NAME: Sejal Gurkhe

UID: 2019130017

TE Computer

Experiment 9

Objective:

Apply Apriori Algorithm to given dataset Association Rule Mining with WEKA

Procedure:

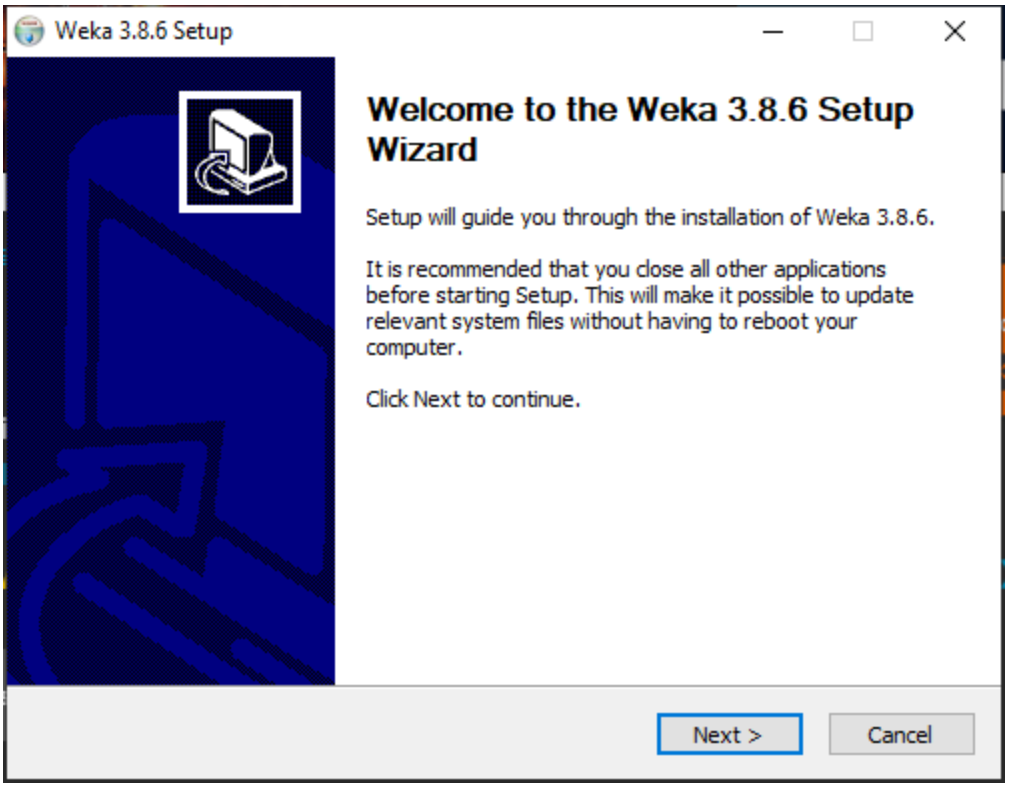
1.Download the software as your requirements from the below given link.

http://www.cs.waikato.ac.nz/ml/weka/downloading.html

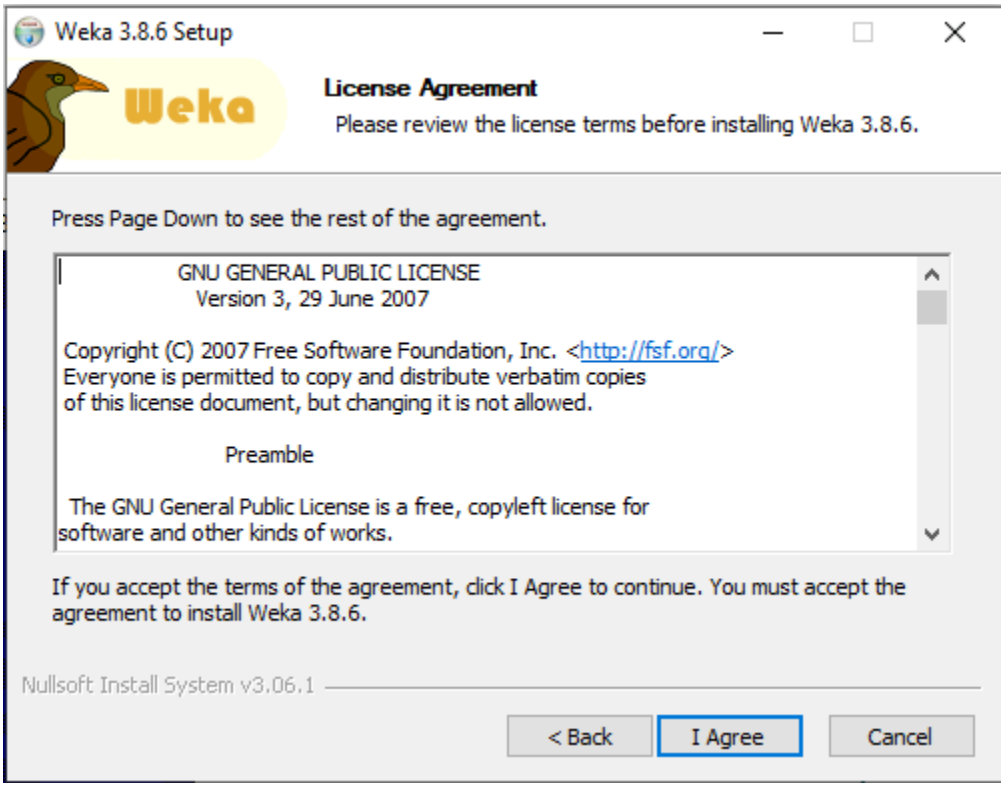
2. The Java is mandatory for installation of WEKA so if you have already Java on your machine then download only WEKA else download the software with JVM.

