King Saud University
College of Computer and Information Sciences
Information Technology Department
IT426
Artificial Intelligence Systems

HOMEWORK 4

Instructions:

- This assignment should be solved individually.
- Please include screenshots showing the steps and results of each question
- Due date is 11th of Nov, 2020 (11:59 pm)

Questions:

Q1: Use j48 decision tree learner to model for class attribute play tennis in **Weather.arff** dataset

A. Make prediction for “play”.

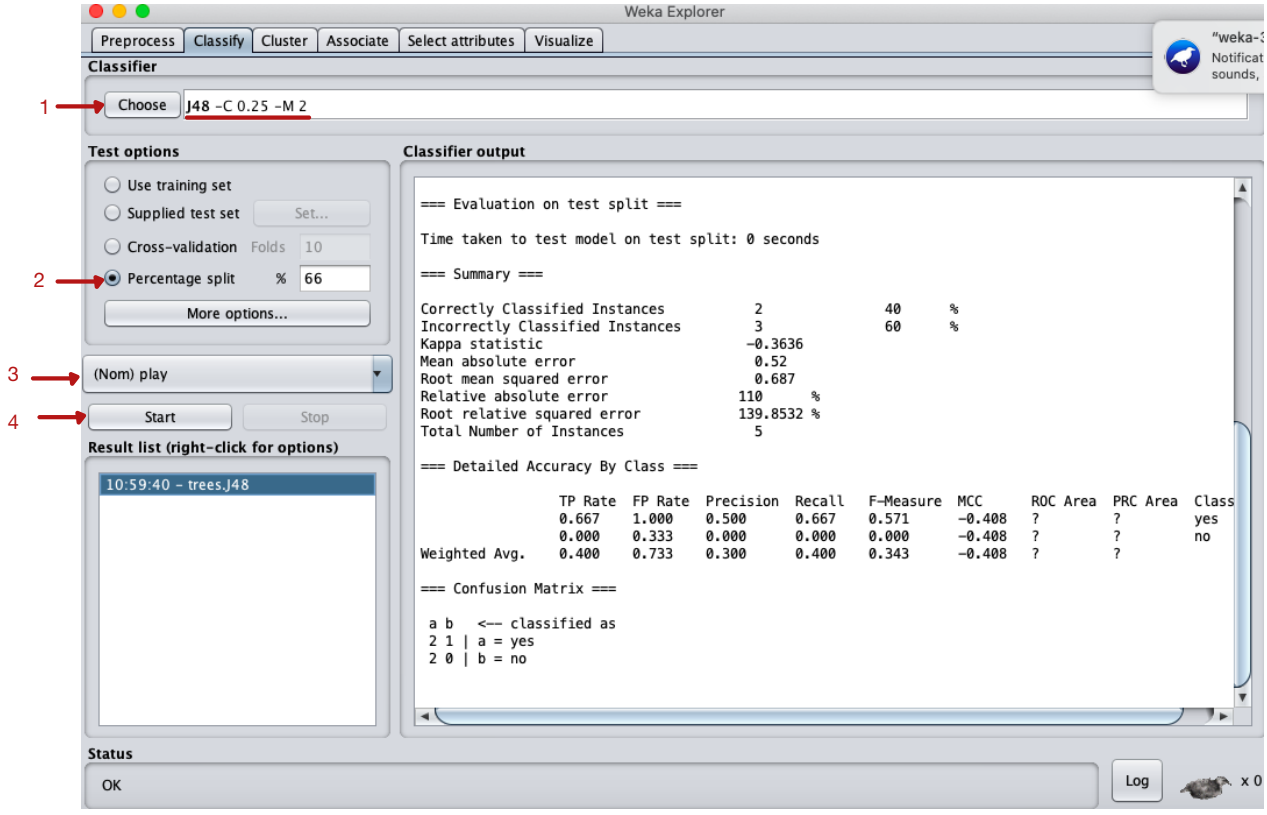

Figure 1

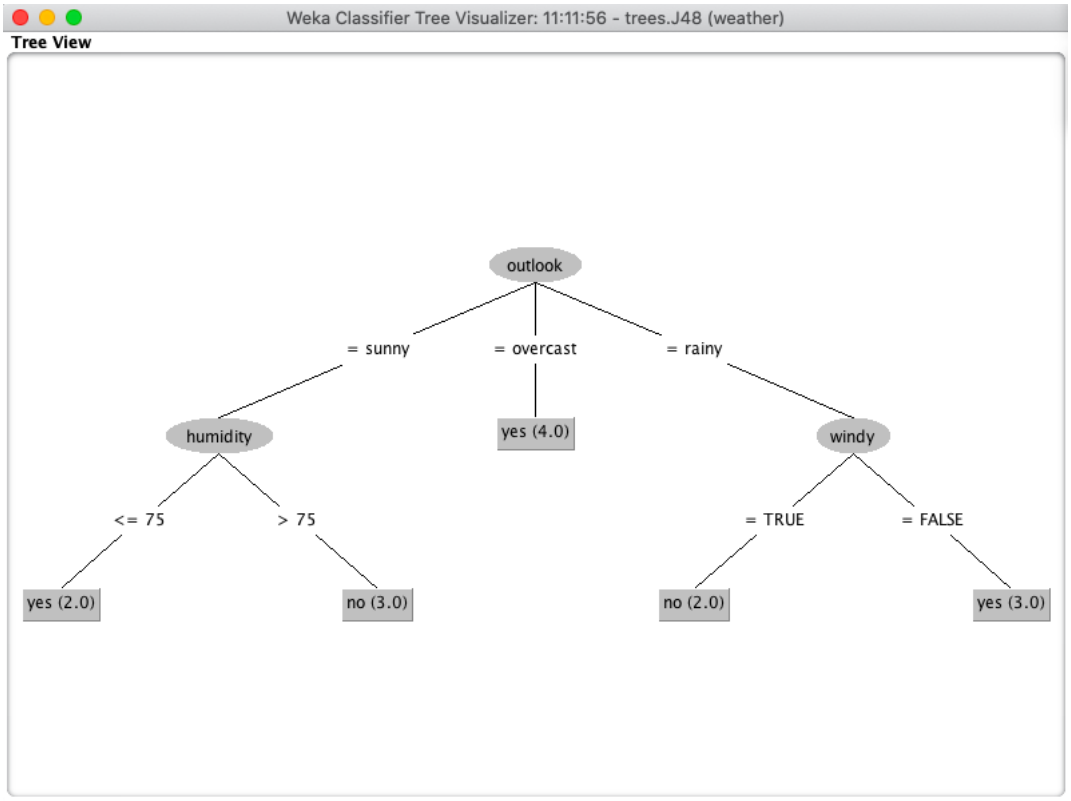

Figure 2 the result as tree

B. Make predictions for the ‘temperature’ attribute. Do you need to do any additional data preparation?

Yes we need to do discretizes to our data before making prediction,and I discretizes the data with equal frequency.

