



FUNDAMENTAL OF DATA MINING

Fall 2021



DATE OF SUBMISSION: 20 – NOV – 2021

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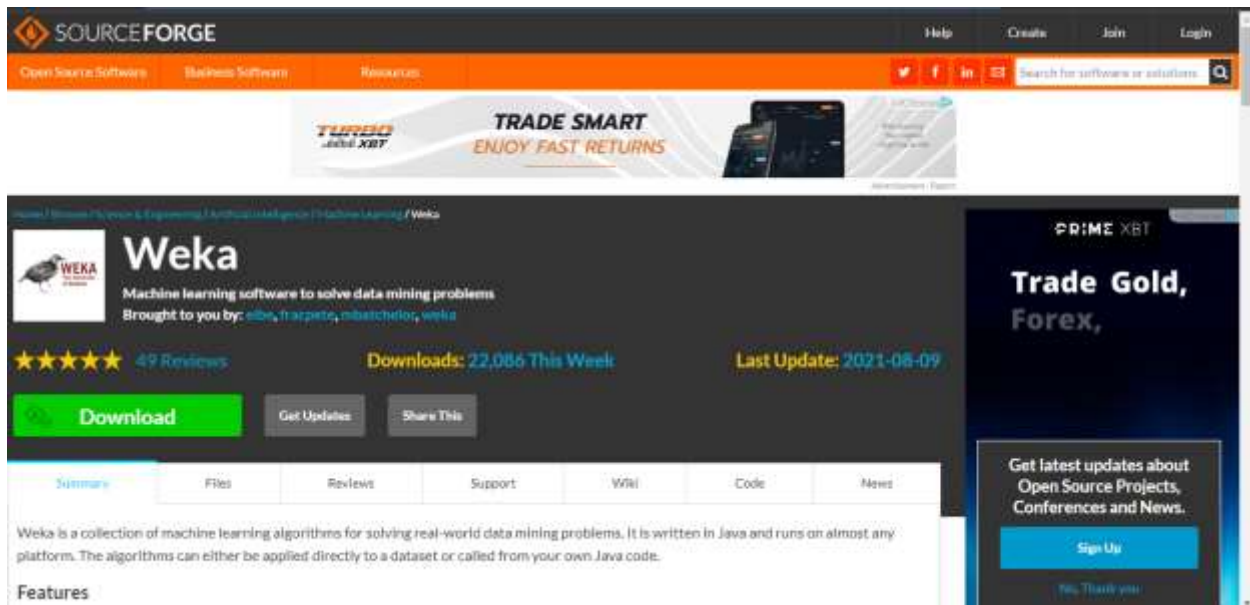
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5	Import dummy dataset from UCI and add screenshots. Also describe some features of UCI briefly, and add screenshots of your work.	
6	Import downloaded dataset from your device in WEKA and add screenshots of all steps.	
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8	Import any dataset in WEKA and perform Classification. Also add screenshots of the output.	
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Lab#1

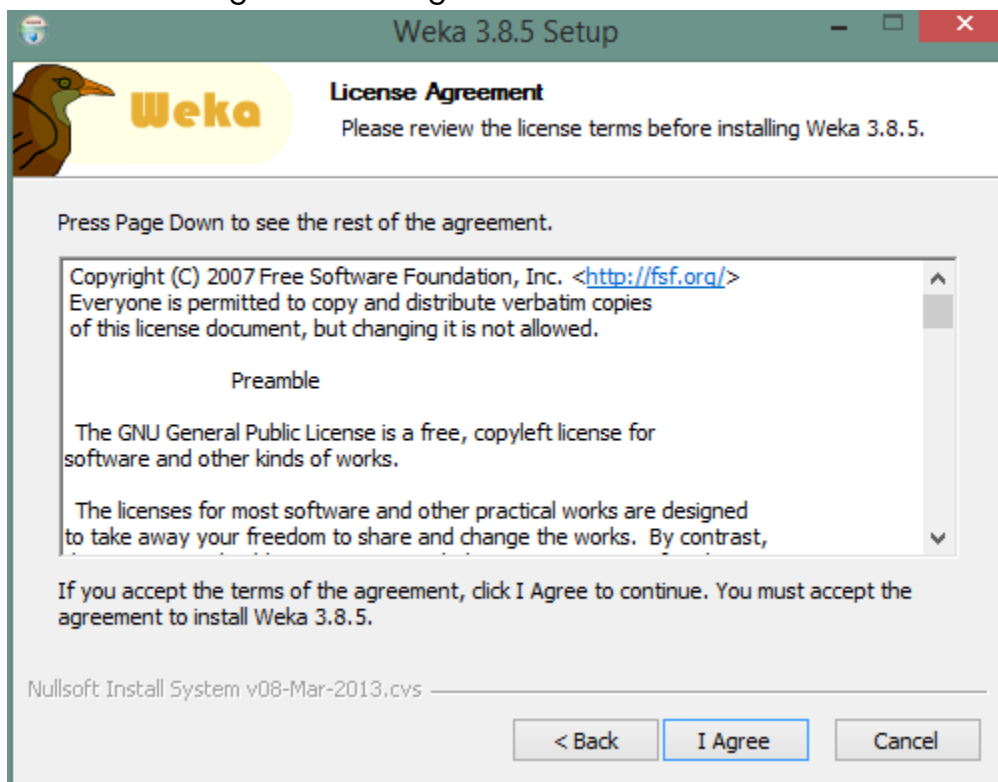
1 – Got to the [link](#) and click on download:



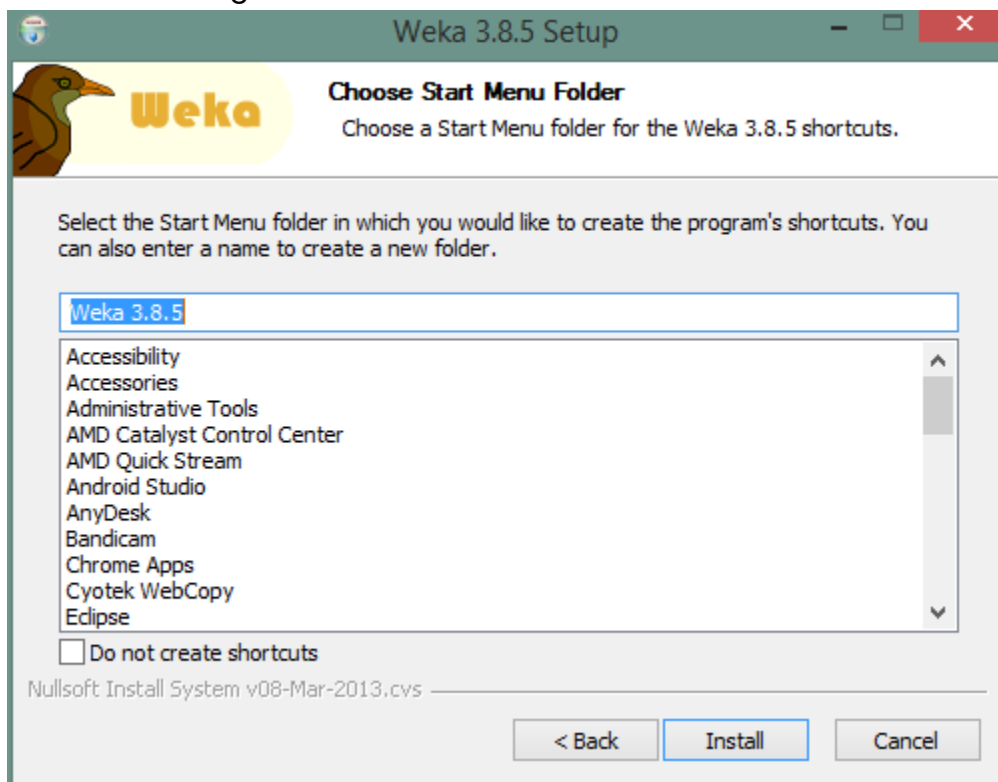
2 – After download get completed click on the downloaded file and install it by double clicking it...then click next



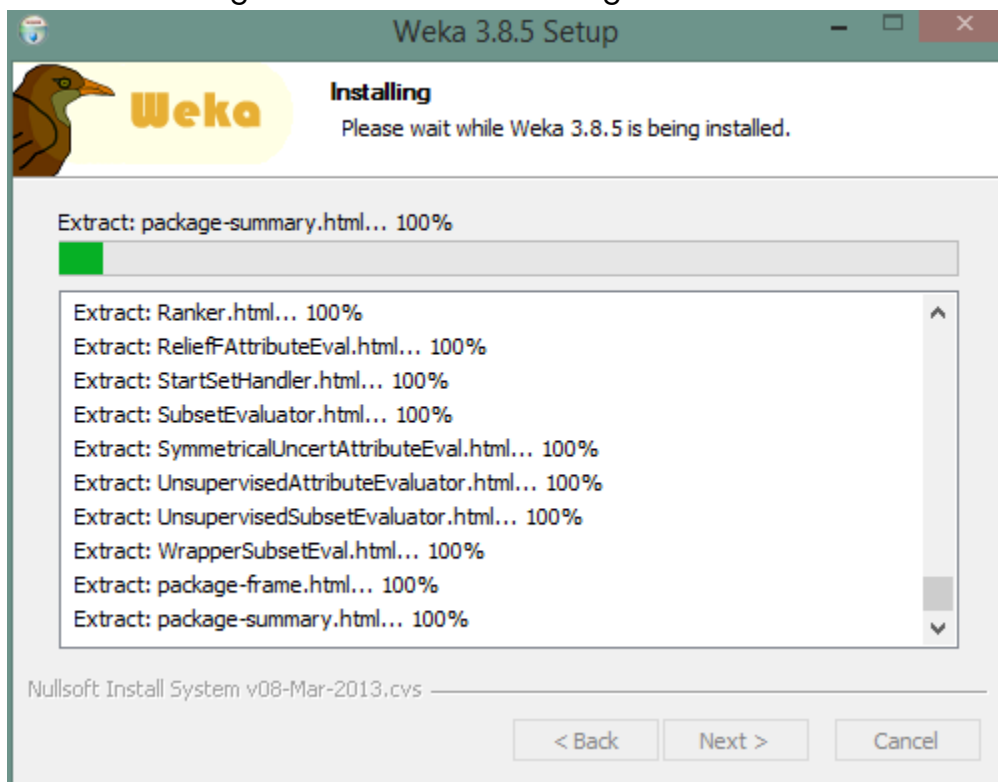
3 – After clicking next...click agree and then next



4 – After clicking next...next



5 – After clicking next...it will start installing



6 – After installing ...it will start the **Weka Tool**



Lab#2

1 – In this lab we will explore all the features of **Explorer**. Like preprocessor, Classification, Association, Clustering, Select Attributes and visualization.