3. Then open the file location and double click on the file

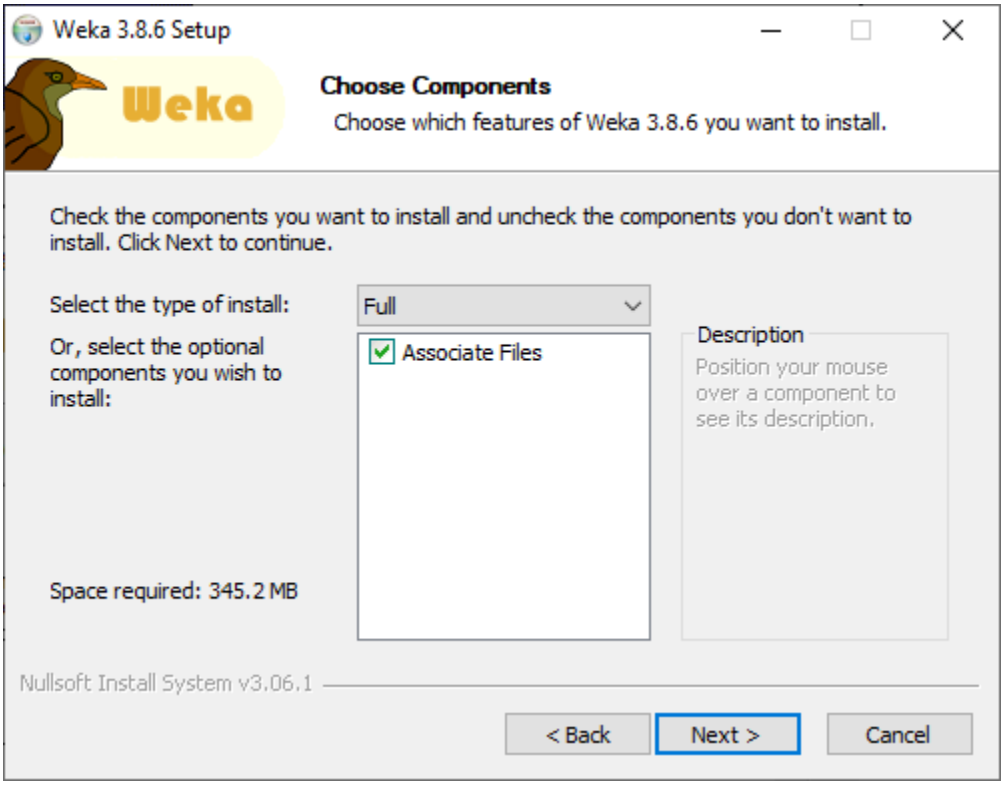
4. Click Next



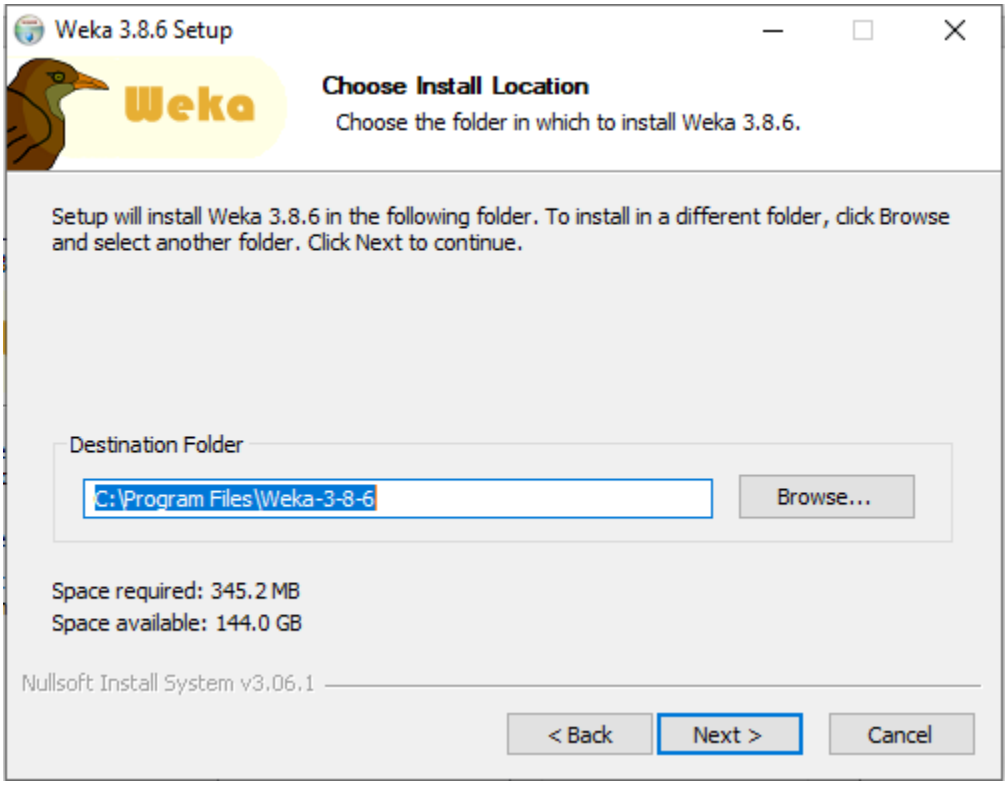
5. Click I Agree.



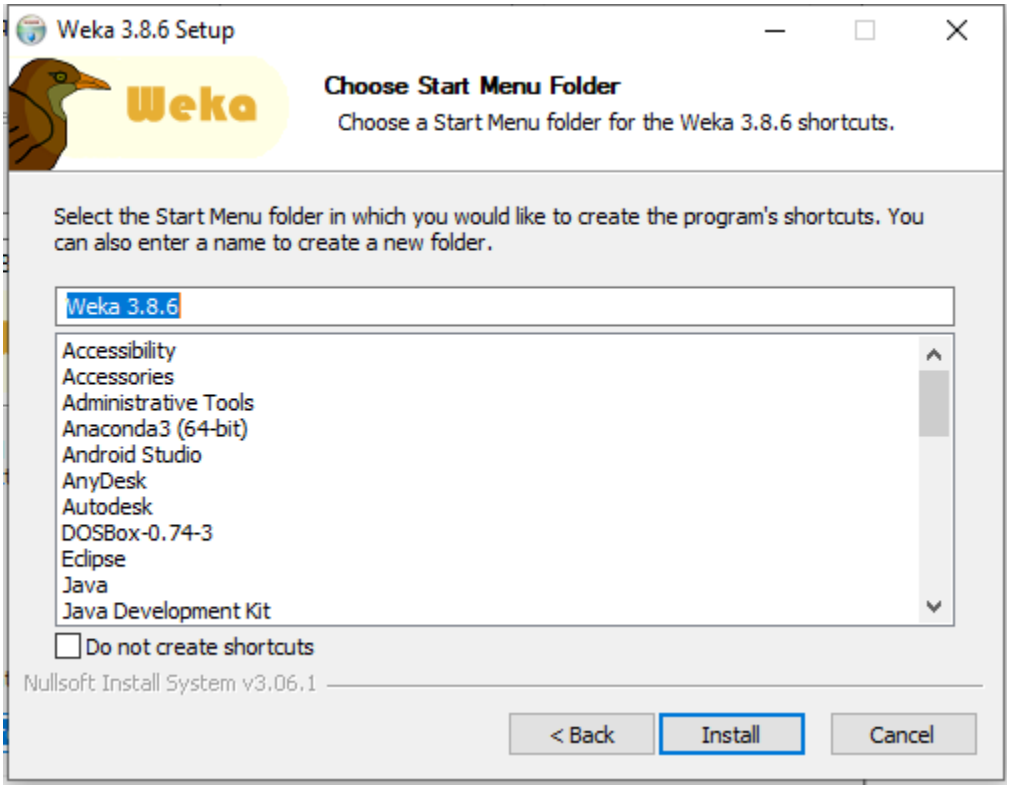
6.select Full and Associate files are the recommended settings and click next.