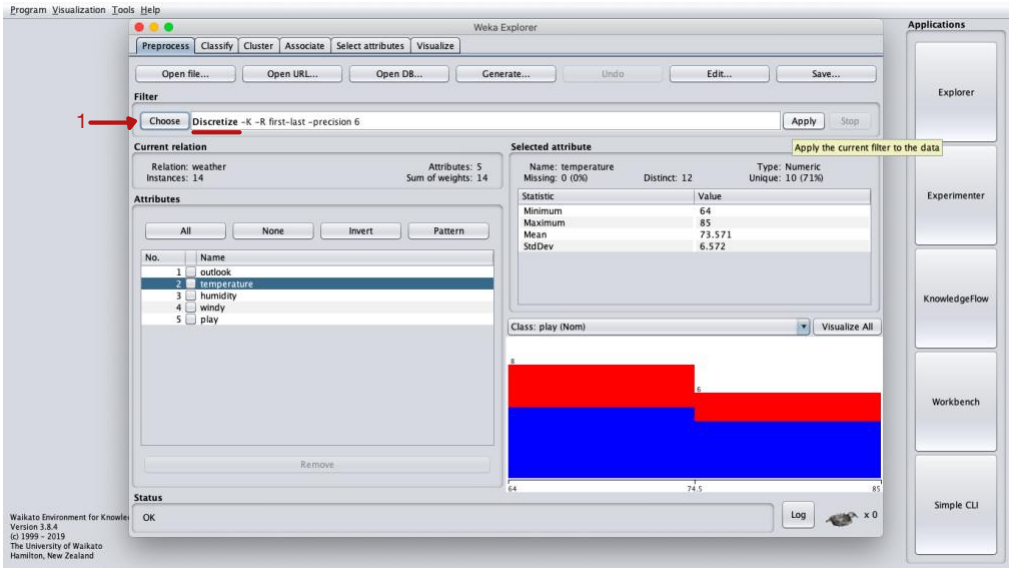

Figure 3 data before discretizes

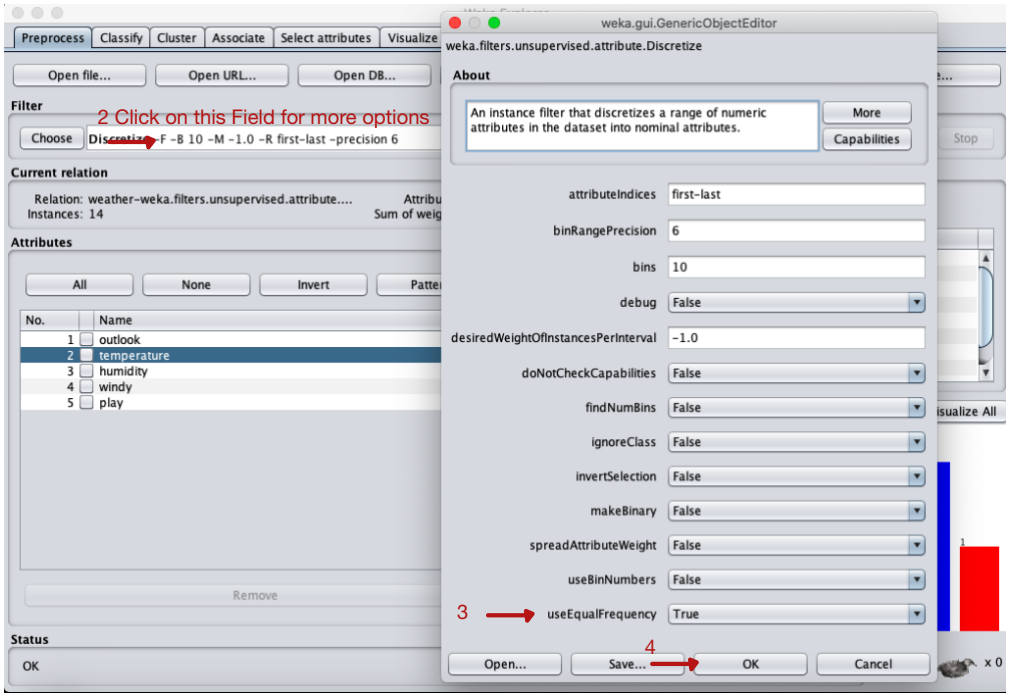

Figure 4 use equal frequency to discretizes the data

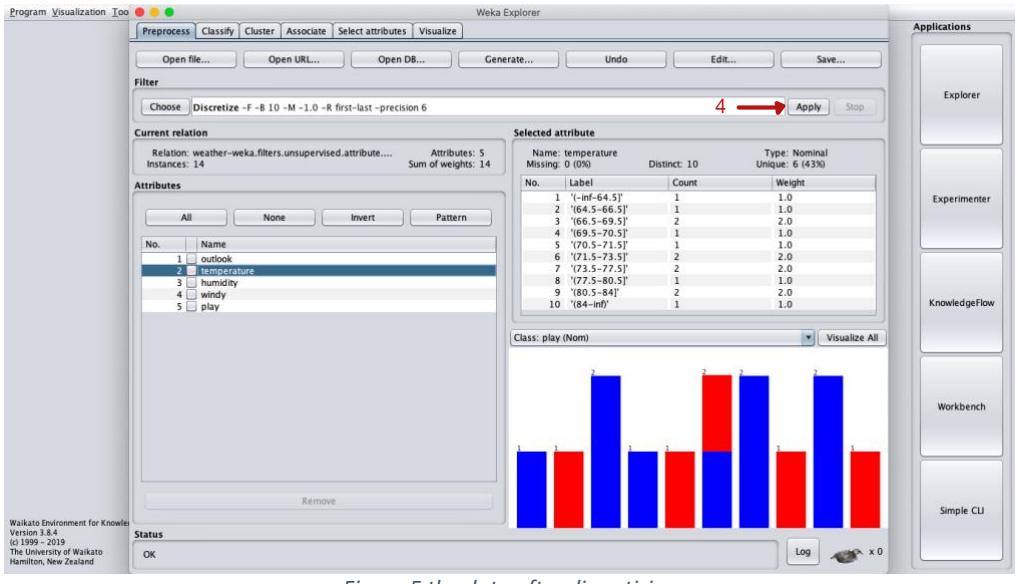

Figure 5 the data after discretizing

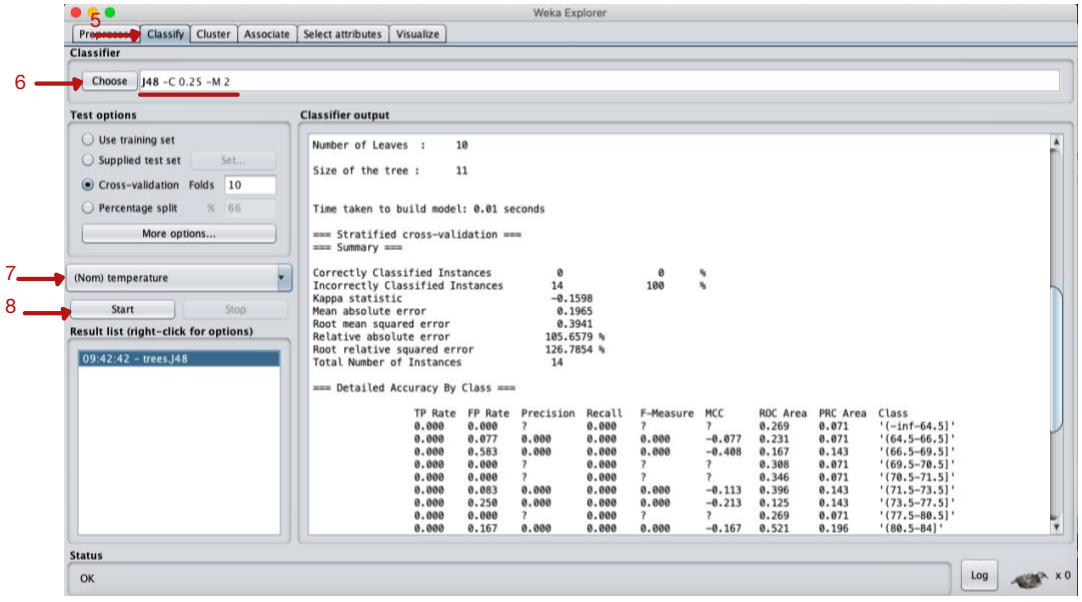

Figure 6

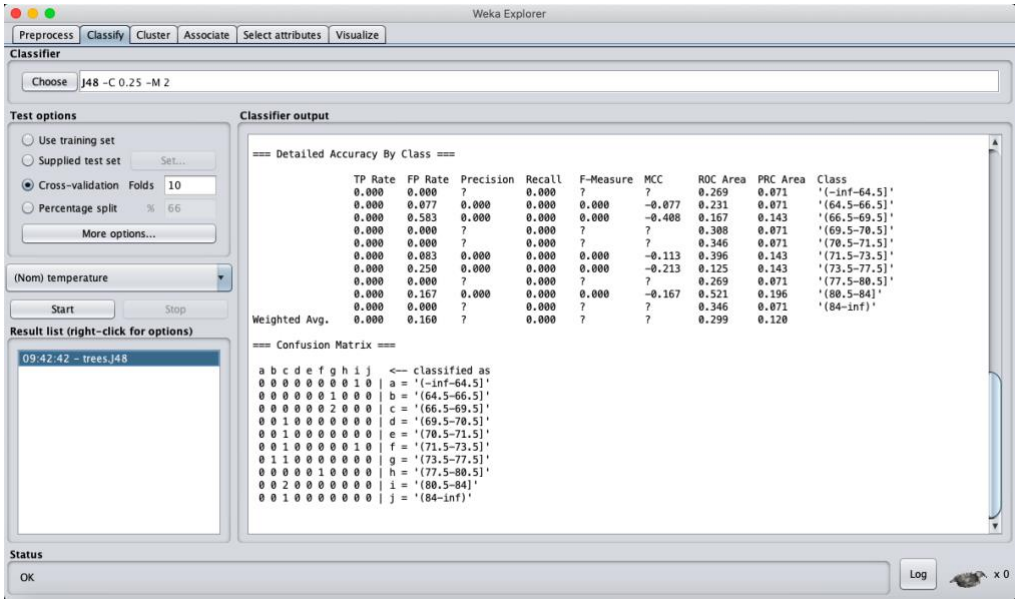

Figure 7