2 – First option is preprocessor... in which we will select the data from source.

Weka Explorer - Preprocess tab

Current relation: weka.datagen.generators.classification.RDG1-S_1-a_100-a_10-<_2

Attributes:

No.	Name
1	a0
2	a1
3	a2
4	a3
5	a4
6	a5
7	a6
8	a7
9	a8
10	a9
11	class

Selected attribute:

No.	Label	Count	Weight
1	true	46	46.0
2	false	54	54.0

Class: class (Nom)

3– Second option is Classification... in which it classify the data.

Weka Explorer - Classifier tab

Classifier: ZeroR

Test options:

- ☐ Use training set
- ☐ Supplied test set
- ☒ Cross-validation: Folds: 10
- ☐ Percentage split: %: 10

Classifier output:

Time taken to build model: 0.01 seconds

== Stratified cross-validation ==

== Summary ==

Metric	Value
Correctly Classified Instances	86
Incorrectly Classified Instances	14
Happa statistic	0
Mean absolute error	0.4504
Root mean squared error	0.4743
Relative absolute error	100
Root relative squared error	100
Total Number of Instances	100

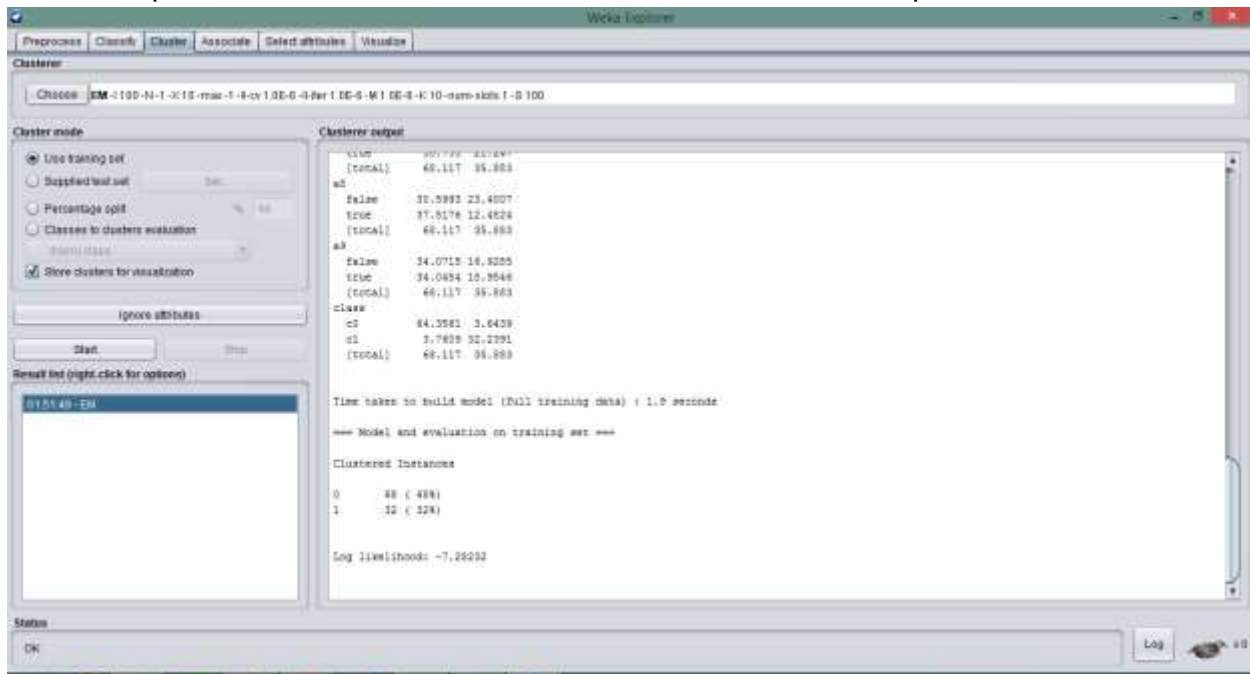
== Detailed Accuracy By Class ==

	TP Rate	FP Rate	Precision	Recall	F-Measure	MCC	ROC Area	PRC Area	Class
0	1.000	0.000	0.660	1.000	0.799	1	0.447	0.638	a0
1	0.000	0.000	1	0.000	0	1	0.447	0.319	a1
Weighted Avg.	0.660	0.000	0	0.660	0	0	0.447	0.330	

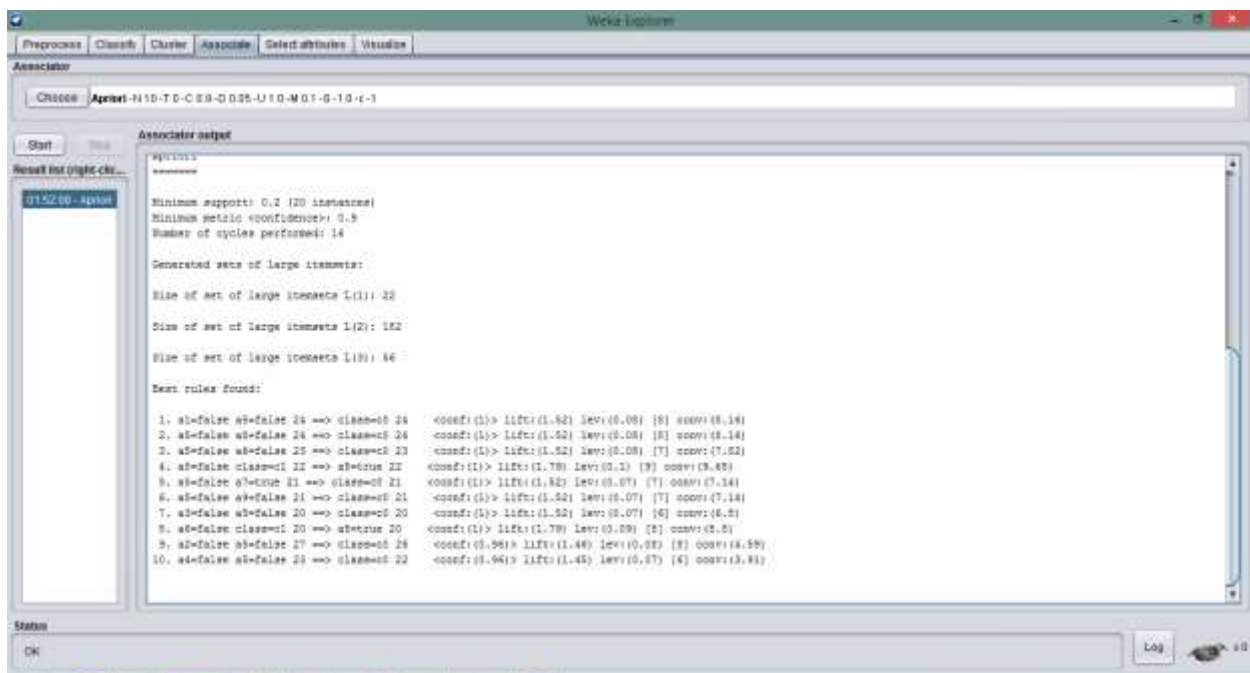
== Confusion Matrix ==

a \ b	c-- classified as	
0	0	0
1	0	0

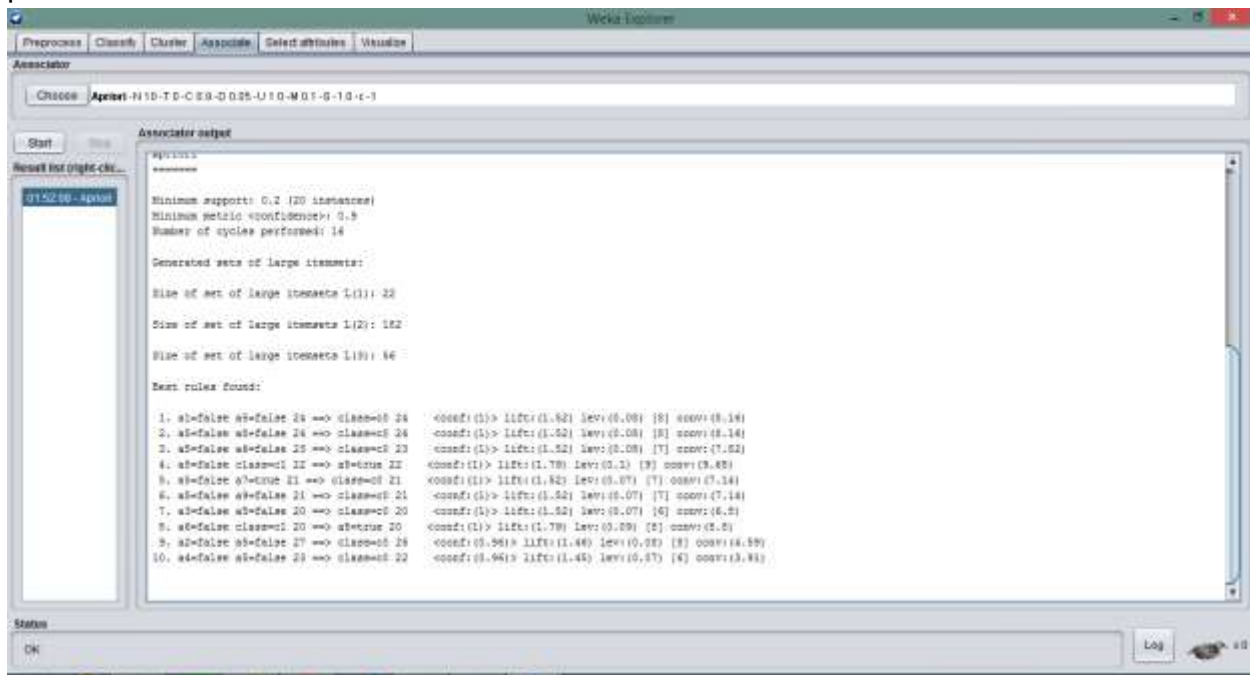
3– Third option is Cluster... in which it create Cluster with the input data.



4 – Fourth option is Associate... in which it create Association with the data.



5 – Fifth option is Select Attribute... in which it only Select specific attributes and process data.