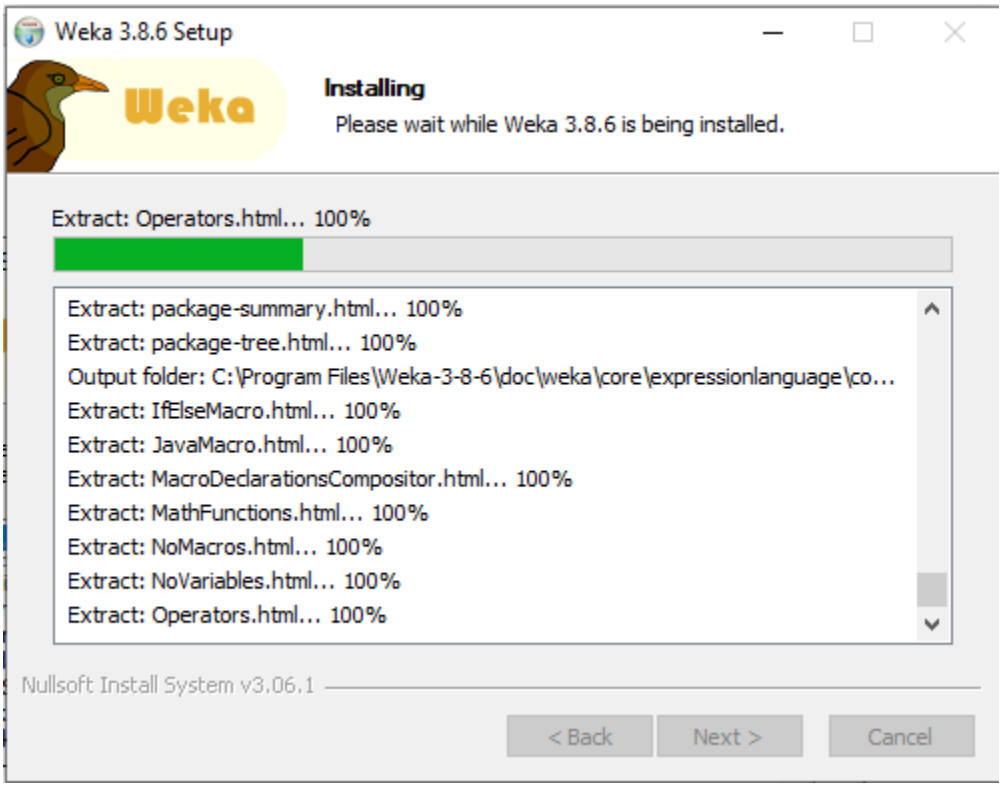


7.Set the installation location and click next

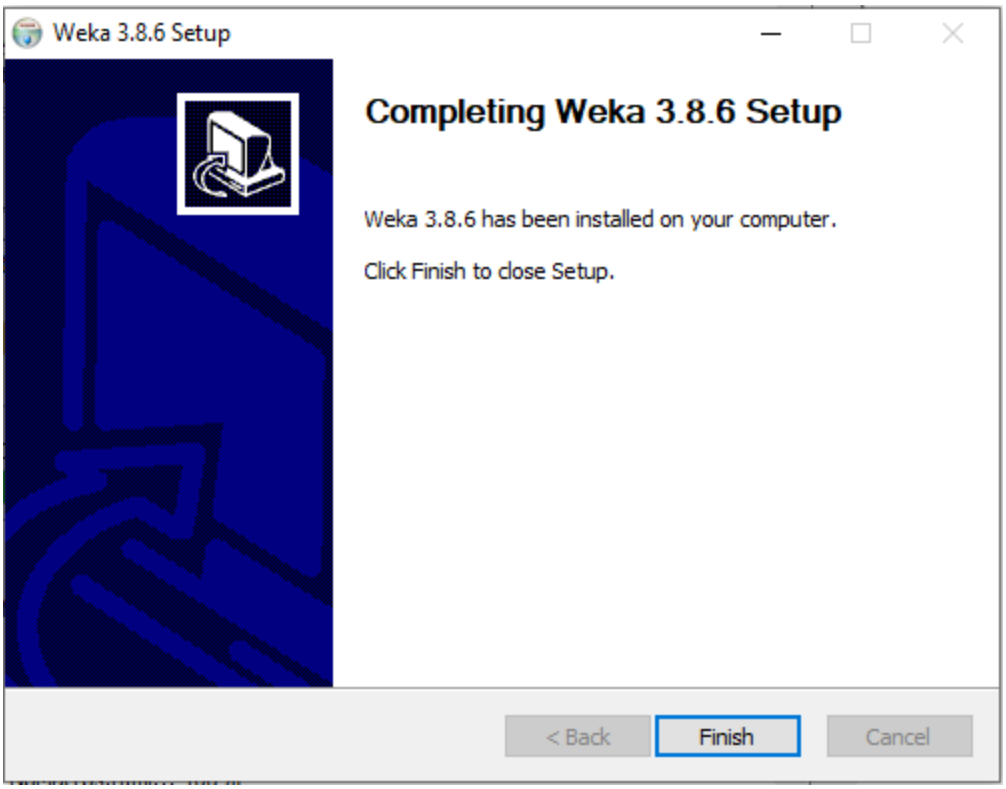


8.click Install.



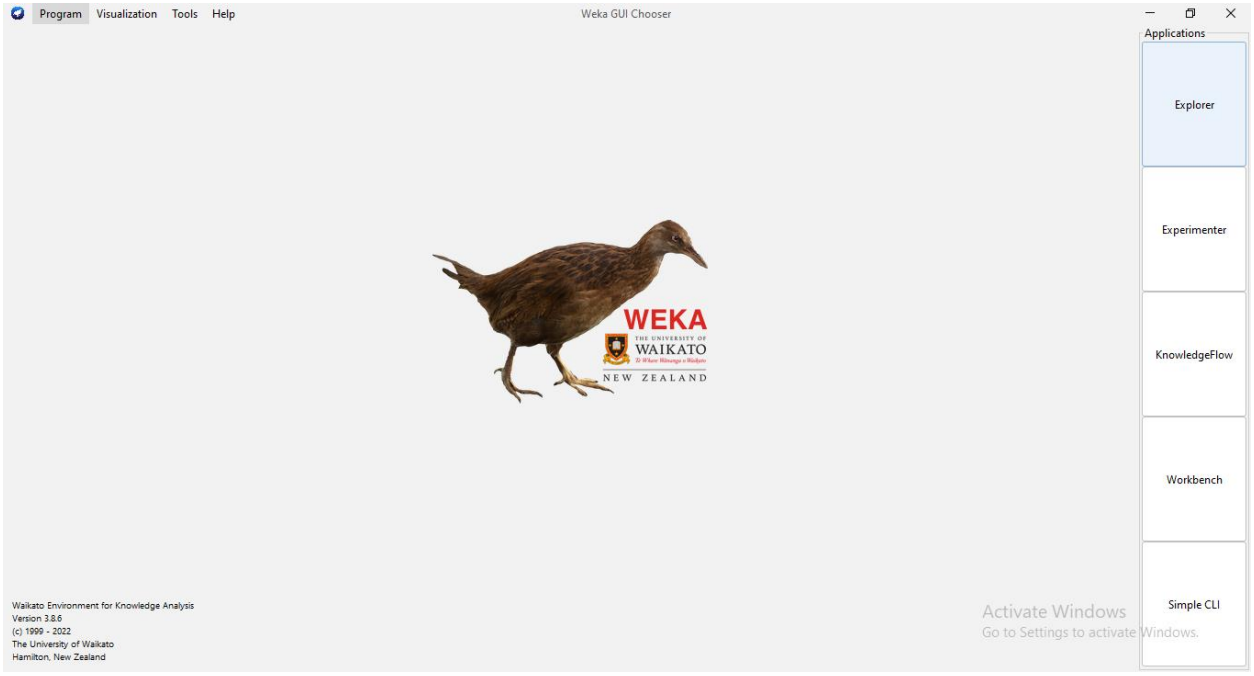


9.click finish and it will complete the installation



10. This is the GUI is started after the installing the weka. You have 4 options Explorer, Experimenter,

KnowledgeFlow and Simple CLI.



1.Explorer An environment for exploring data with WEKA (the rest of this Documentation

deals with this application in more detail).

2. Experimenter An environment for performing experiments and conducting statistical tests between learning schemes.

3. Knowledge Flow This environment supports essentially the same functions as the Explorer but with a drag-and-drop interface. One advantage is that it supports incremental learning.

4. SimpleCLI Provides a simple command-line interface that allows direct execution of WEKA commands for operating systems that do not provide their own command line interface.

11. After click the weka explorer it will show the weka explorer window in that following tabs are avaliable

1. Preprocess. Choose and modify the data being acted on.

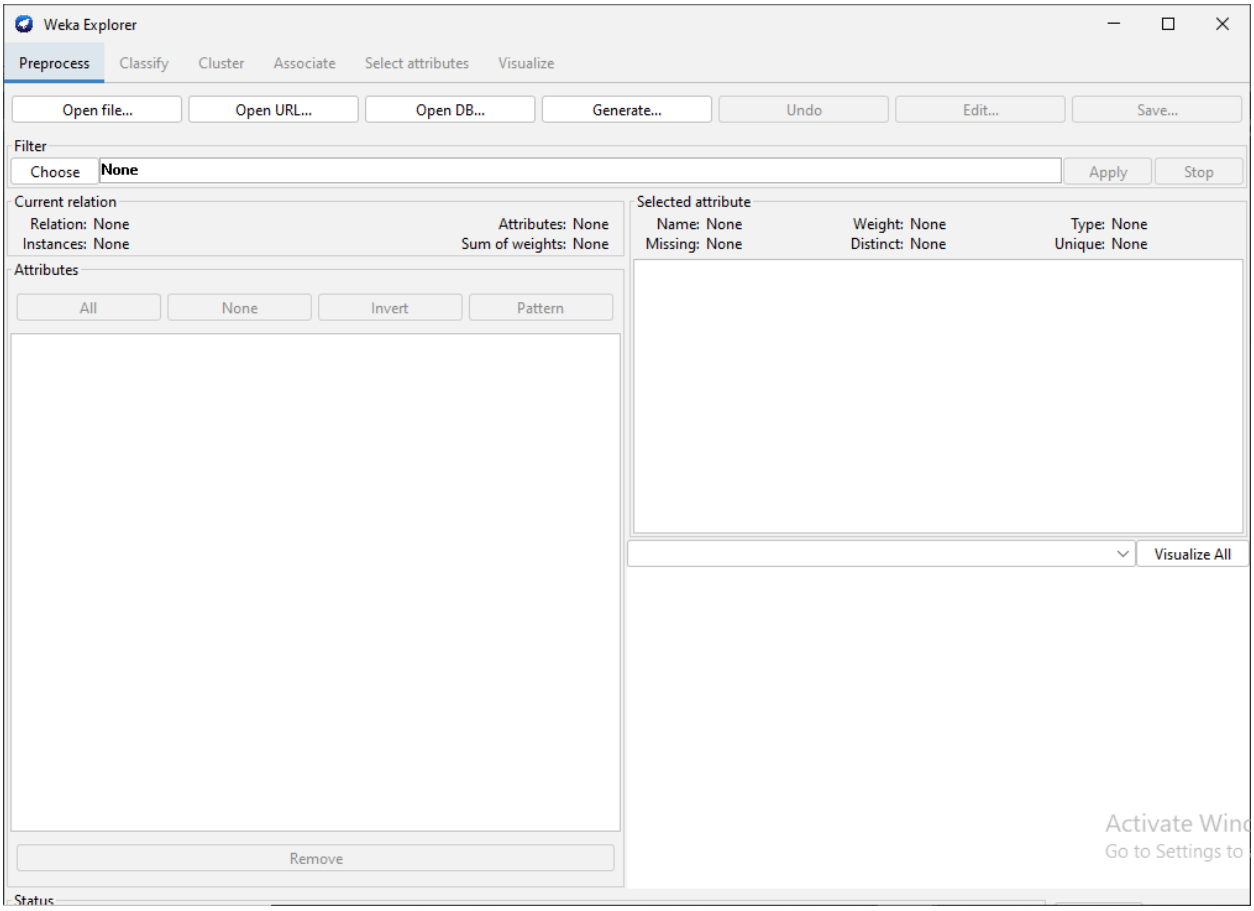
2. Classify. Train & test learning schemes that classify or perform regression