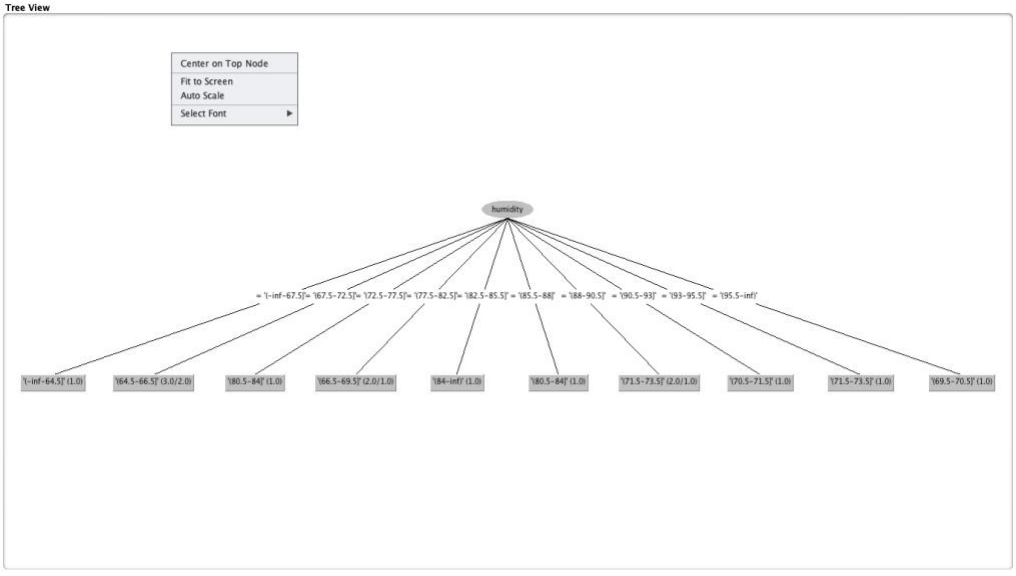

Figure 8 the result as tree

Q2: Apply JRip algorithm for **Contact Lenses.arff** dataset.

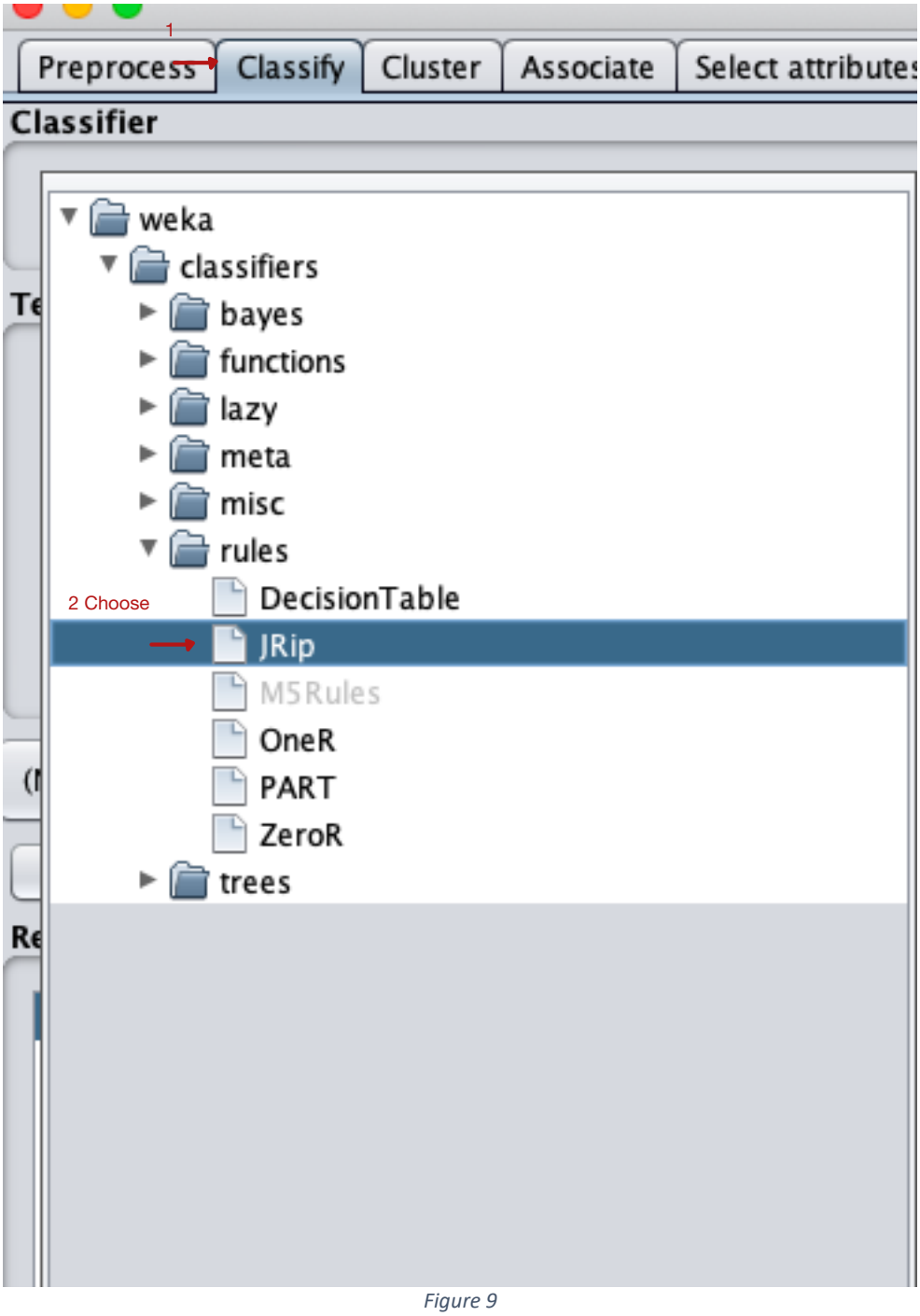
1
Preprocess
Classify
Cluster
Associate
Select attributes
Classifier
weka
classifiers
bayes
functions
lazy
meta
misc
rules
2 Choose
DecisionTable
JRip
M5Rules
OneR
PART
ZeroR
trees