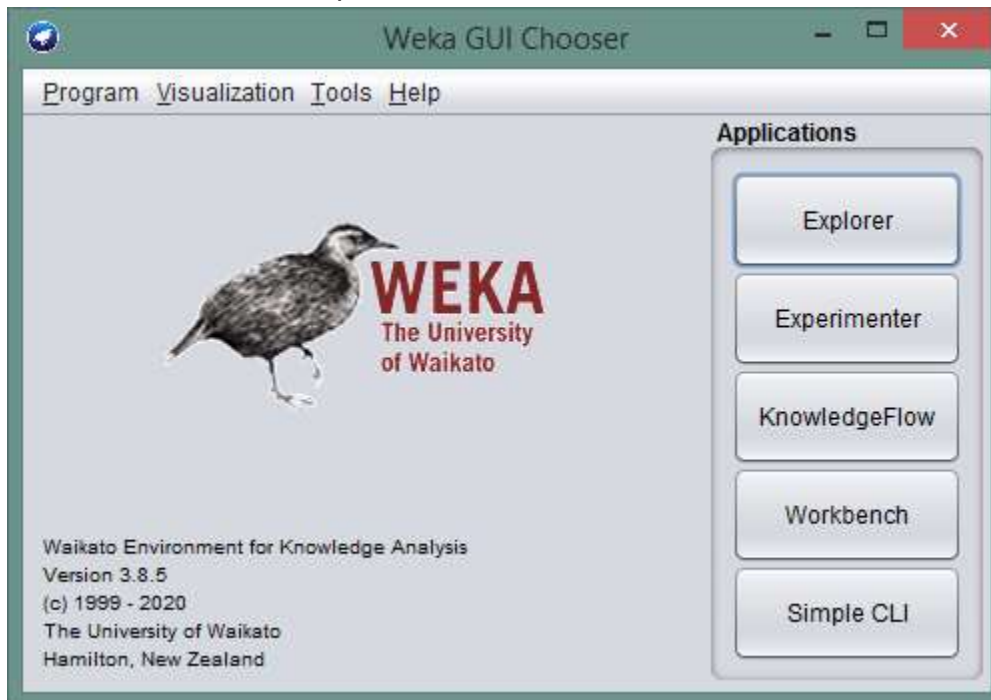


6 – Sixth option is Visualise... in which it visualize the data.

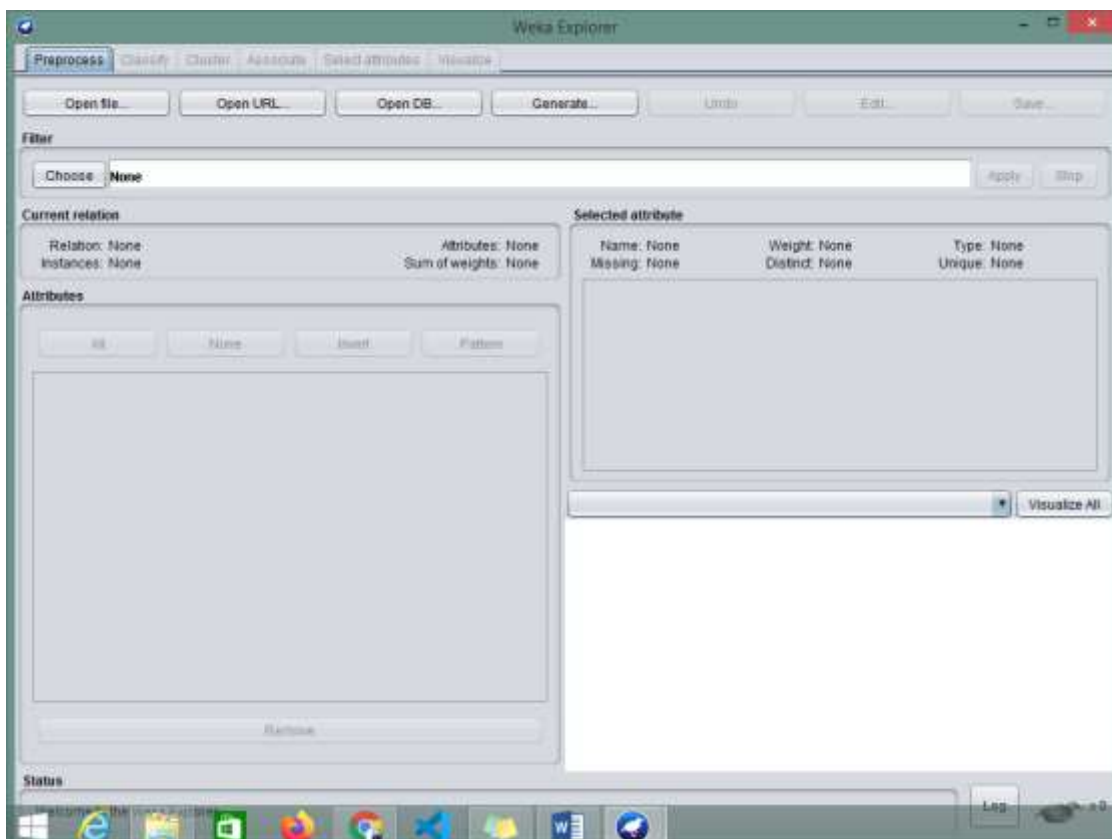


Lab#3

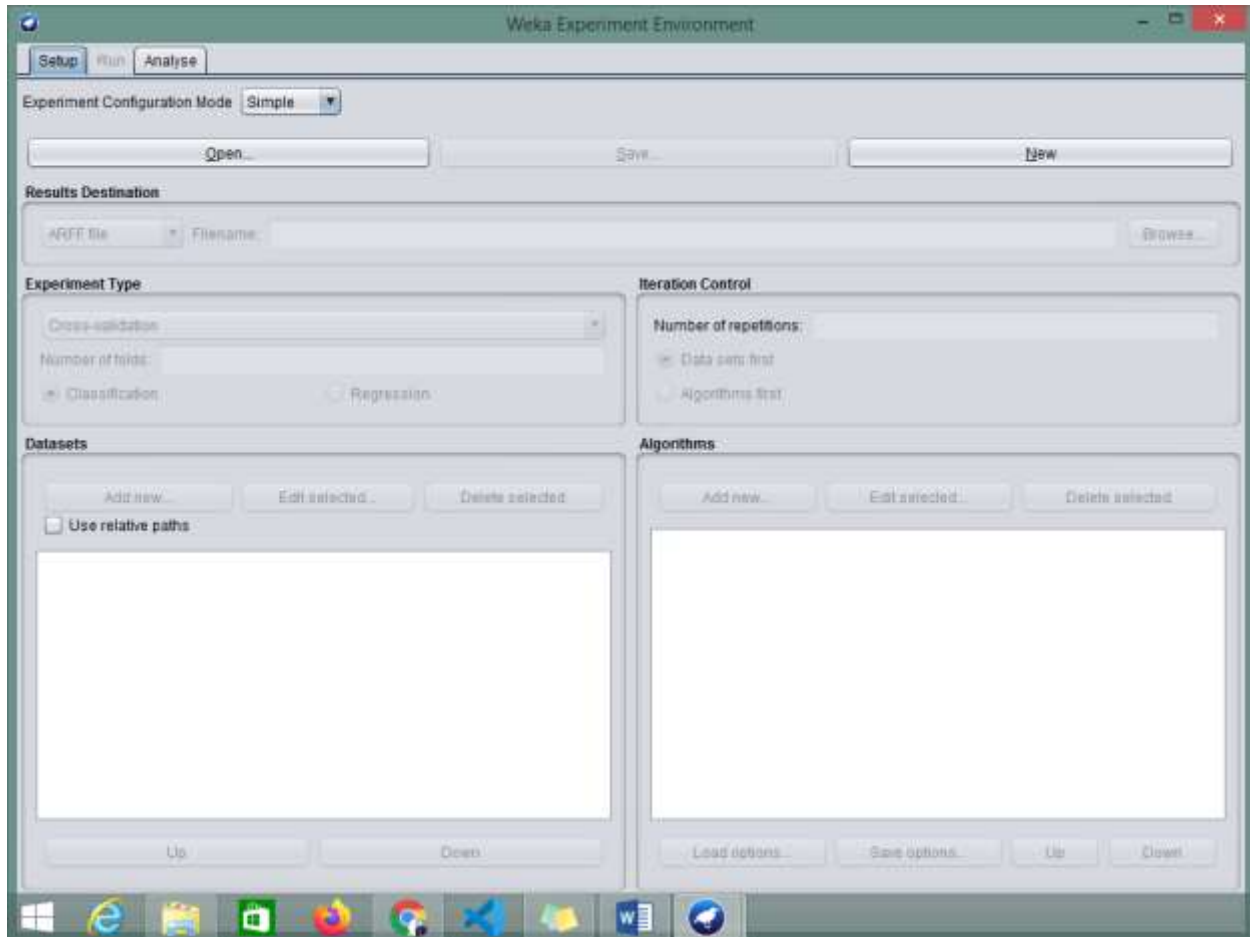
1 – In this lab we will explore all the main UI buttons feature



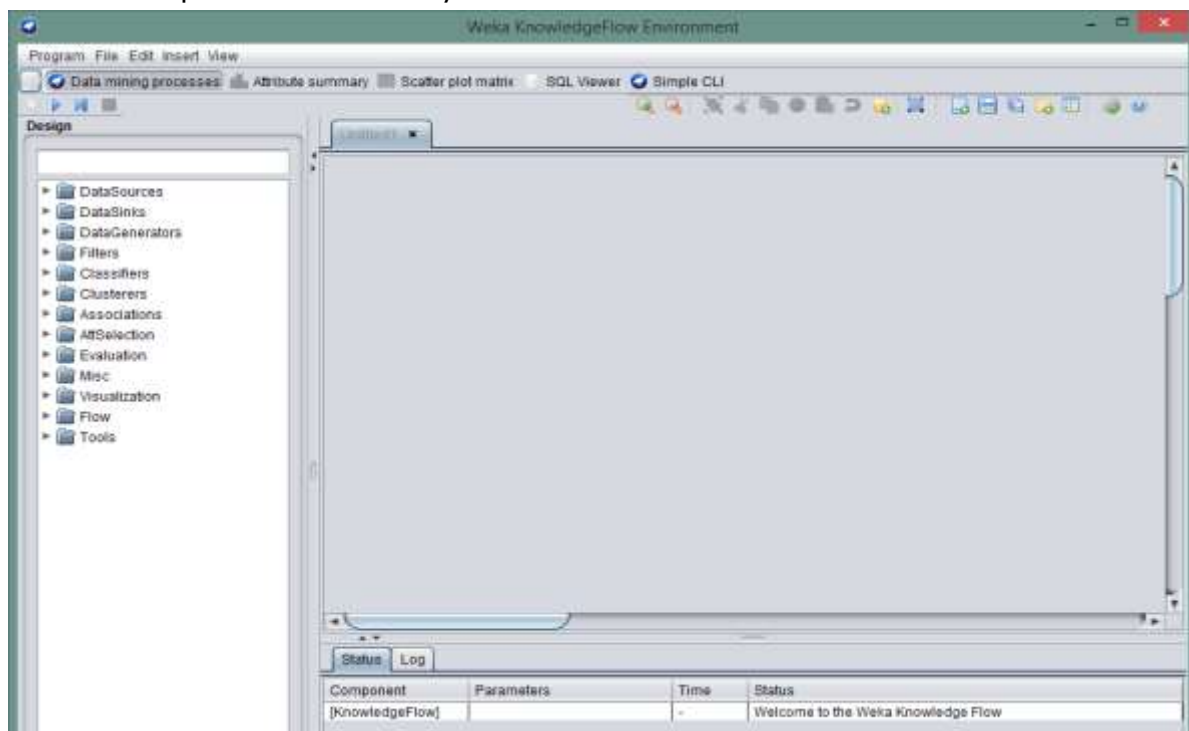
2 – First click on **Explorer**.it will open a window which prompts for data to be input. This window have all the feature to evaluate the Data.