3. Cluster. Learn clusters for the data.

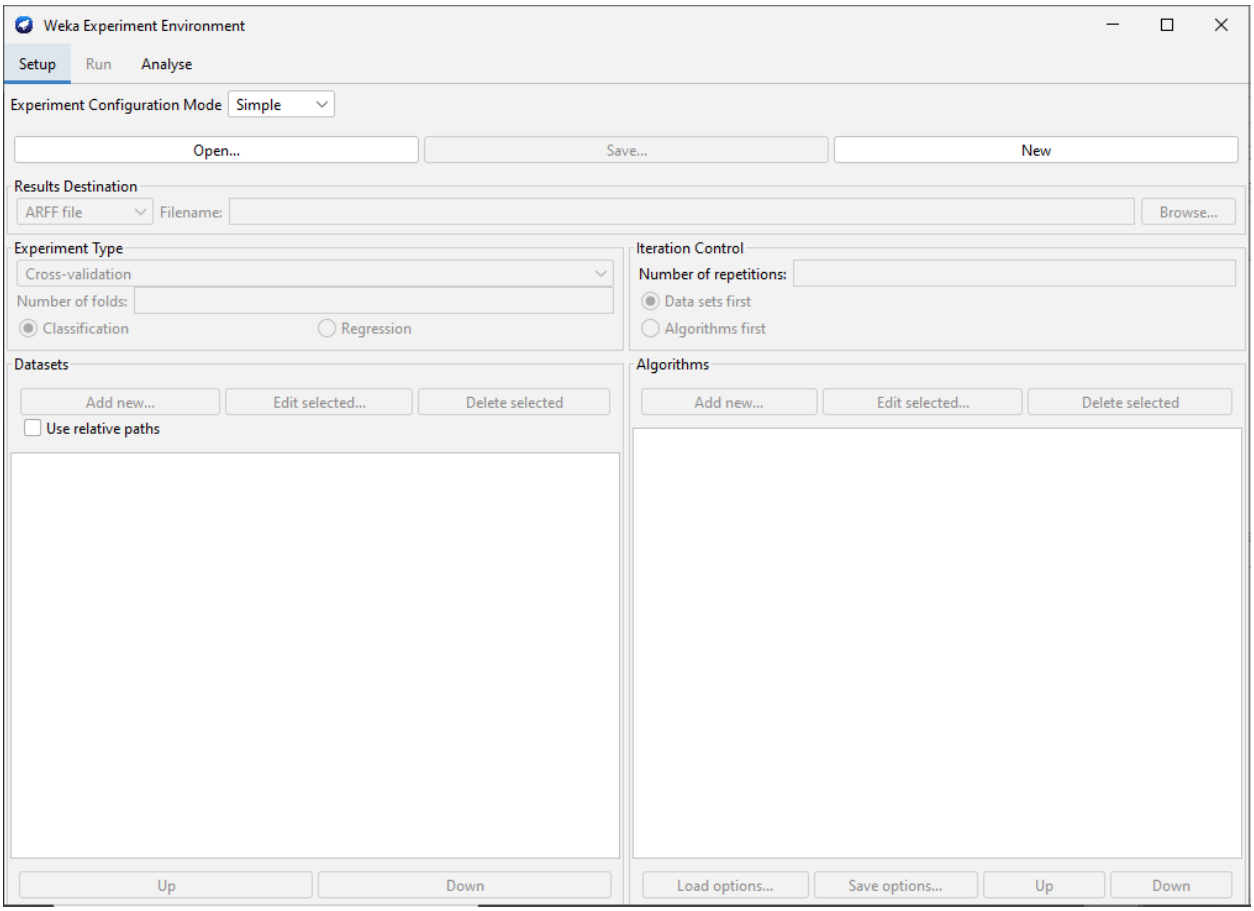
4. Associate. Learn association rules for the data.

5. Select attributes. Select the most relevant attributes in the data.

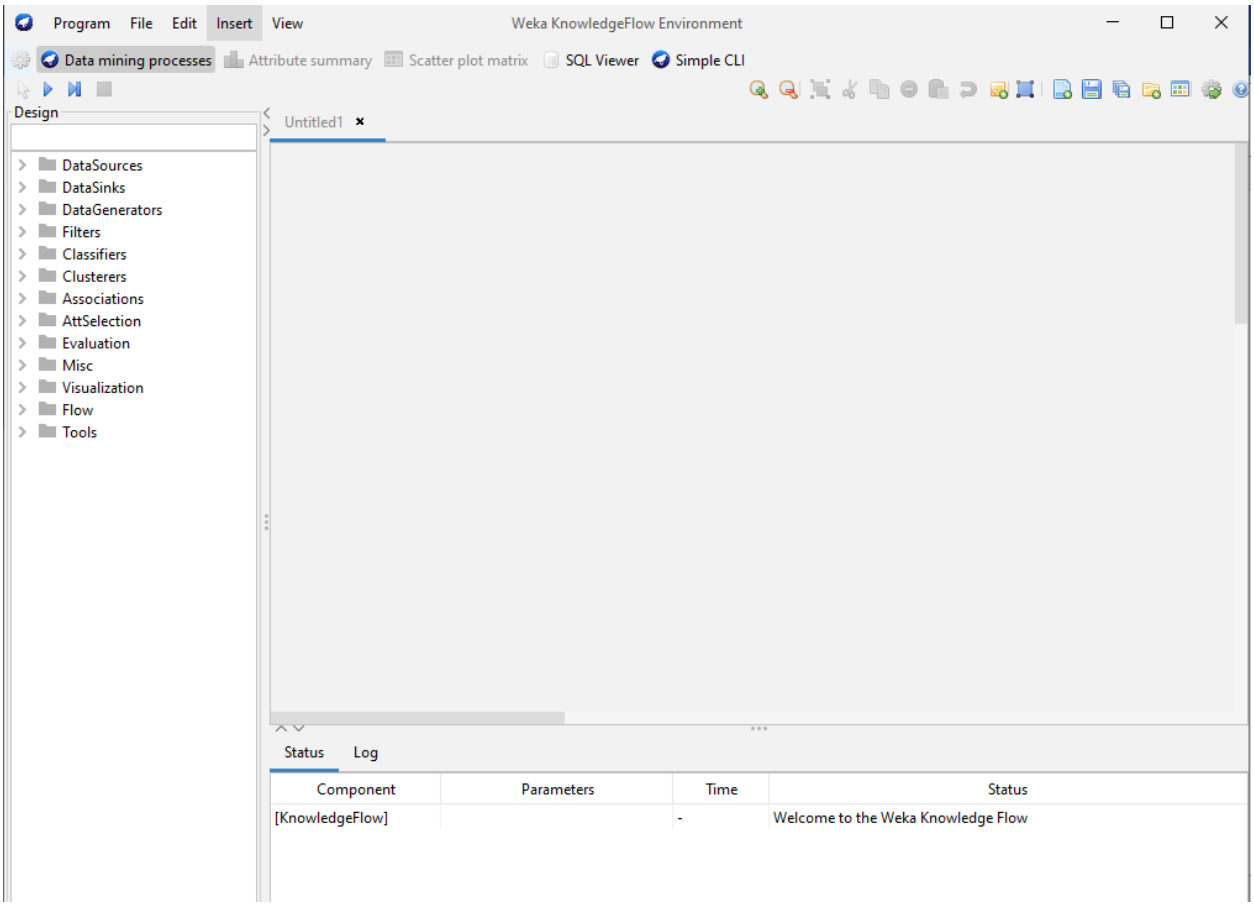
6. Visualize. View an interactive 2D plot of the data.