Figure 9

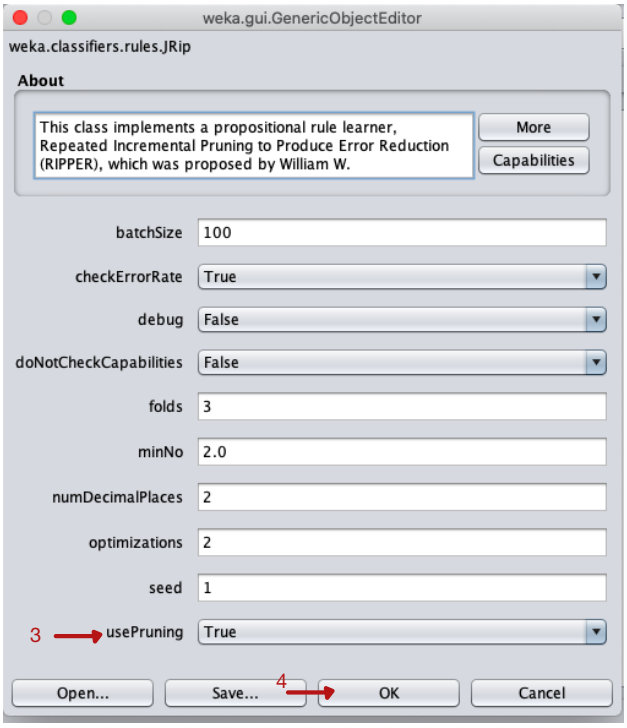

Figure 10 use pruning

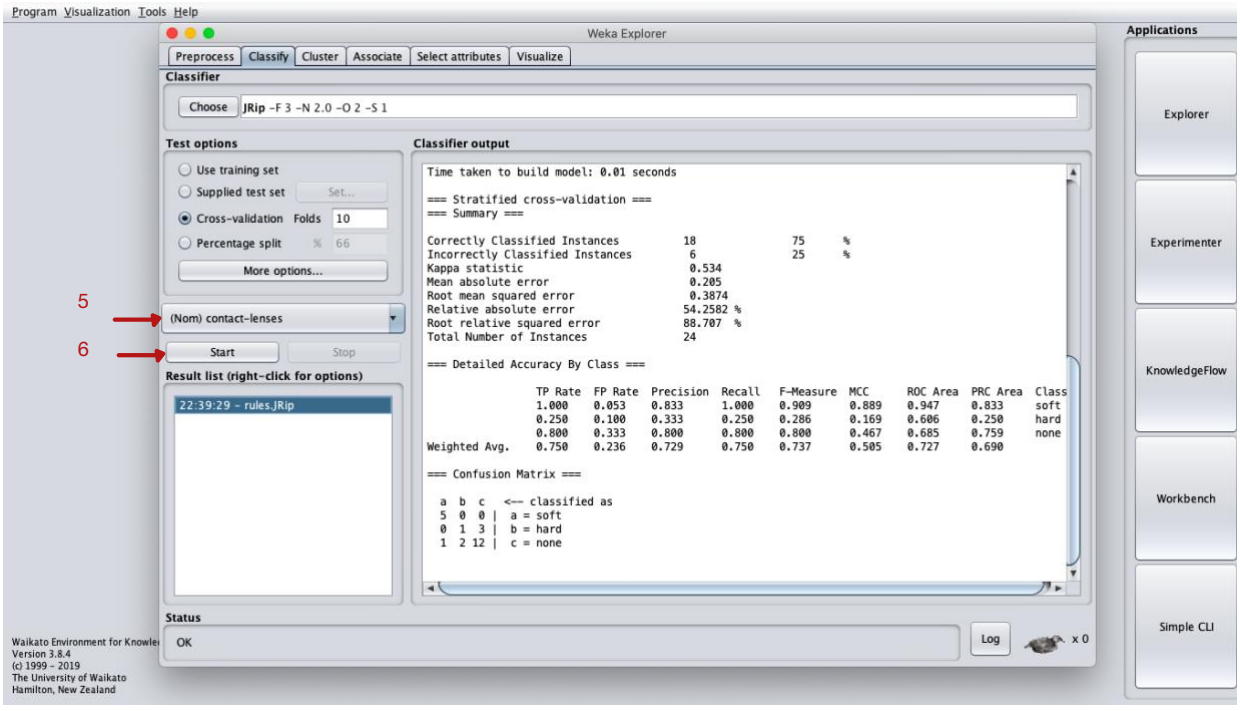

Figure 11 the result with pruning

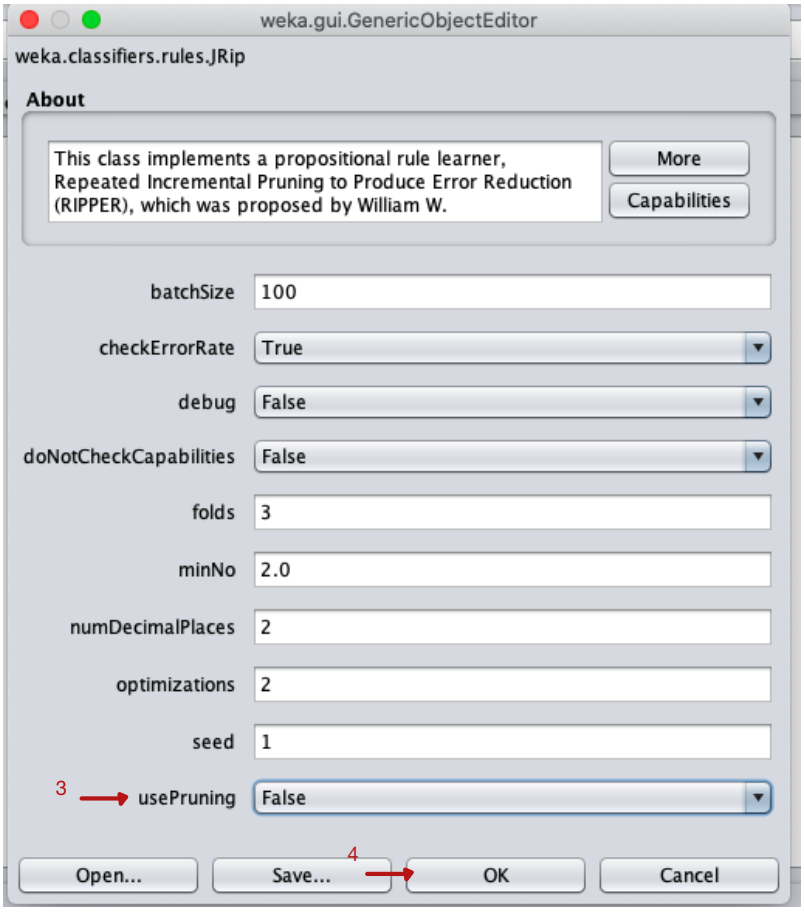

Figure 12 without pruning

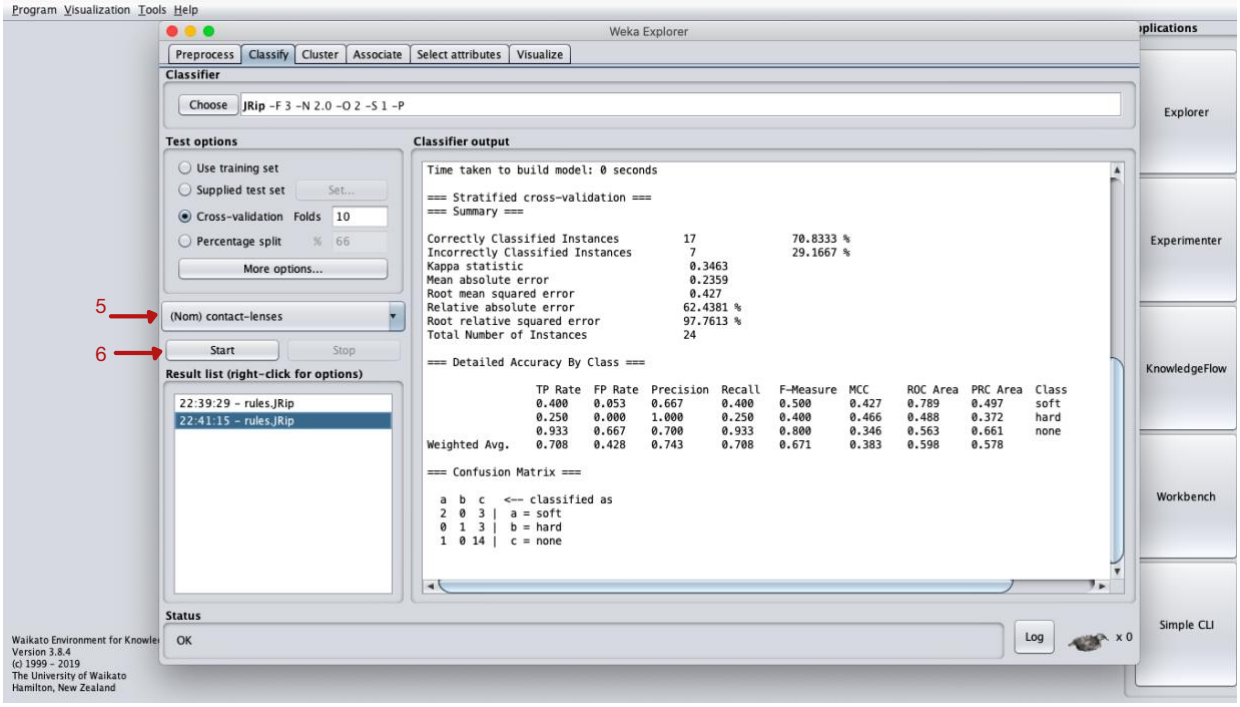

Figure 13 the result without pruning

Q3: Apply CfsSubsetEval evaluator method with SVM Algorithm for **Diabetes.arff** dataset. Use 10 – flood cross validation.