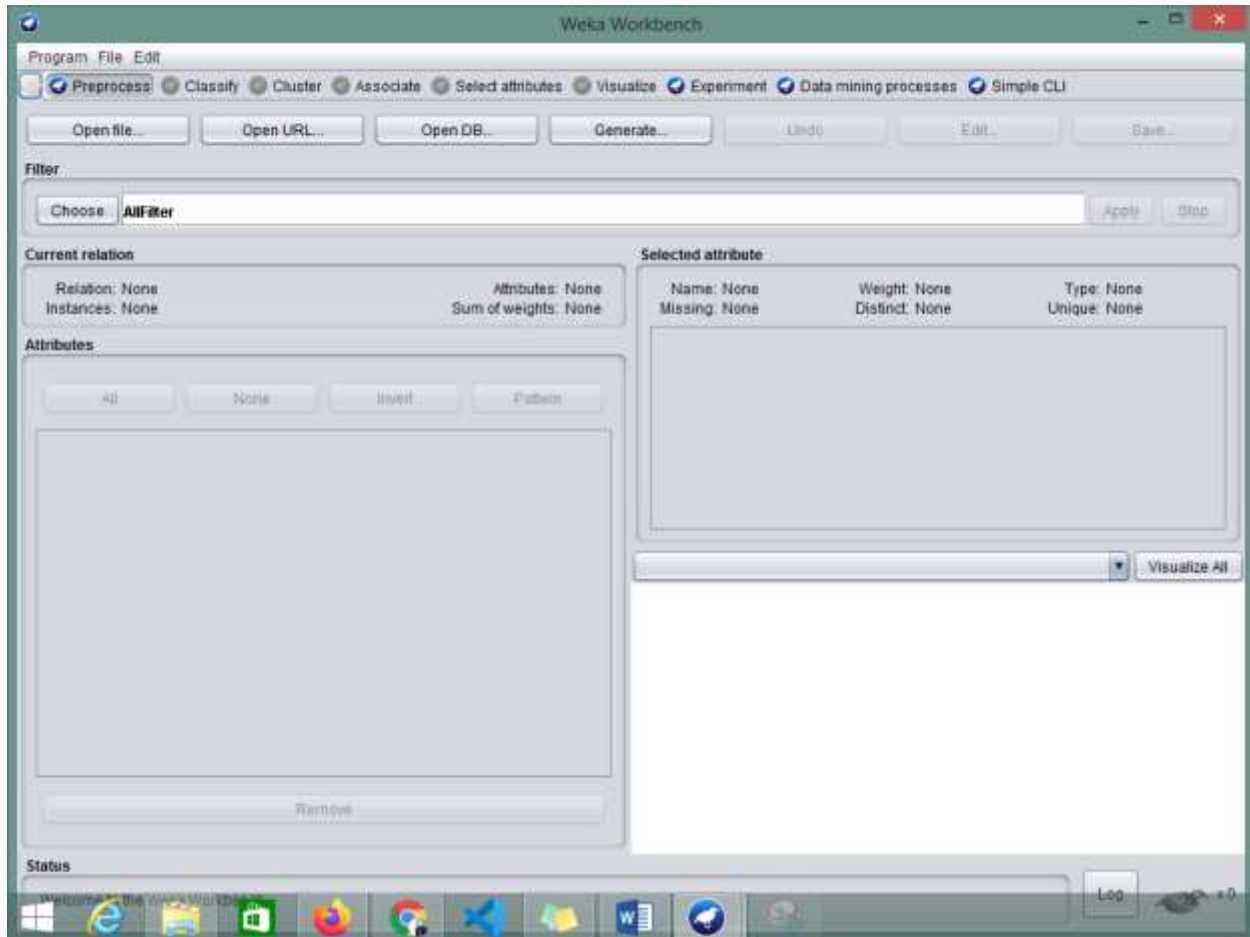
3 – Now click on **Experimenter**..it will open a window in which there is 2 tabs for setup and Analyse.



4 – Now click on **KnowledgeFlow**..it will open a window in which there is design tools for data manipulation and analysis.



4 – Now click on **Workbench**..it will open a window in which we can mine and perform multiple task like explorer.



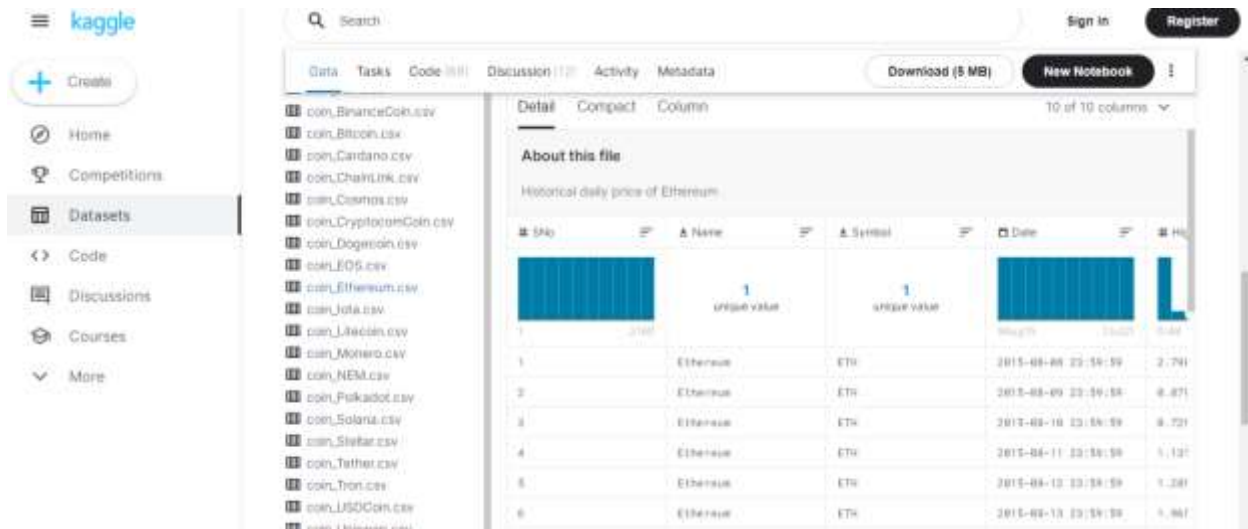
5 – Now click on **Simple CLI**..it will open a window in which we can use commands to perform task.



Lab#4

1 – Download the dataset from Kaggle?

Downloaded the data from Kaggle



2 – Manage a file to describe downloaded dataset.

The data file contains the information about the Ethererium price history data which can be helped to predict the future value of ETH. This data has 10 Attributes and 2161 instances.

A	B	C	D	E	F	G	H	I	J
SNo	Name	Symbol	Date	High	Low	Open	Close	Volume	Marketcap
1	Ethereum	ETH	8/8/2015 23:59	2.79881	0.714725	2.79376	0.753325	674188	45486894
2	Ethereum	ETH	8/9/2015 23:59	0.87981	0.629191	0.706136	0.701897	532170	42399573
3	Ethereum	ETH	8/10/2015 23:59	0.729854	0.636546	0.713989	0.708448	405283	42818364
4	Ethereum	ETH	8/11/2015 23:59	1.13141	0.663235	0.708087	1.06786	1463100	64569288
5	Ethereum	ETH	8/12/2015 23:59	1.28994	0.883608	1.05875	1.21744	2150620	73645011
6	Ethereum	ETH	8/13/2015 23:59	1.96507	1.17199	1.22224	1.82767	4068680	1.11E+08
7	Ethereum	ETH	8/14/2015 23:59	2.26188	1.75475	1.81092	1.82787	4637030	1.11E+08
8	Ethereum	ETH	8/15/2015 23:59	1.87724	1.57098	1.80289	1.6889	2554360	1.02E+08
9	Ethereum	ETH	8/16/2015 23:59	1.69524	1.08981	1.68435	1.56603	3550790	94901005
10	Ethereum	ETH	8/17/2015 23:59	1.58119	1.18534	1.58119	1.20361	1942830	87295367
11	Ethereum	ETH	8/18/2015 23:59	1.33116	1.08705	1.2153	1.08705	1485680	78868413
12	Ethereum	ETH	8/19/2015 23:59	1.31799	1.16693	1.16693	1.25886	1486240	91366391
13	Ethereum	ETH	8/20/2015 23:59	1.5333	1.24833	1.25118	1.46492	2843760	1.06E+08
14	Ethereum	ETH	8/21/2015 23:59	1.55642	1.3528	1.47752	1.39529	2020970	1.01E+08
15	Ethereum	ETH	8/22/2015 23:59	1.47641	1.35268	1.39629	1.37923	948310	1E+08
16	Ethereum	ETH	8/23/2015 23:59	1.4097	1.29777	1.375	1.35259	1589300	98300351
17	Ethereum	ETH	8/24/2015 23:59	1.36278	1.23127	1.34559	1.23127	924920	89515257
18	Ethereum	ETH	8/25/2015 23:59	1.24182	1.12865	1.22861	1.14019	1307180	82922633
19	Ethereum	ETH	8/26/2015 23:59	1.20248	1.06183	1.13279	1.15998	1056750	84390924
20	Ethereum	ETH	8/27/2015 23:59	1.18883	1.13729	1.16981	1.1477	686662	83524585
21	Ethereum	ETH	8/28/2015 23:59	1.20779	1.1205	1.14766	1.19138	721872	86731077
22	Ethereum	ETH	8/29/2015 23:59	1.20721	1.14949	1.19353	1.18255	375377	86113895