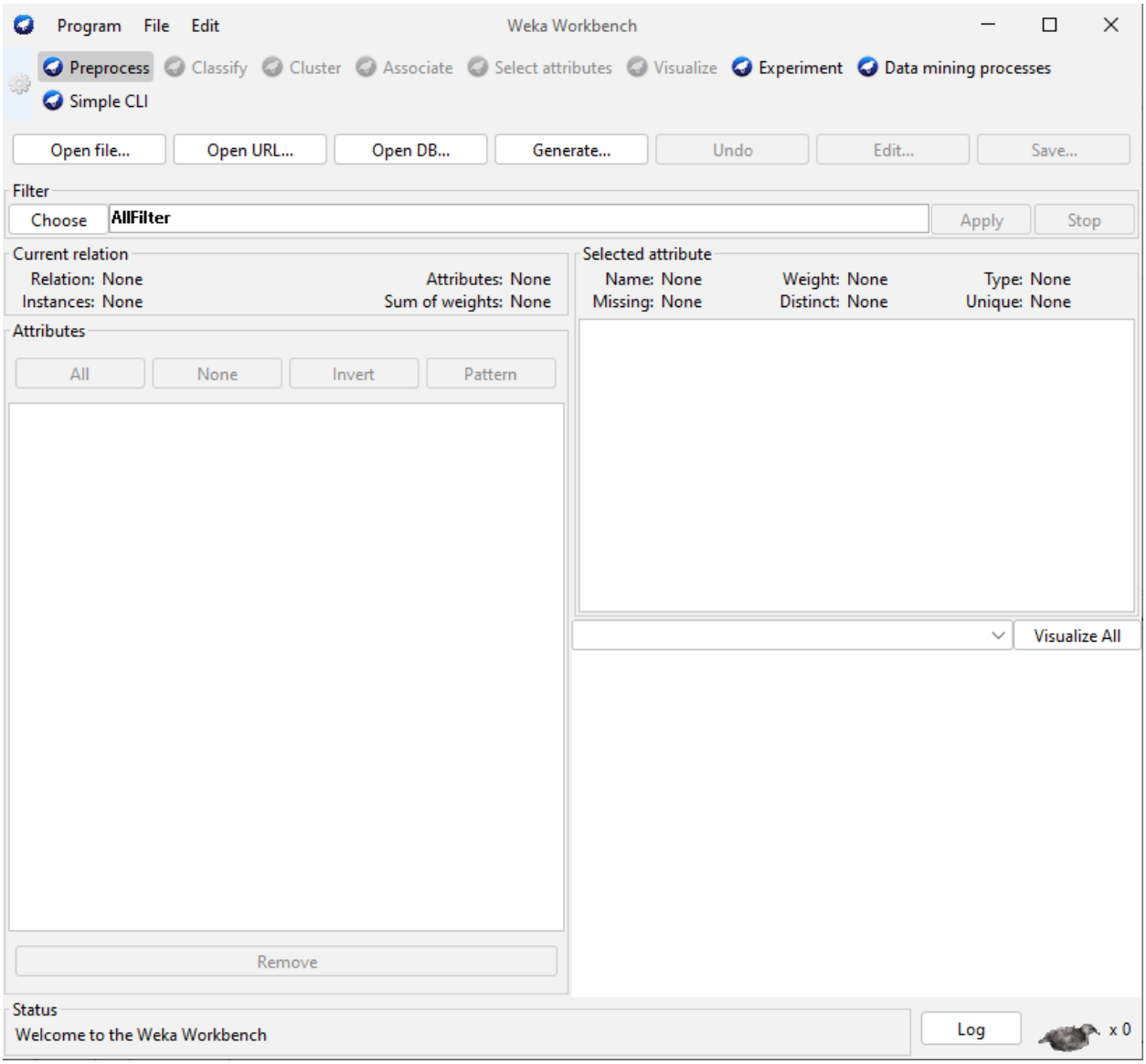
12.After click the weka experimenter it will show the weka eperimenter window



13.Knowledge flow



14.Weka workbench



15.Simple CLI

Commands:

The following commands are available in the Simple CLI:

· Java <classname> [<args>]

Invokes a java class with the given arguments (if any).

· Break

Stops the current thread, e.g., a running classifier, in a friendly manner kill stops the current thread in an unfriendly fashion.

· Cls

Clears the output area

· Capabilities <classname> [<args>]

Lists the capabilities of the specified class, e.g., for a classifier with its.

· option:

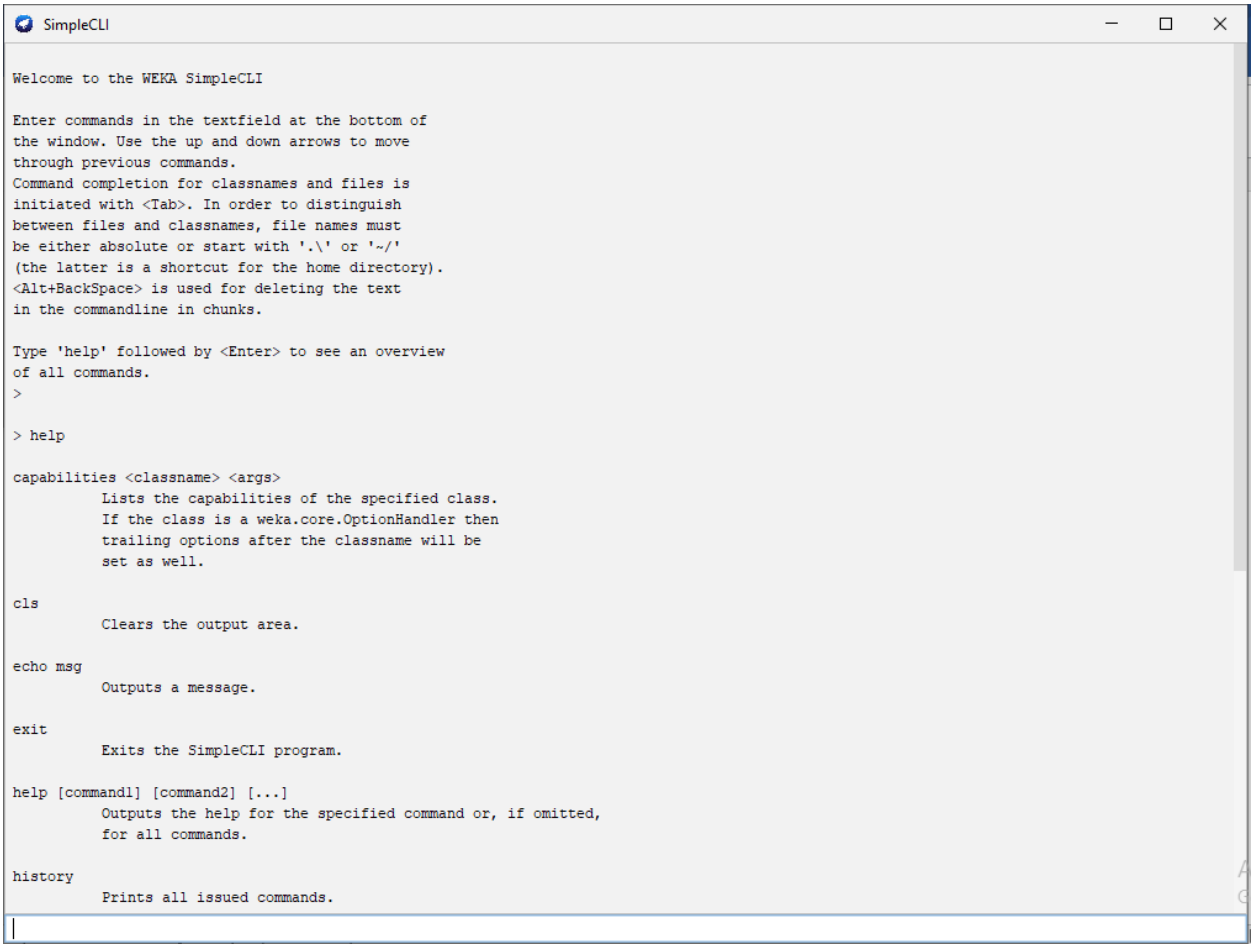
Capabilities weka.classifiers.meta.Bagging -W weka.classifiers.trees.Id3