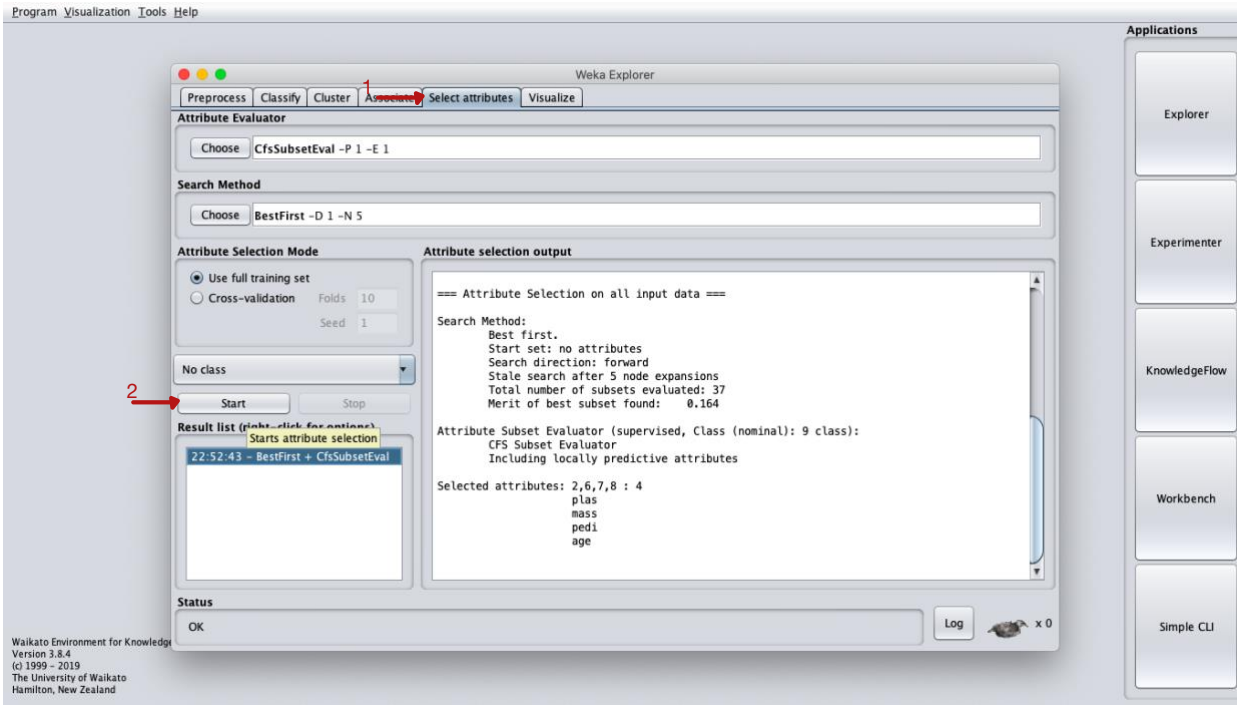

Figure 14

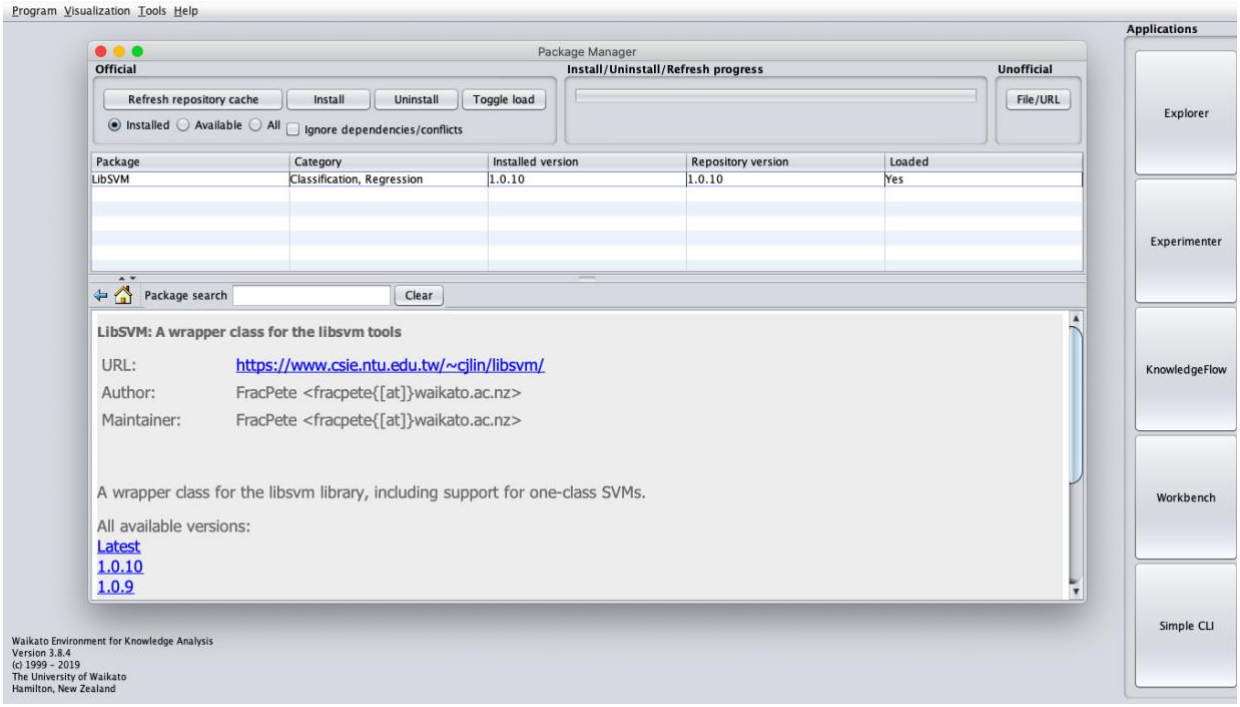

Figure 15 downloading the libSVM from (tools> package manager)