Instances: 2161

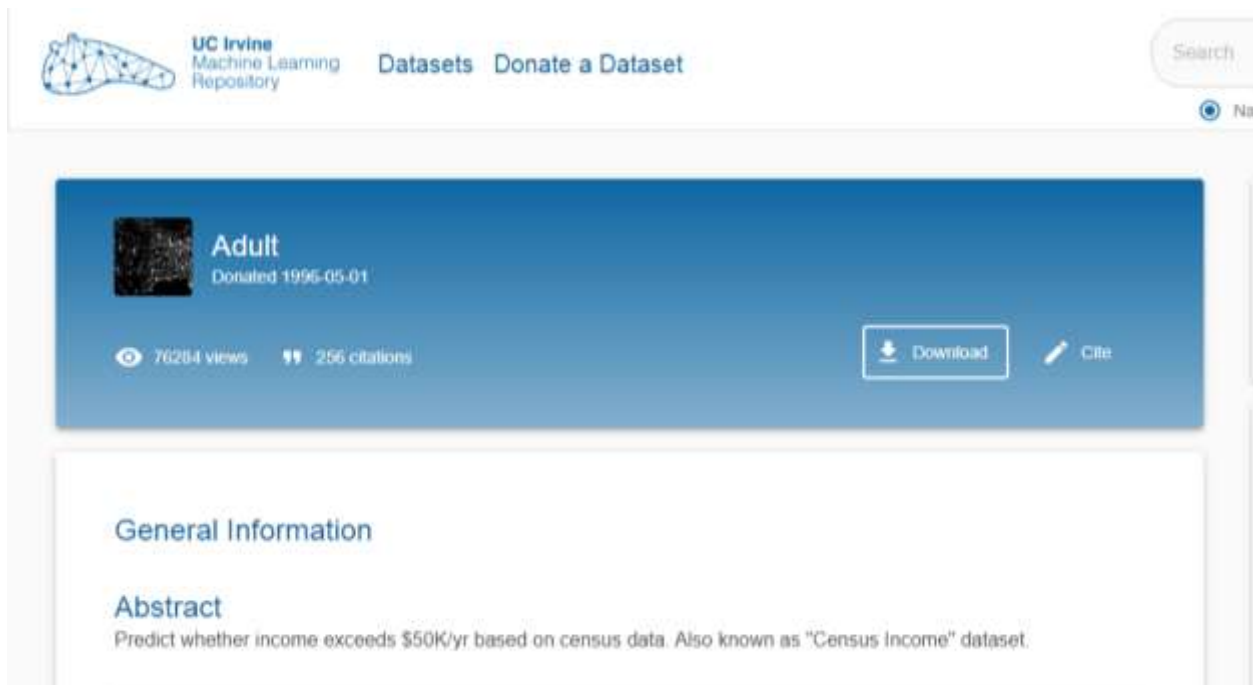
Values:

1. S.no – To count no of values
2. Name – Coin name
3. Date – price on that date
4. High – The highest price on that date
5. Low – The Lowest price on that date
6. Open – The price on which market open
7. Close – The price on which market closes
8. Volume – The number of coins traded on that date
9. Market cap – The number of coins present in market

Lab#5

1 – Download the dataset from UCI?

Downloaded the data from UCI.



2 – Manage a file to describe downloaded dataset.

The data file contains the information about the income and census data of adults which can be helped to predict whether income exceeds \$50K/yr based on census data. Also known as "Census Income" dataset which has 15 Attributes and 48842 instances.

3 – Must check in detail like (attribute, instance, values, domain etc.)

Attributes:

1. Age
2. Work class
3. Fnlwgt
4. Education
5. Education-num

6. marital-status:
7. occupation
8. relationship
9. race
10. sex
11. capital-gain
12. capital-loss
13. hours-per-week
14. native-country

Instances: 48842

Values:

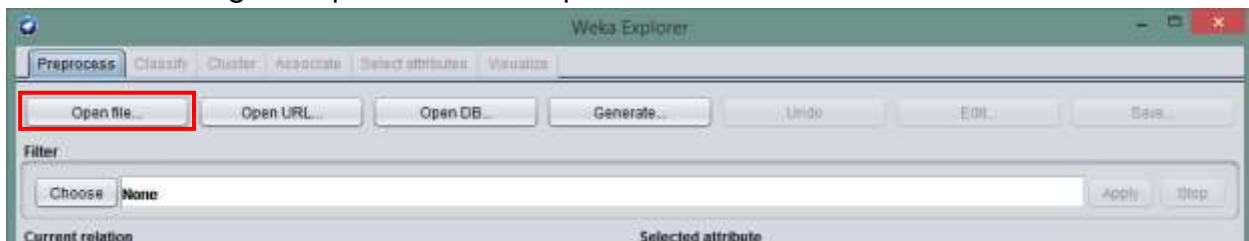
1. continuous
2. Private, Self-emp-not-inc, Self-emp-inc, Federal-gov, Local-gov, State-gov, Without-pay, Never-worked.
3. Bachelors, Some-college, 11th, HS-grad, Prof-school, Assoc-acdm, Assoc-voc, 9th, 7th-8th, 12th, Masters, 1st-4th, 10th, Doctorate, 5th-6th, Preschool.
4. Married-civ-spouse, Divorced, Never-married, Separated, Widowed, Married-spouse-absent, Married-AF-spouse.
5. Married-civ-spouse, Divorced, Never-married, Separated, Widowed, Married-spouse-absent, Married-AF-spouse.
6. Wife, Own-child, Husband, Not-in-family, Other-relative, Unmarried.
7. White, Asian-Pac-Islander, Amer-Indian-Eskimo, Other, Black.
8. Female, Male.
9. United-States, Cambodia, England, Puerto-Rico, Canada, Germany, Outlying-US(Guam-USVI-etc.), India, Japan, Greece, South, China, Cuba, Iran, Honduras, Philippines, Italy, Poland, Jamaica, Vietnam, Mexico, Portugal, Ireland, France, Dominican-Republic, Laos, Ecuador, Taiwan, Haiti, Columbia, Hungary, Guatemala, Nicaragua, Scotland, Thailand, Yugoslavia, El-Salvador, Trinidad & Tobago, Peru, Hong, Holland-Netherlands.

Lab#6

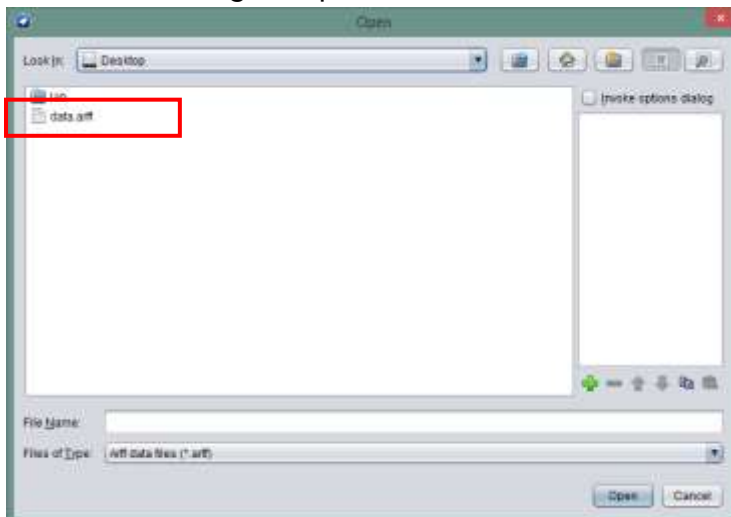
1 – In this lab we will import the downloaded data to weka first open the weka tool and press explorer.



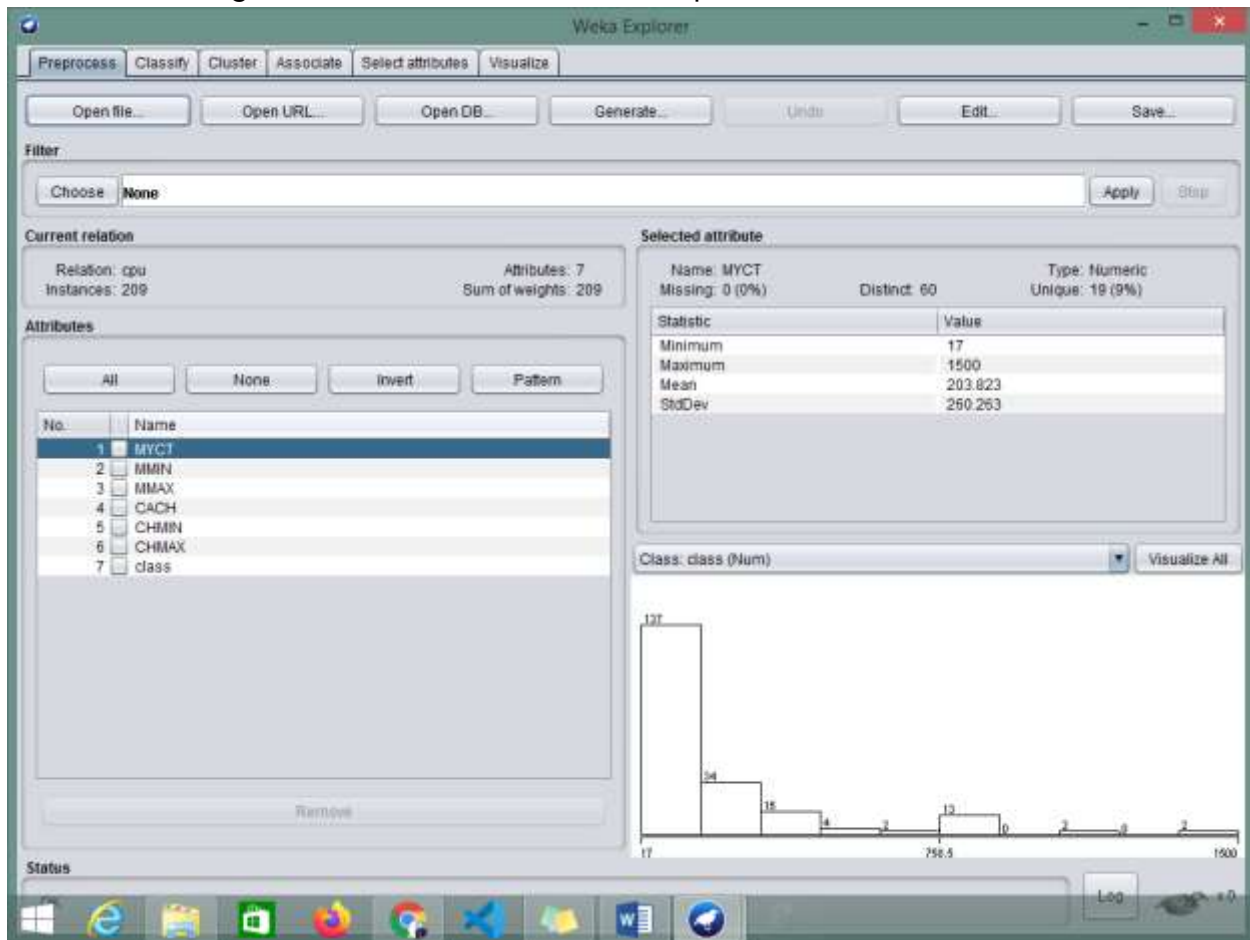
2 – After clicking on explorer click on open file.



