

## WEKA Instructions

### Where to download?

Download the self-extracting executable from <http://www.cs.waikato.ac.nz/ml/weka/>

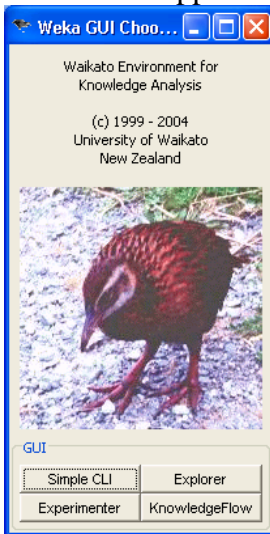
### How to install?

Double click on the exe file and just follow the instructions. You don't need to select a mirror. If one download site doesn't work, just choose another and start over.

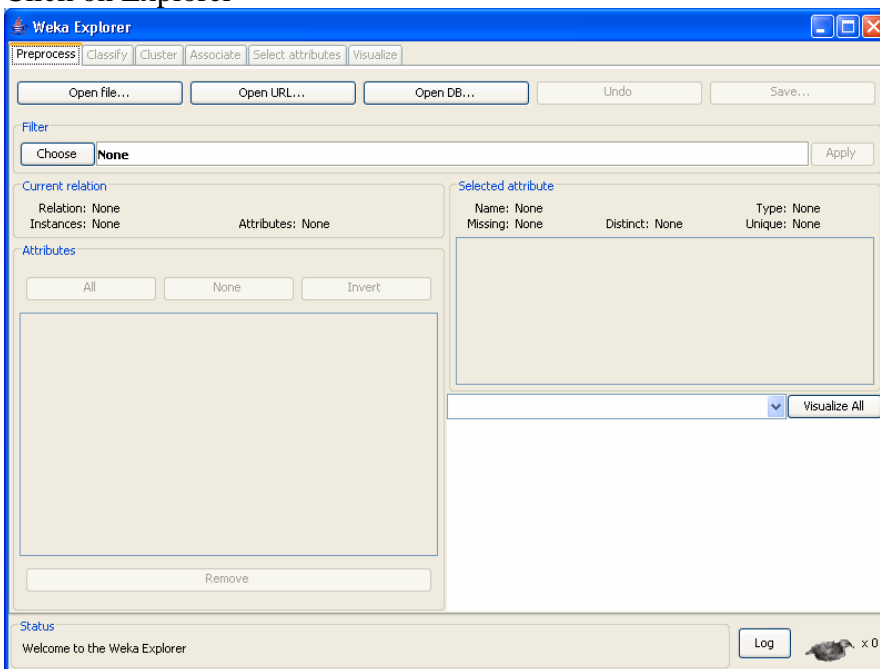
### Start up the application

Go to Start->All Programs -> WEKA -> weka3-4

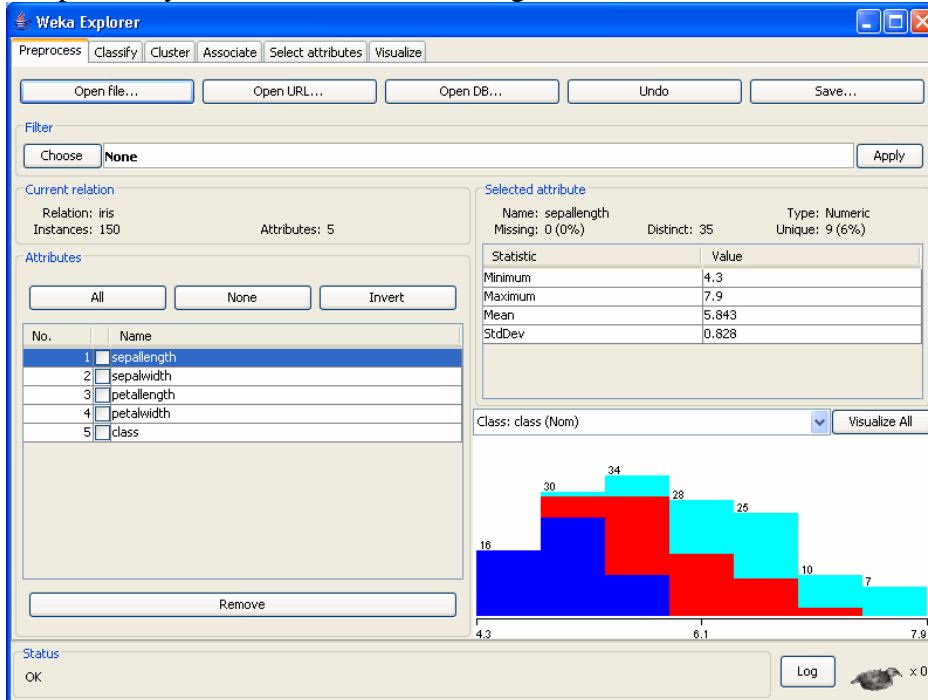
This should appear:



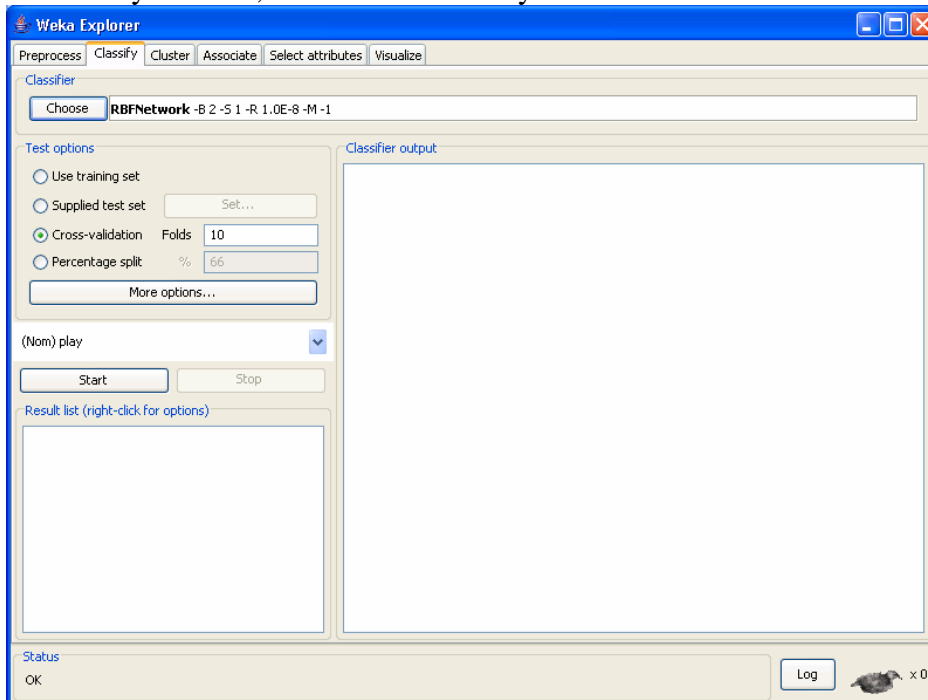
Click on Explorer



Open a training dataset by clicking on the Open File button in the 'Preprocess' tab. We provide you with 3 different training sets in arff format.



To classify the data, click on the Classify tab.

