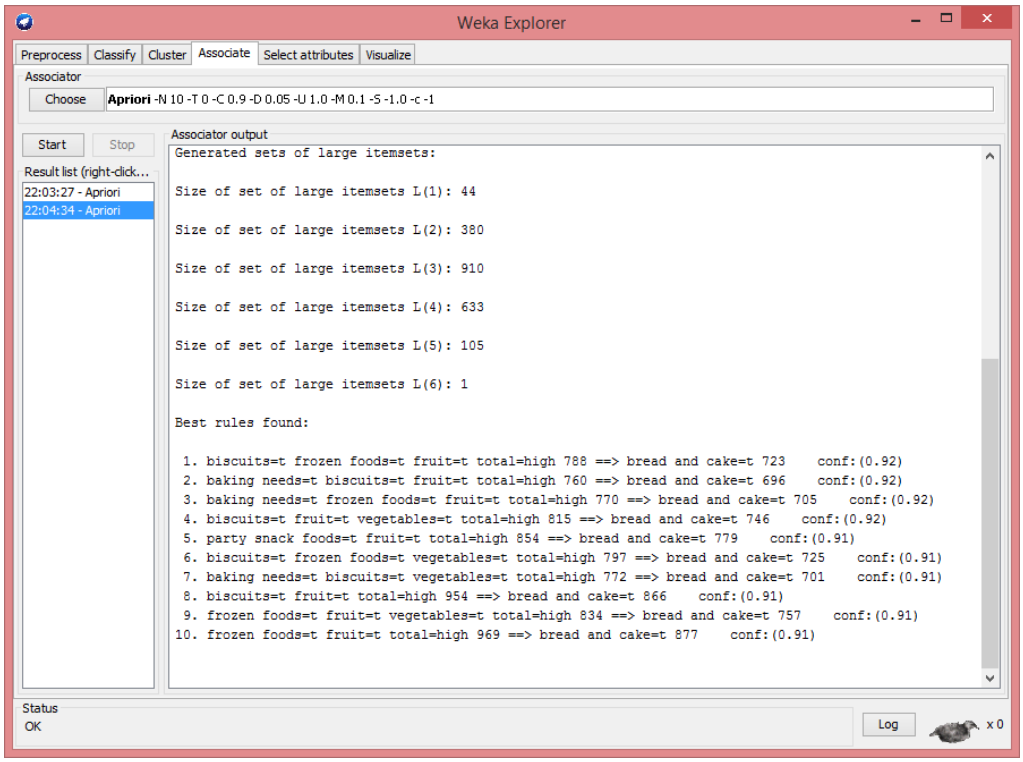
5. Left click the field of Associator, choose Show Property from the drop down list. The property window of Apriori opens:



6. Weka runs an Apriori-type algorithm to find association rules, but this algorithm is not exact the same one as we discussed in class. The min. support is not fixed. This algorithm starts with min. support as ***upperBoundMinSupport*** (default 1.0 = 100%), iteratively decrease it by ***delta*** (default 0.05 = 5%). The algorithm stops when ***lowerBoundMinSupport*** (default 0.1 = 10%) is reached, or required number of rules – ***numRules*** (default value 10) have been generated. Rules generated are ranked by ***metricType*** (default *Confidence*). Only rules with score higher than ***minMetric*** (default 0.9 for *Confidence*) are considered and delivered as the output. If you choose to show the all frequent itemsets found, ***outputItemSets*** should be set as *True*.

7. Click **Start** button on the left of the window, the algorithm begins to run. The output is showing in the right window.


Weka Explorer
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
Result list (right-click...
22:03:27 - Apriori
22:04:34 - Apriori
Associator output
=== Run information ===
Scheme: weka.associations.Apriori -N 10 -T 0 -C 0.9 -D 0.05 -U 1.0 -M 0.1 -S -1.0
Relation: supermarket
Instances: 4627
Attributes: 217
[list of attributes omitted]
=== Associator model (full training set) ===
Apriori
=======
Minimum support: 0.15 (694 instances)
Minimum metric <confidence>: 0.9
Number of cycles performed: 17
Generated sets of large itemsets:
Size of set of large itemsets L(1): 44
Size of set of large itemsets L(2): 380
Size of set of large itemsets L(3): 910
Size of set of large itemsets L(4): 633
Status
OK
Log
x 0


Weka Explorer
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Apriori -N 10 -T 0 -C 0.9 -D 0.05 -U 1.0 -M 0.1 -S -1.0 -c -1
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Result list (right-click...
22:03:27 - Apriori
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Associator output
Generated sets of large itemsets:
Size of set of large itemsets L(1): 44
Size of set of large itemsets L(2): 380
Size of set of large itemsets L(3): 910
Size of set of large itemsets L(4): 633
Size of set of large itemsets L(5): 105
Size of set of large itemsets L(6): 1
Best rules found:
1. biscuits=t frozen foods=t fruit=t total=high 788 ==> bread and cake=t 723 conf:(0.92)
2. baking needs=t biscuits=t fruit=t total=high 760 ==> bread and cake=t 696 conf:(0.92)
3. baking needs=t frozen foods=t fruit=t total=high 770 ==> bread and cake=t 705 conf:(0.92)
4. biscuits=t fruit=t vegetables=t total=high 815 ==> bread and cake=t 746 conf:(0.92)
5. party snack foods=t fruit=t total=high 854 ==> bread and cake=t 779 conf:(0.91)
6. biscuits=t frozen foods=t vegetables=t total=high 797 ==> bread and cake=t 725 conf:(0.91)
7. baking needs=t biscuits=t vegetables=t total=high 772 ==> bread and cake=t 701 conf:(0.91)
8. biscuits=t fruit=t total=high 954 ==> bread and cake=t 866 conf:(0.91)
9. frozen foods=t fruit=t vegetables=t total=high 834 ==> bread and cake=t 757 conf:(0.91)
10. frozen foods=t fruit=t total=high 969 ==> bread and cake=t 877 conf:(0.91)
Status
OK
Log
x 0