3 – After clicking on open file select the desire file for data you want to be mined.



4 – After clicking on file the desired file will be opened.

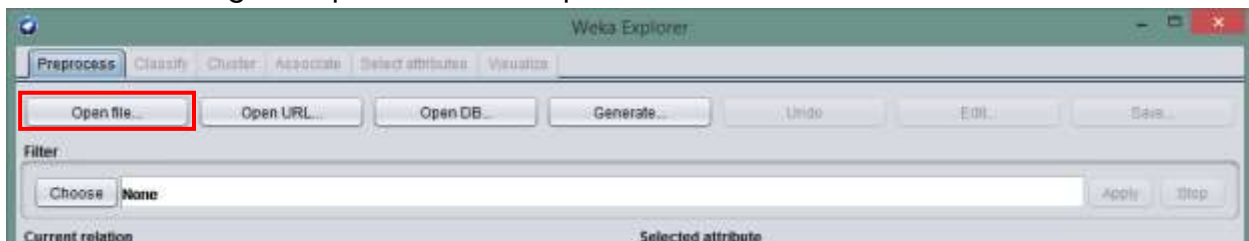


Lab#7

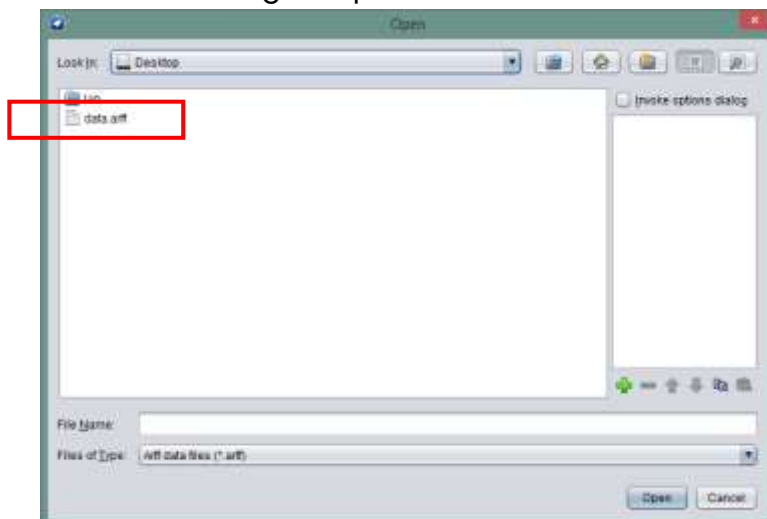
1 – In this lab we will import the downloaded data to weka first open the weka tool and press explorer.



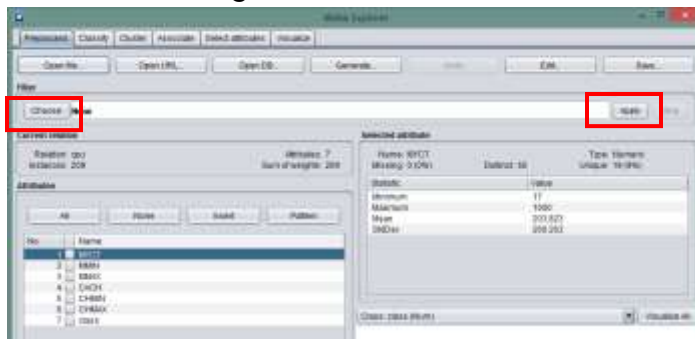
2 – After clicking on explorer click on open file.



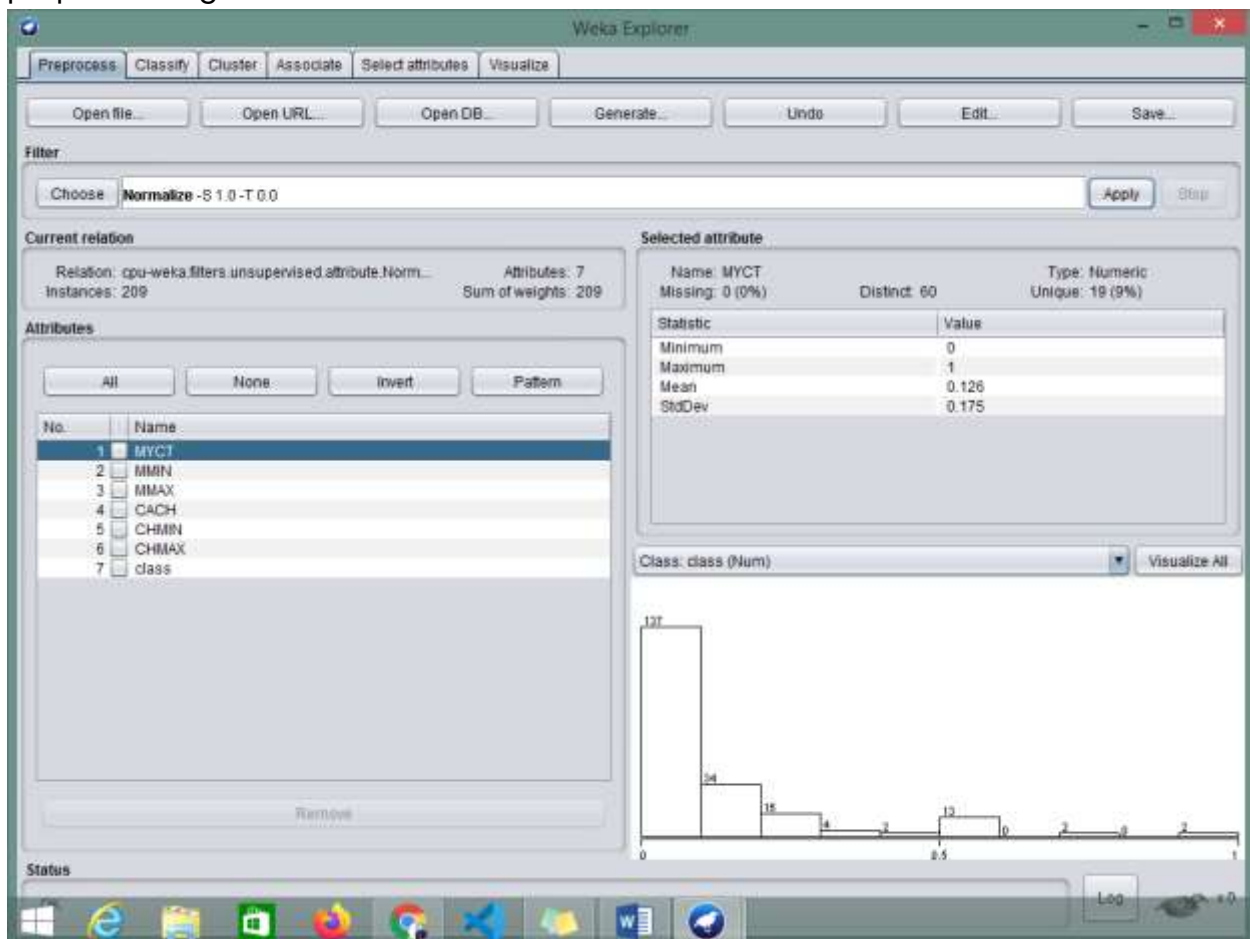
3 – After clicking on open file select the desire file for data you want to be mined.



4 – After clicking on file the desired file will be opened and apply preprocessing.

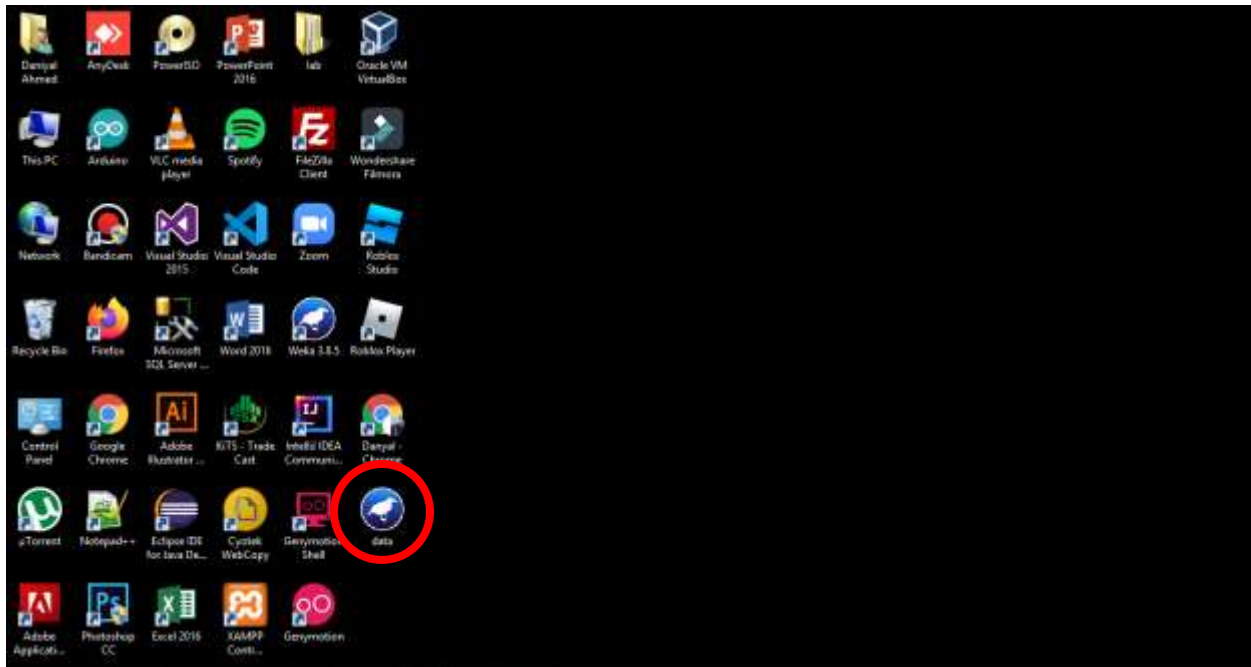


5 – click on choose and select any algorithm then press apply it will done the preprocessing.