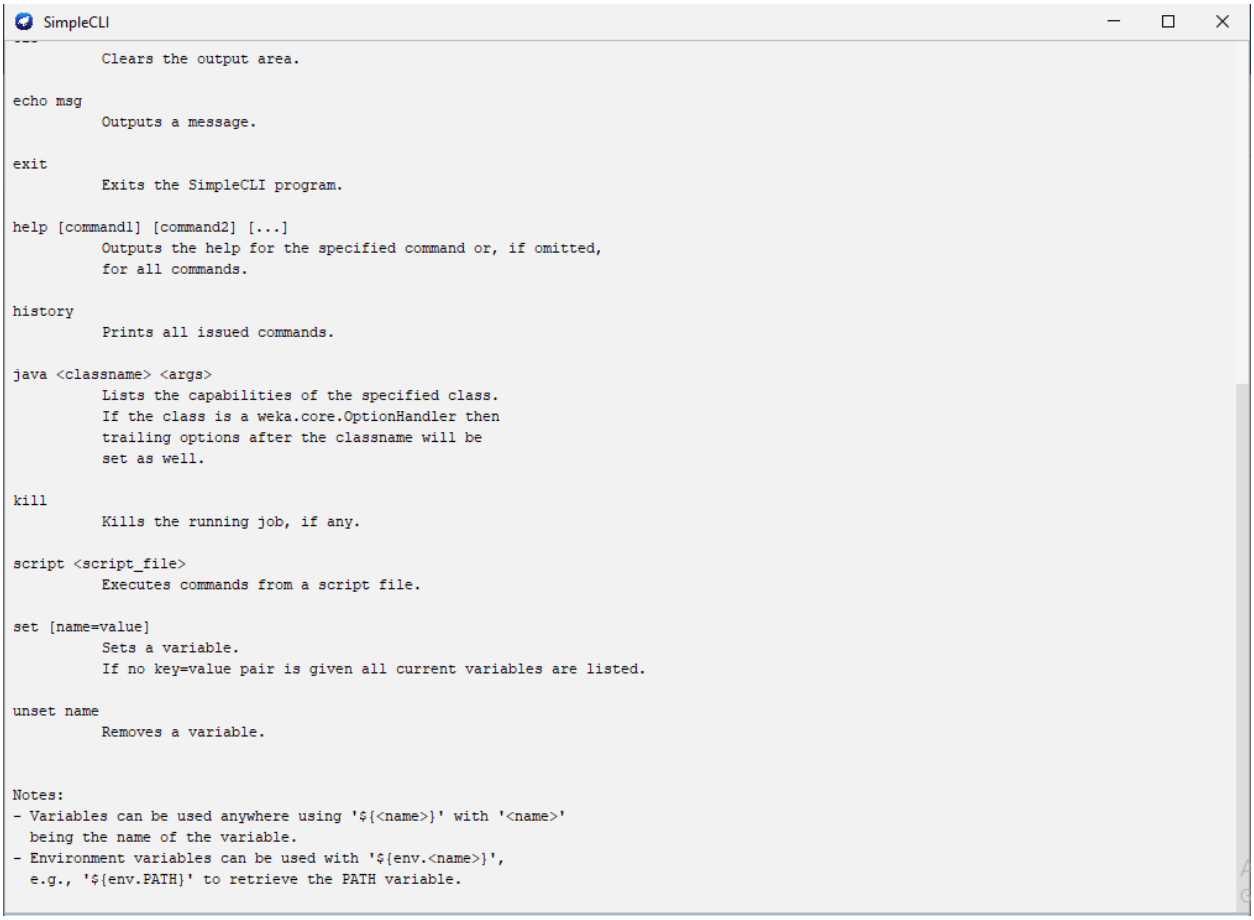
· exit

Exits the Simple CLI

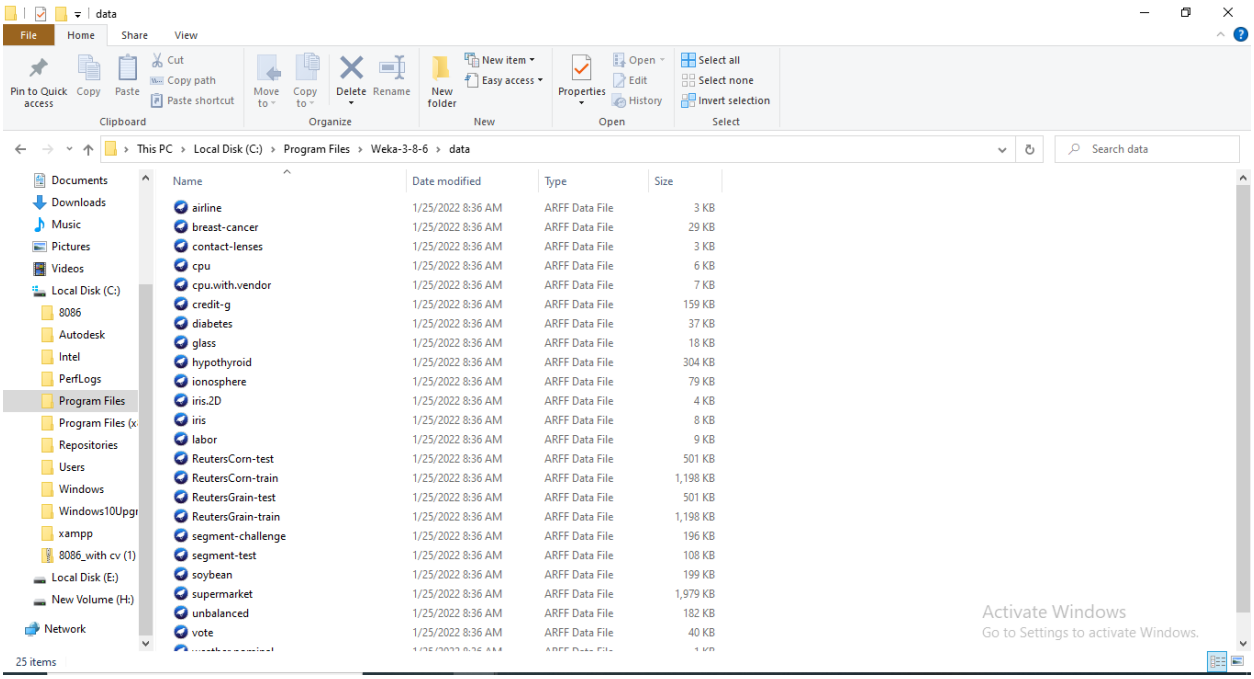
· help [<command>]

Provides an overview of the available commands if without a command name as argument, otherwise more help on the specified command


SimpleCLI
Welcome to the WEKA SimpleCLI
Enter commands in the textfield at the bottom of
the window. Use the up and down arrows to move
through previous commands.
Command completion for classnames and files is
initiated with <Tab>. In order to distinguish
between files and classnames, file names must
be either absolute or start with '.\' or '~/'
(the latter is a shortcut for the home directory).
<Alt+BackSpace> is used for deleting the text
in the commandline in chunks.
Type 'help' followed by <Enter> to see an overview
of all commands.
>
> help
capabilities <classname> <args>
Lists the capabilities of the specified class.
If the class is a weka.core.OptionHandler then
trailing options after the classname will be
set as well.
cls
Clears the output area.
echo msg
Outputs a message.
exit
Exits the SimpleCLI program.
help [command1] [command2] [...]
Outputs the help for the specified command or, if omitted,
for all commands.
history
Prints all issued commands.