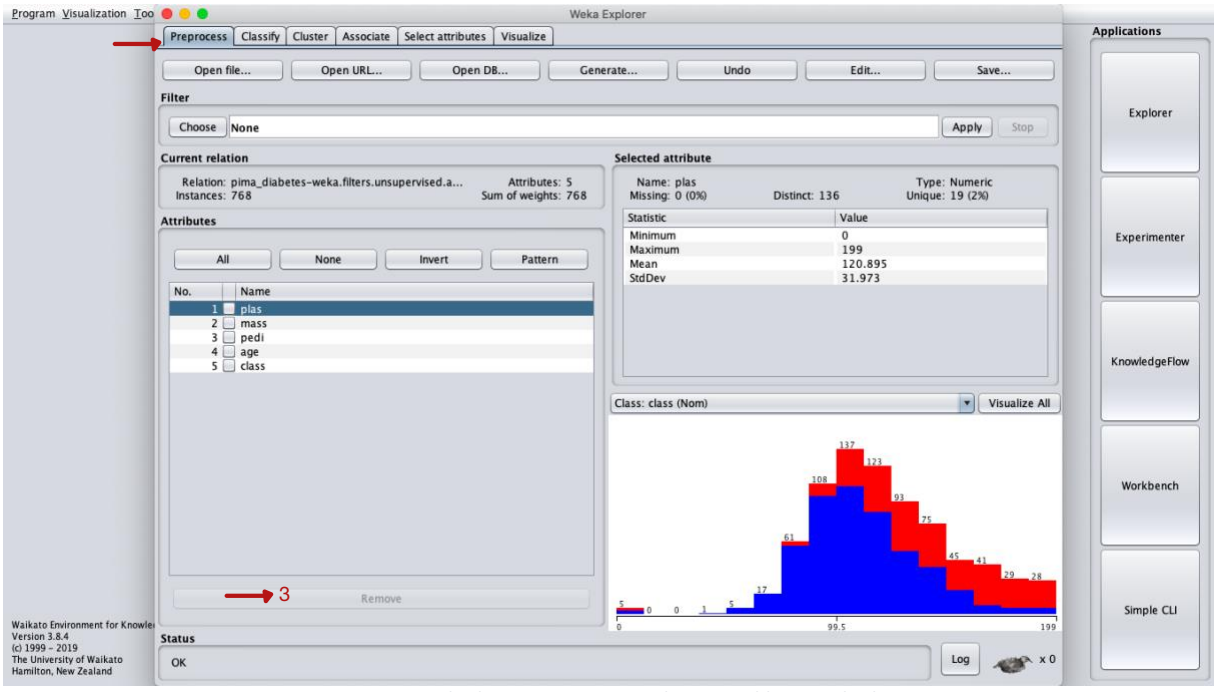

Figure 16 we remove the less important attributes and keep only the important

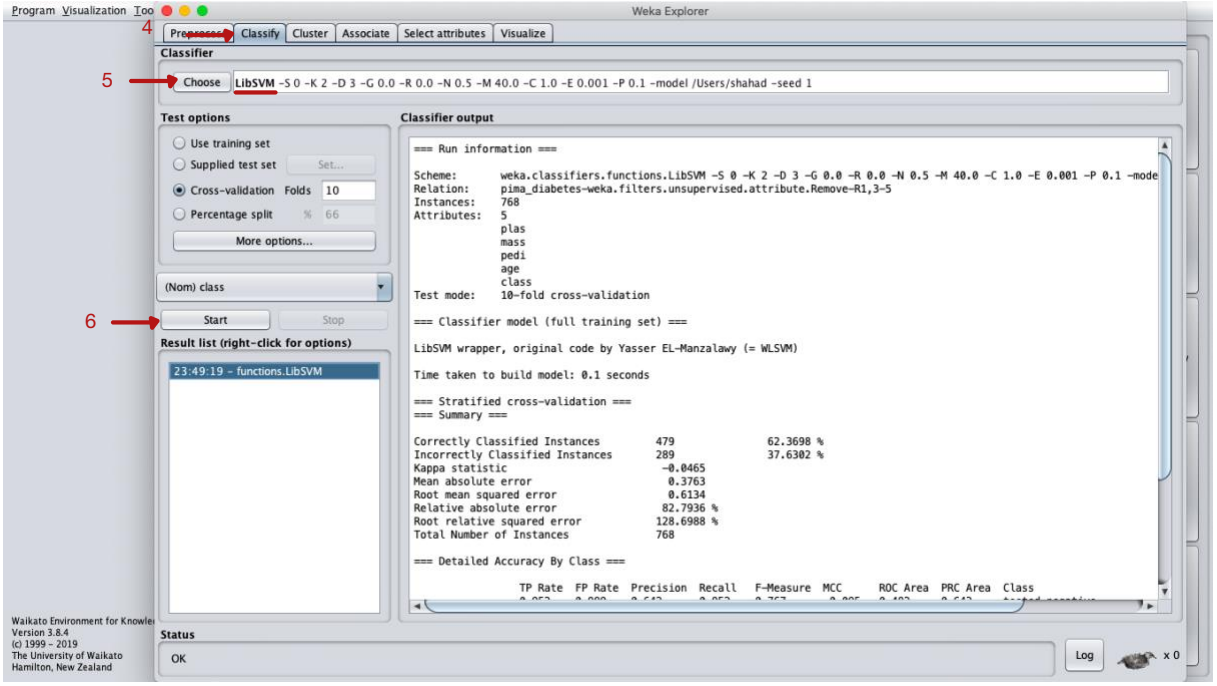

Figure 17 the result of the SVM on the class

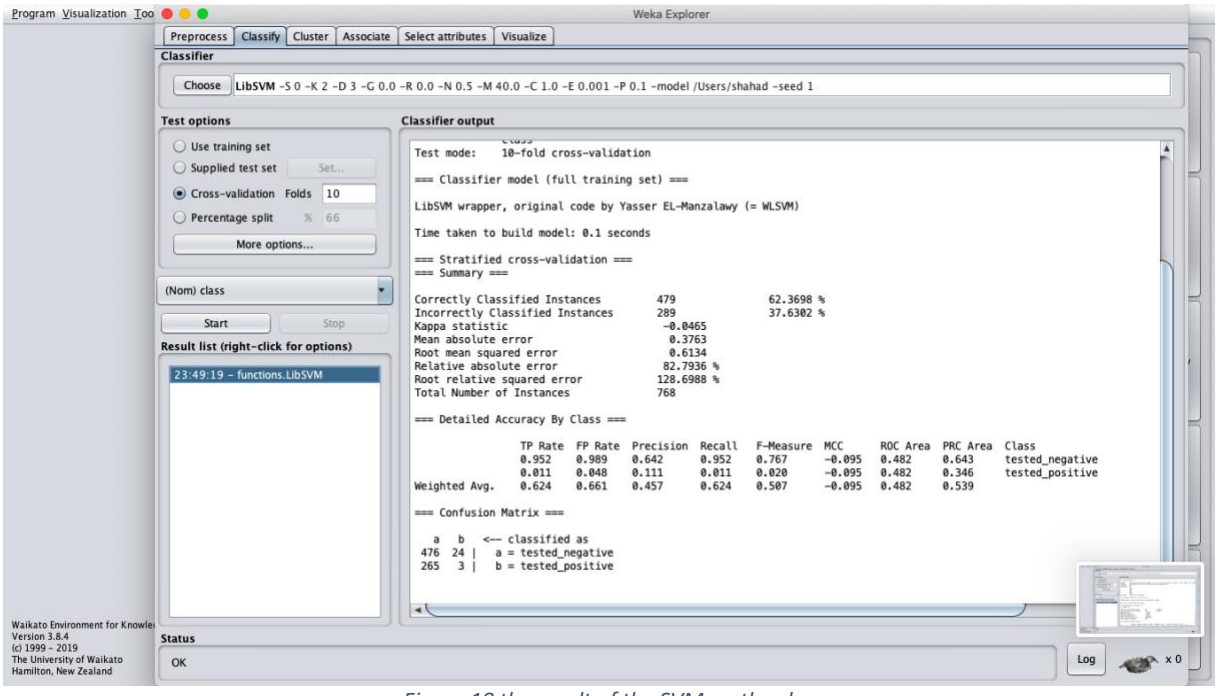

Figure 18 the result of the SVM on the class

Q4: Apply K-mean for **Iris.arff** Dataset.