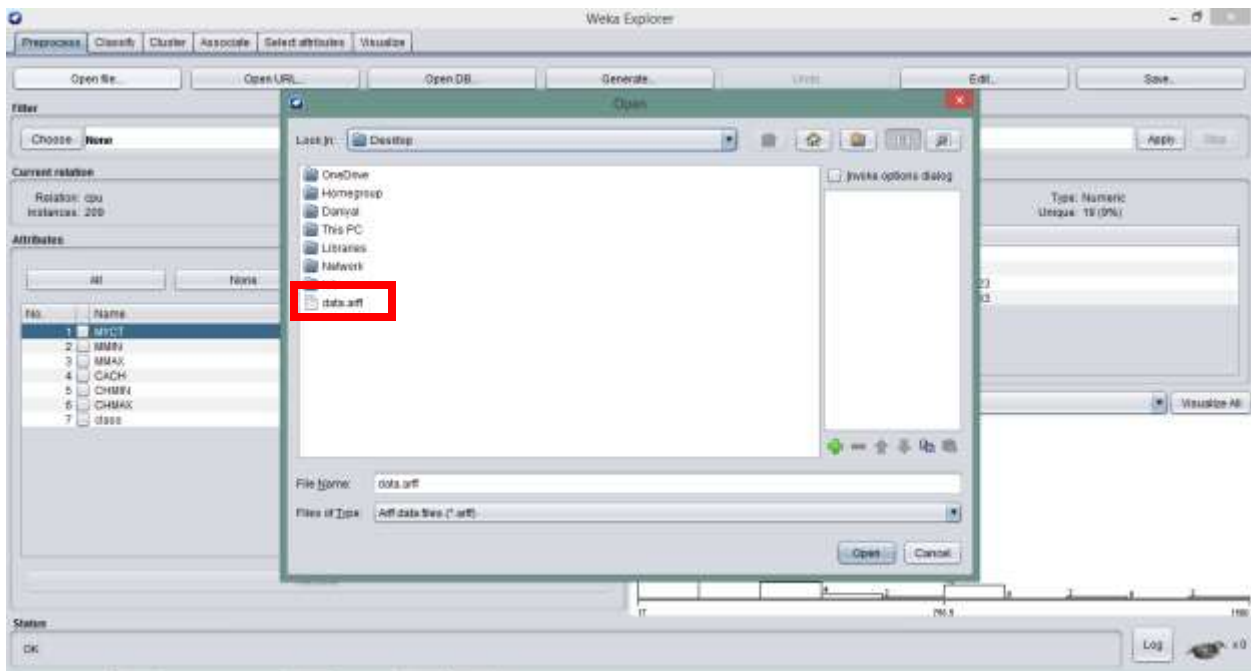


Lab#8

1 – First download the dataset from UCI/Kaggle



2 – Then import this data into weka using explorer....

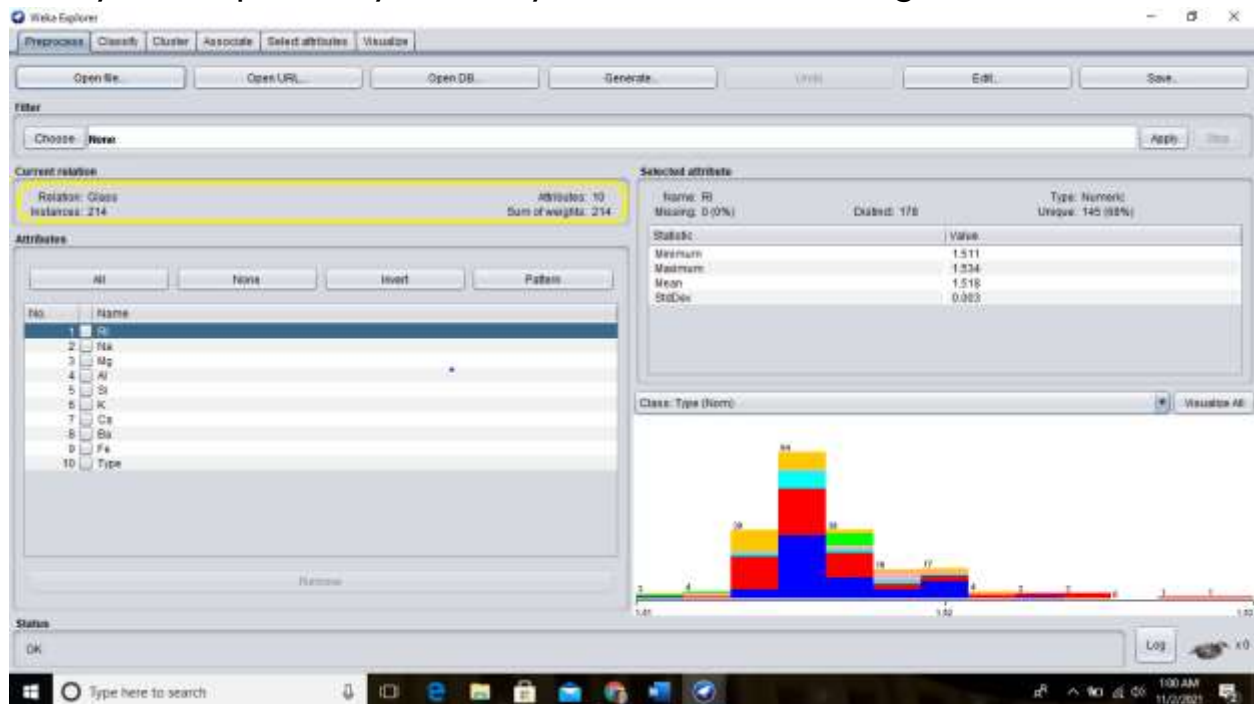


Lab#9

1- Import a file to apply clustering algorithms?