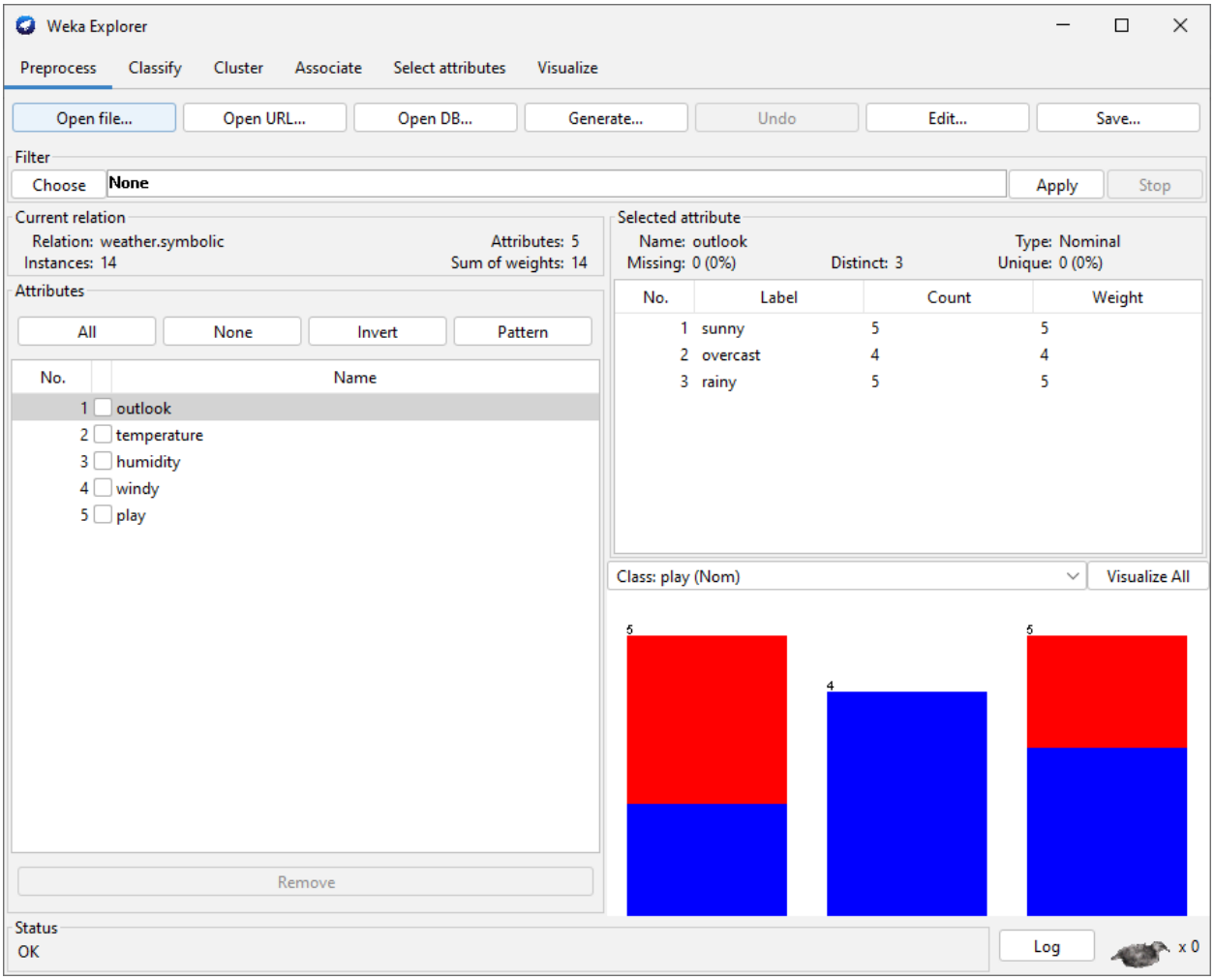
16. Weka Datasets

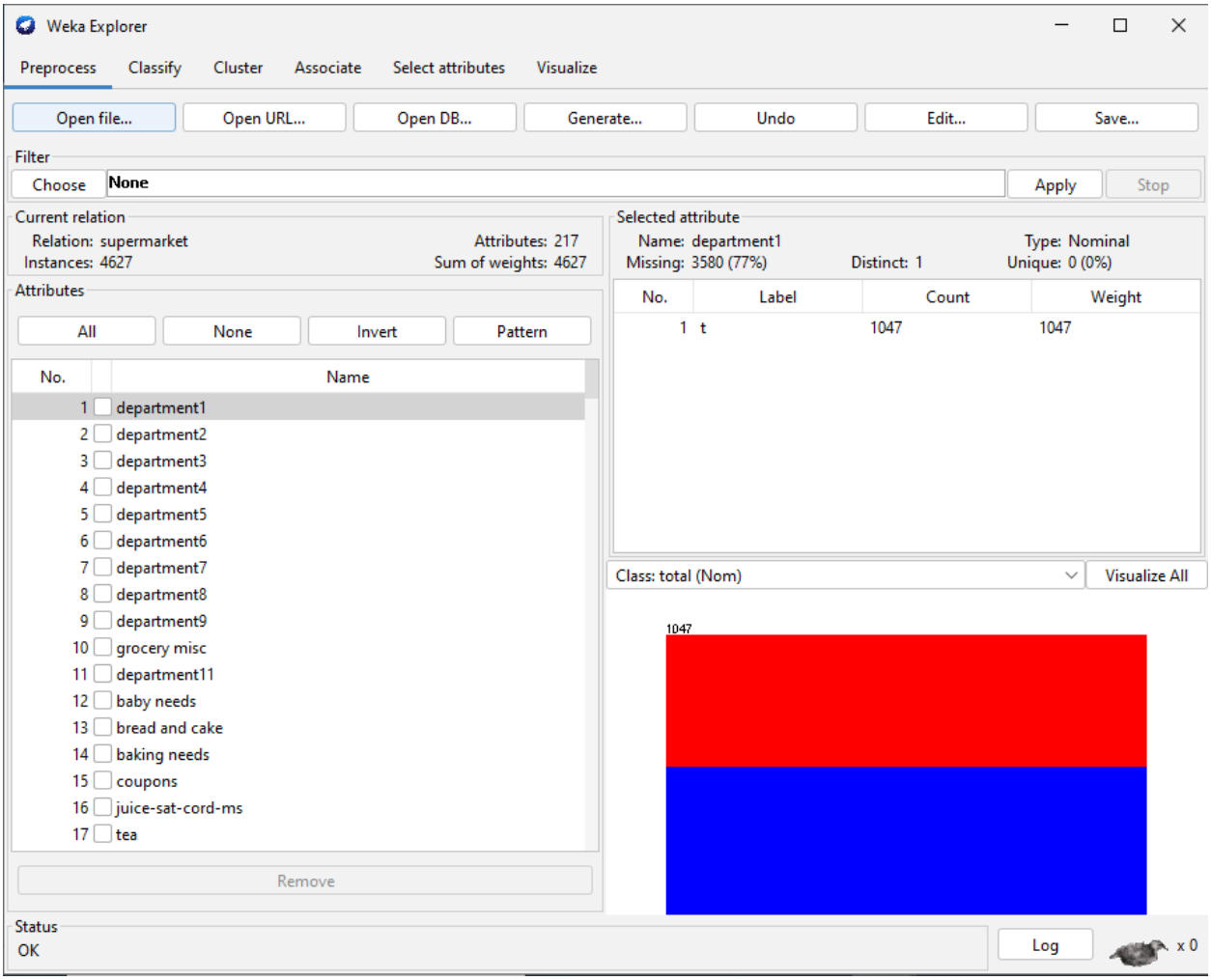


18. Explore the weka dataset

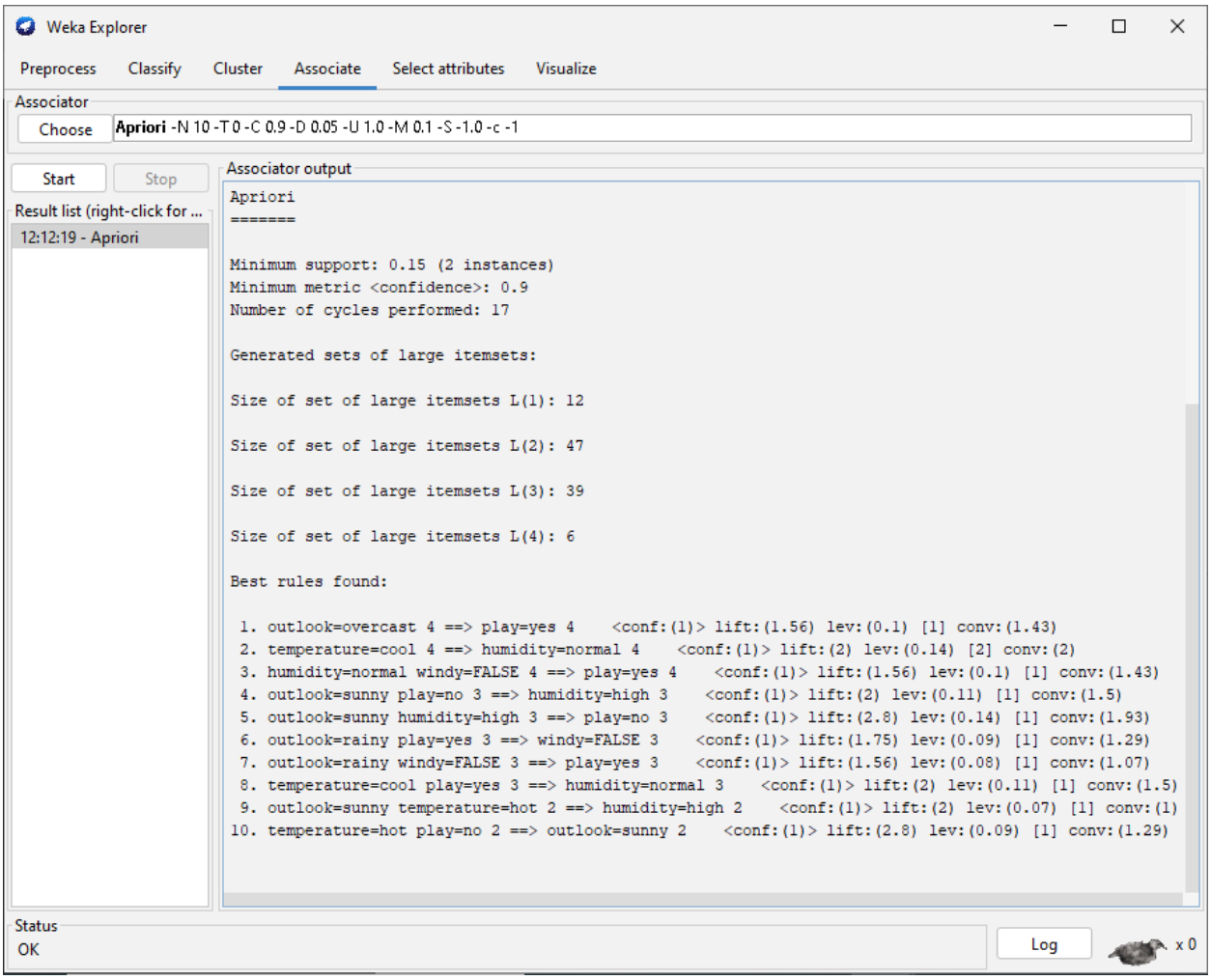
1.Open WEKA Tool.

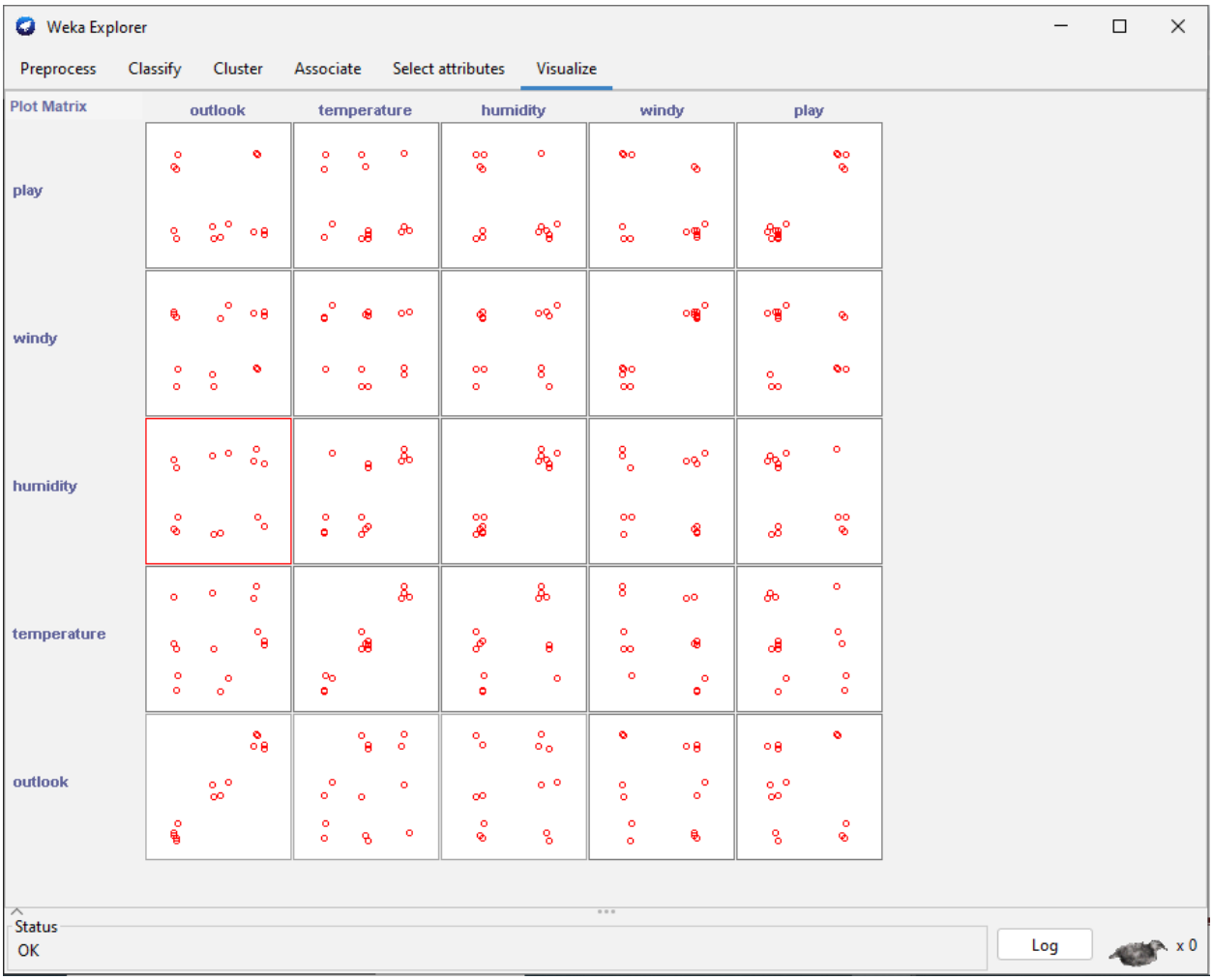
2.Click on WEKA Explorer.
3. Click on Preprocessing tab button.
4. Click on open file button.
5. Choose WEKA folder in C drive.
6. Select and Click on data option button.
7. Choose iris data set and open file.





Click on Associate tab and Choose Aprior algorithm and click on start button


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 for ...
12:12:19 - Apriori
Associator output
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): 12
Size of set of large itemsets L(2): 47
Size of set of large itemsets L(3): 39
Size of set of large itemsets L(4): 6
Best rules found:
1. outlook=overcast 4 ==> play=yes 4 <conf:(1)> lift:(1.56) lev:(0.1) [1] conv:(1.43)
2. temperature=cool 4 ==> humidity=normal 4 <conf:(1)> lift:(2) lev:(0.14) [2] conv:(2)