I use 3 cluster

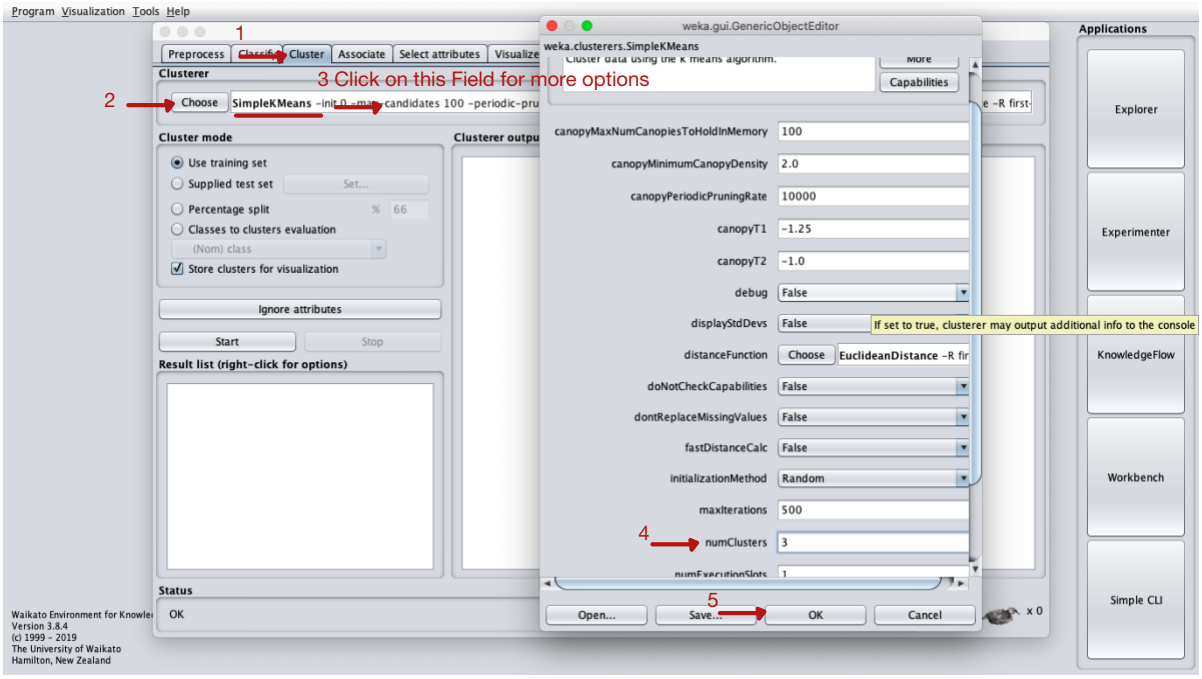

Figure 19 choose > simpleKMeans > click on the simpleKMeans > numCluster =3>ok

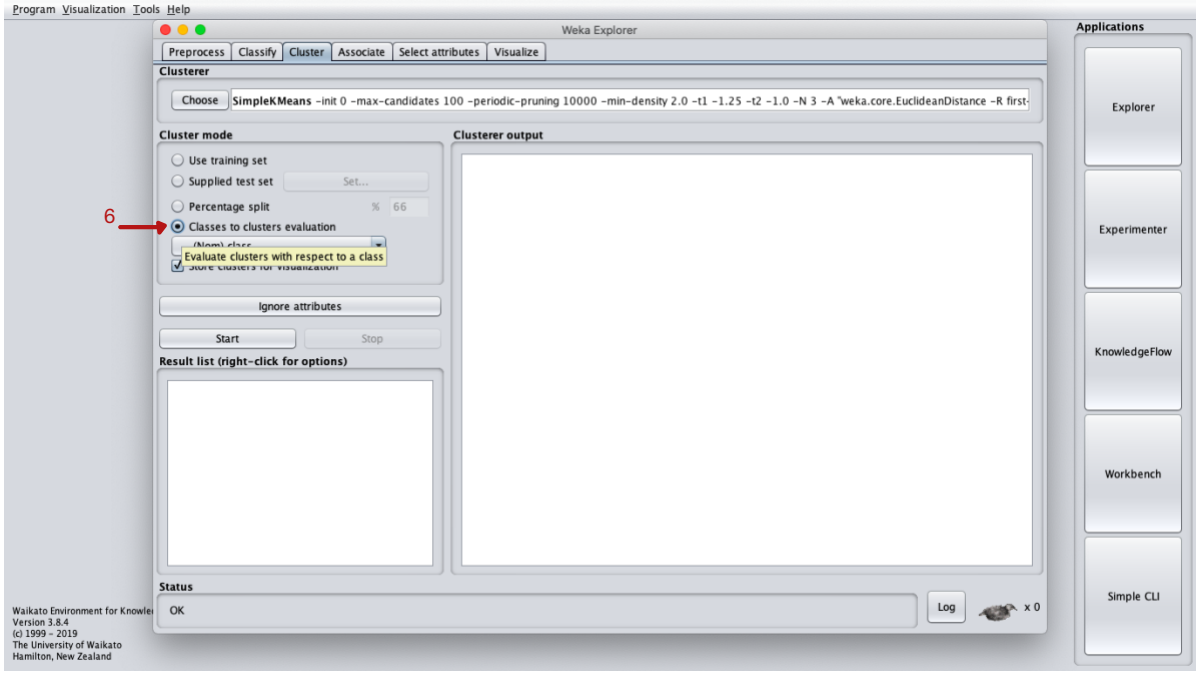

Figure 20 select >class to cluster evaluation