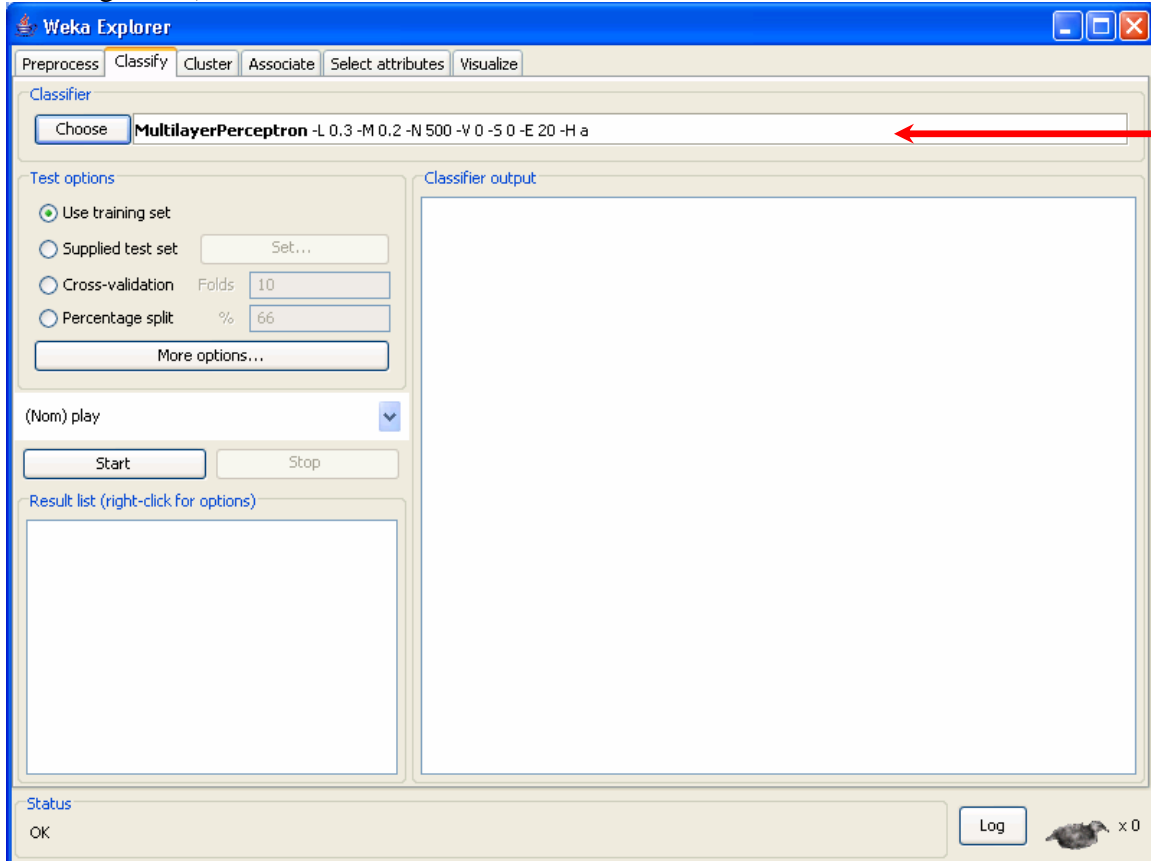


Choose a classifier.

Click on choose:

- for decision tree click on trees-> random trees
- for neural net click on functions-> multilayer perceptron

To change the parameters of the classifier right click on the classifier name (not required for assignment).



For testing we provide you with three corresponding test sets in arff format. To start the testing, Click Start. Note that the multi-layered perceptron trains very slowly. The bird in the lower right shows you that it is still executing. Eventually the results appear. The decision tree I tried (RepTree) was much faster.

The screenshot shows the Weka Explorer interface with the MultilayerPerceptron classifier selected. The classifier output window displays the following statistics:

```

Kappa statistic           0.96
Mean absolute error       0.0327
Root mean squared error   0.1291
Relative absolute error    7.3555 %
Root relative squared error 27.3796 %
Total Number of Instances 150
  
```

Below these are the 'Detailed Accuracy By Class' metrics:

TP Rate	FP Rate	Precision	Recall	F-Measure	Class
1	0	1	1	1	Iris-setosa
0.96	0.02	0.96	0.96	0.96	Iris-versicolor
0.96	0.02	0.96	0.96	0.96	Iris-virginica

The confusion matrix is also displayed:

```

=== Confusion Matrix ===
 a b c <-- classified as
50 0 0 | a = Iris-setosa
 0 48 2 | b = Iris-versicolor
 0 2 48 | c = Iris-virginica
  
```

The output gives you a lot of statistics. Report on the correct and incorrect classification rates and the confusion matrix.