3. humidity=normal windy=FALSE 4 ==> play=yes 4 <conf:(1)> lift:(1.56) lev:(0.1) [1] conv:(1.43)
4. outlook=sunny play=no 3 ==> humidity=high 3 <conf:(1)> lift:(2) lev:(0.11) [1] conv:(1.5)
5. outlook=sunny humidity=high 3 ==> play=no 3 <conf:(1)> lift:(2.8) lev:(0.14) [1] conv:(1.93)
6. outlook=rainy play=yes 3 ==> windy=FALSE 3 <conf:(1)> lift:(1.75) lev:(0.09) [1] conv:(1.29)
7. outlook=rainy windy=FALSE 3 ==> play=yes 3 <conf:(1)> lift:(1.56) lev:(0.08) [1] conv:(1.07)
8. temperature=cool play=yes 3 ==> humidity=normal 3 <conf:(1)> lift:(2) lev:(0.11) [1] conv:(1.5)
9. outlook=sunny temperature=hot 2 ==> humidity=high 2 <conf:(1)> lift:(2) lev:(0.07) [1] conv:(1)
10. temperature=hot play=no 2 ==> outlook=sunny 2 <conf:(1)> lift:(2.8) lev:(0.09) [1] conv:(1.29)
Status
OK
Log
x 0


Weka Explorer
Preprocess
Classify
Cluster
Associate
Select attributes
Visualize
Plot Matrix
outlook
temperature
humidity
windy
play
play
windy
humidity
temperature
outlook
Status
OK
Log
x 0