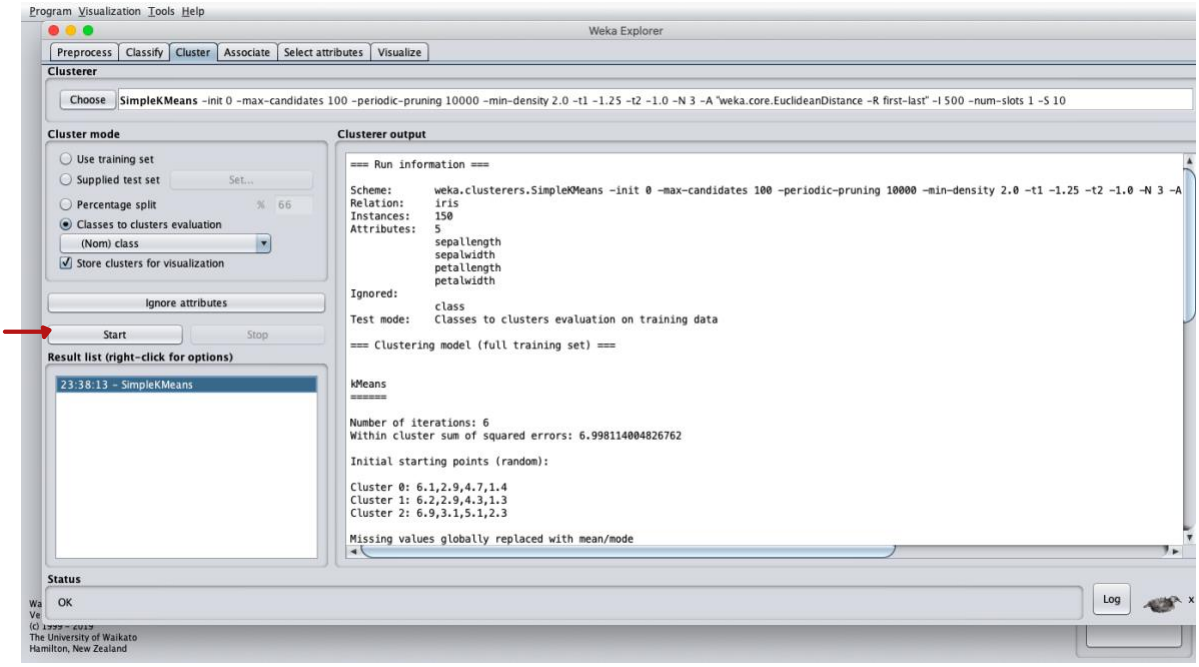

Figure 21 the result

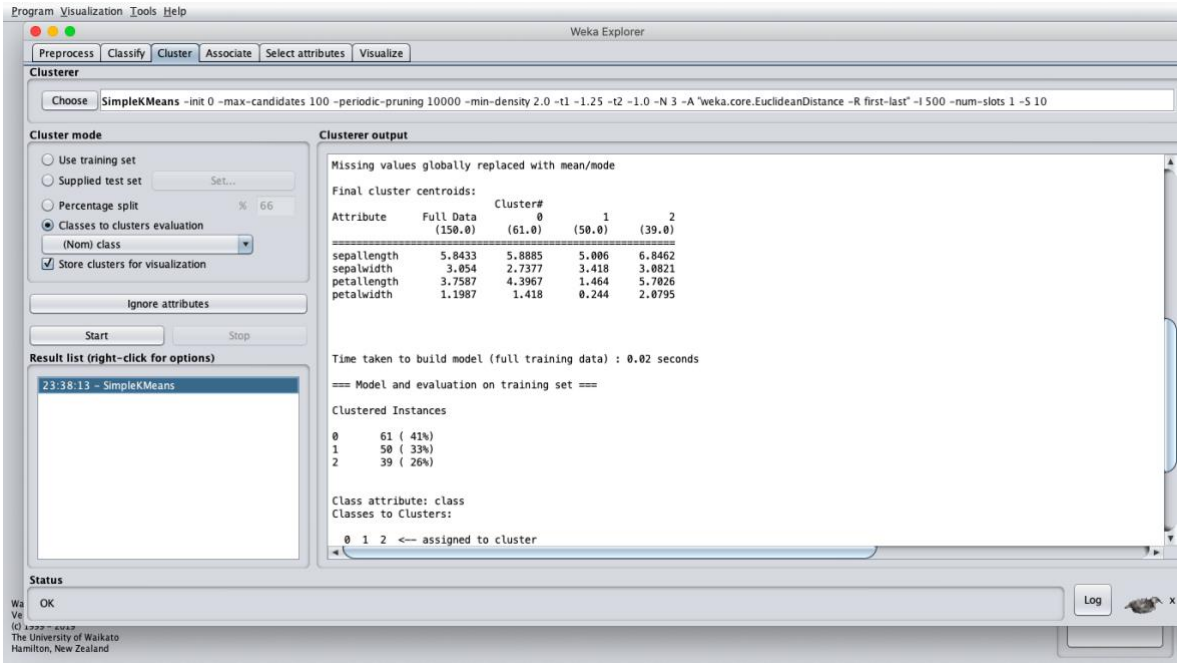

Figure 22 the result

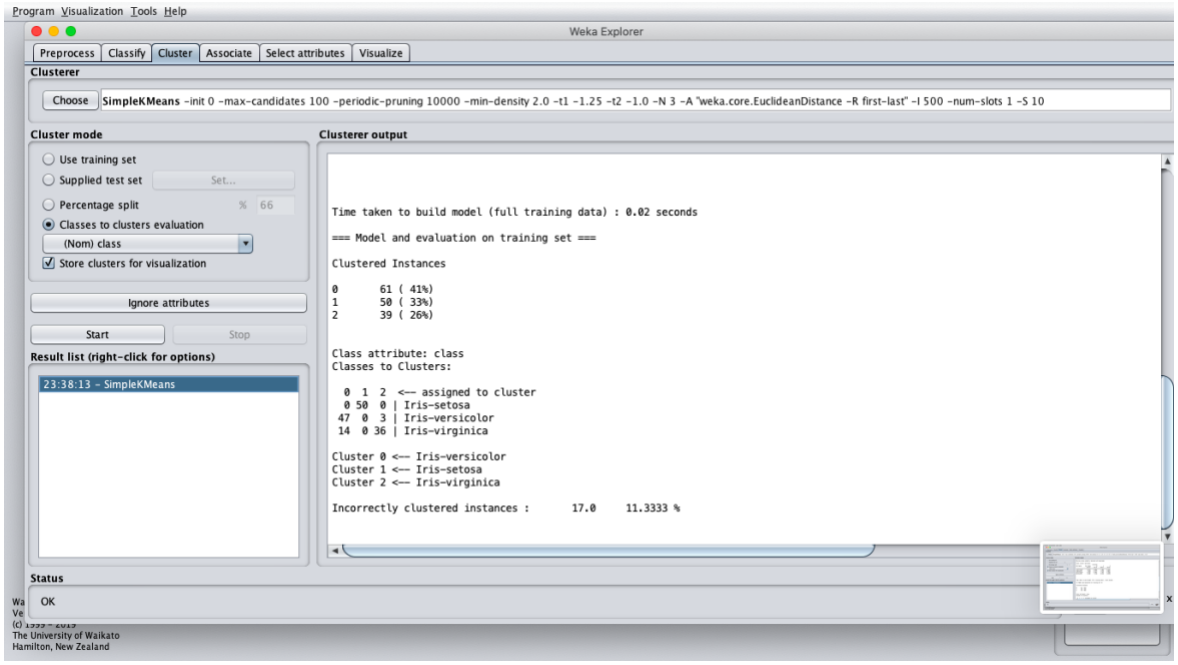

Figure 23 the result