Imported a dataset

Firstly we import any dummy data set according to our choice

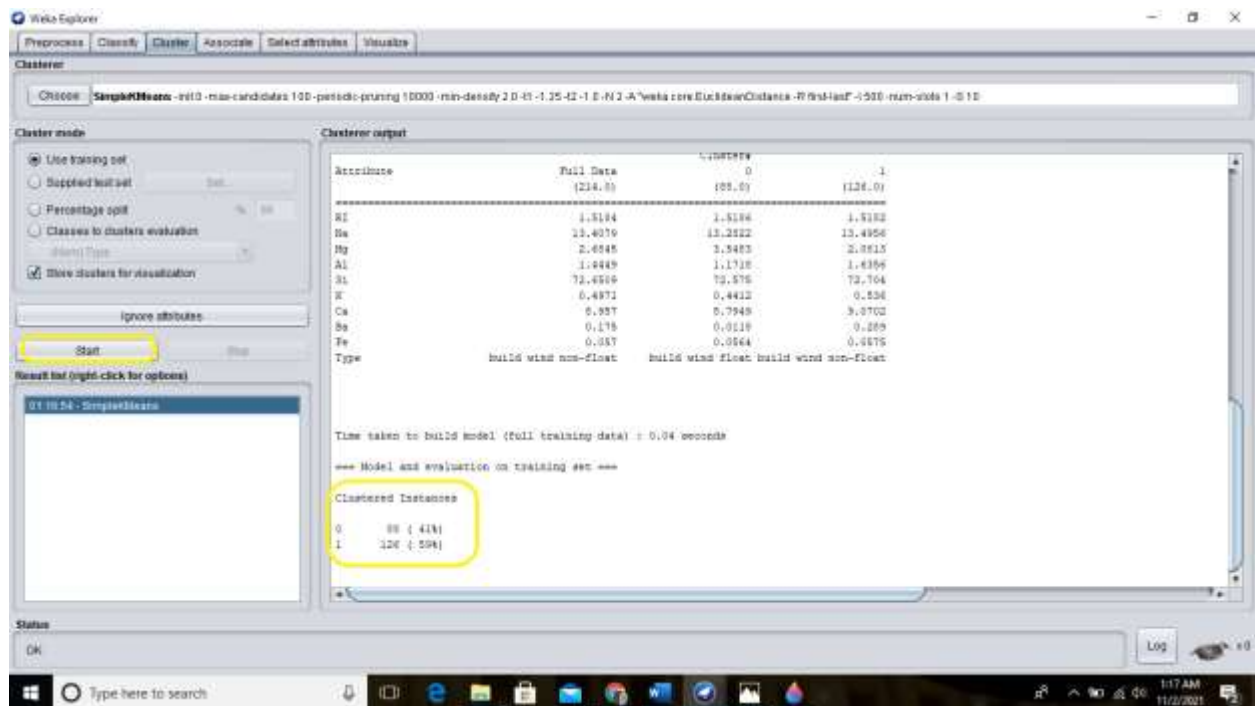


choose simple k-mean

Go to cluster and choose simple k-mean

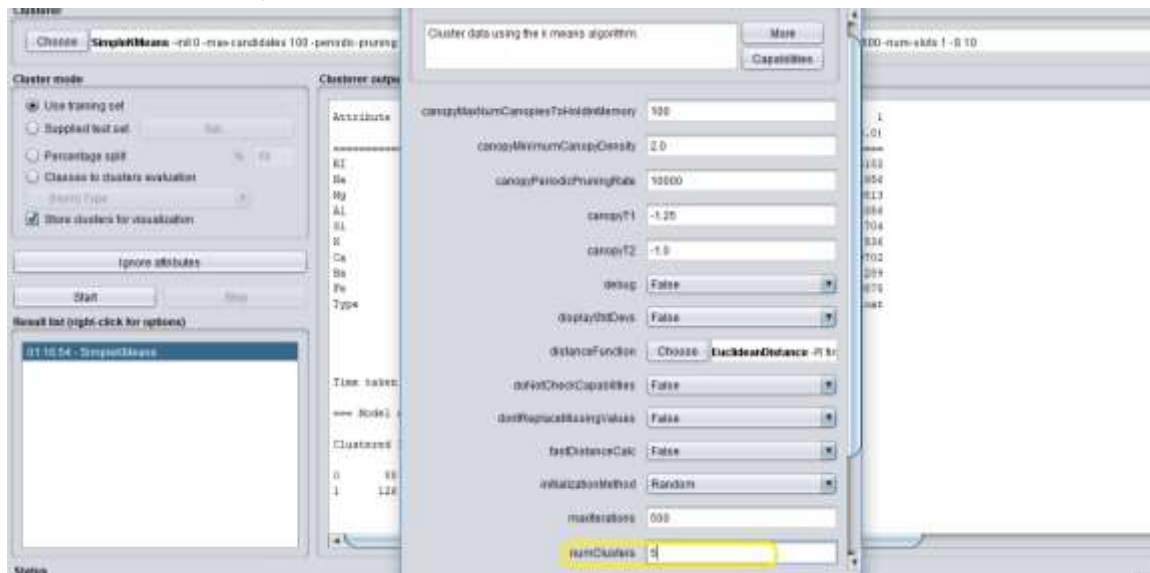


After Start there is two cluster in dataset



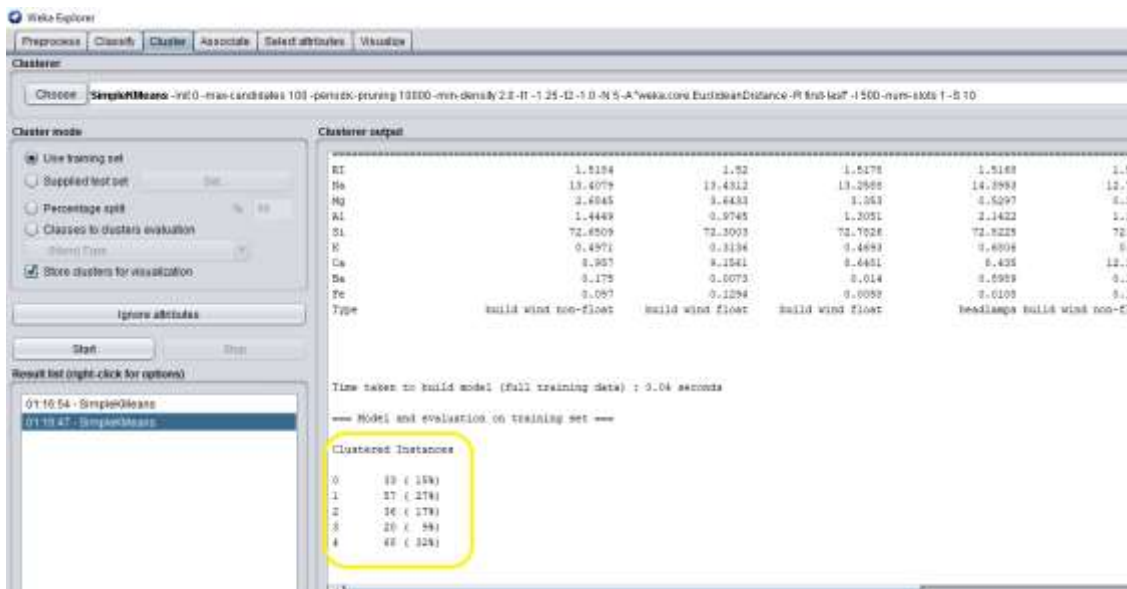
Assign number of clusters:

Here we assign number of cluster num=5



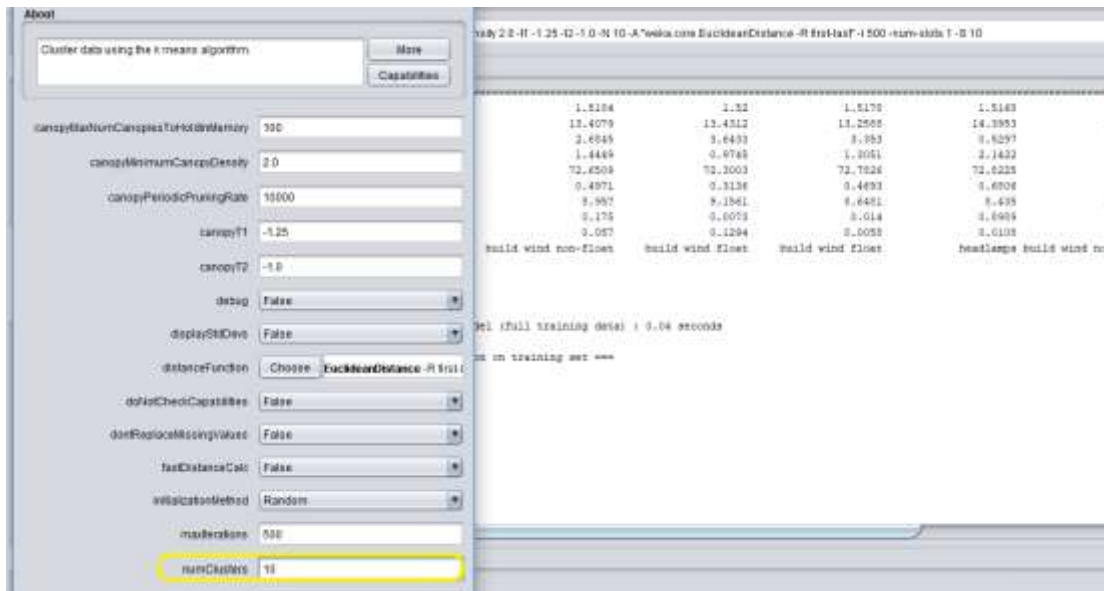
Result:

shows five number of clusters (0,1,2,3,4).



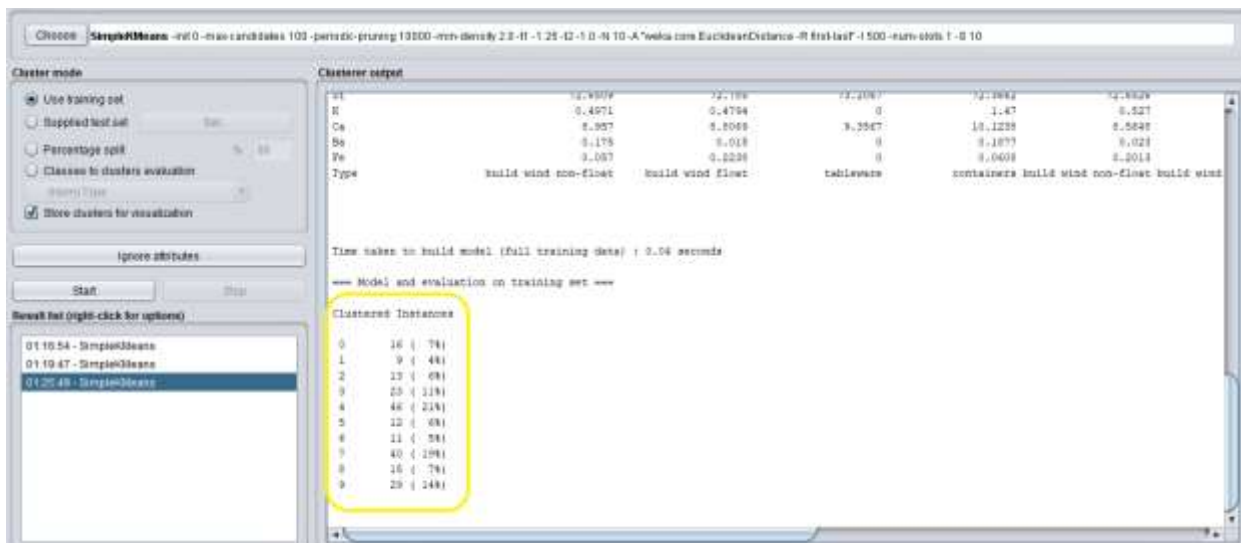
Validate the data:

Now here we can put value of $k=10$



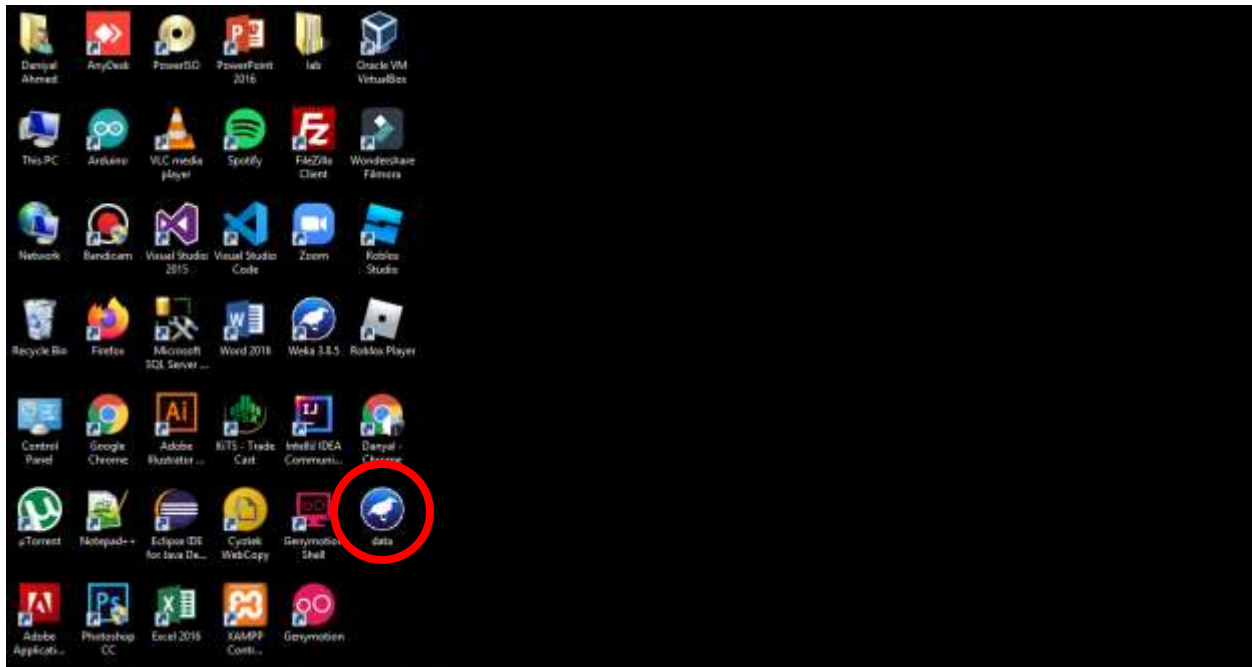
Result:

so the data point are divided into 10 ten clusters (0,1,2,3,4,5,6,7,8,9)

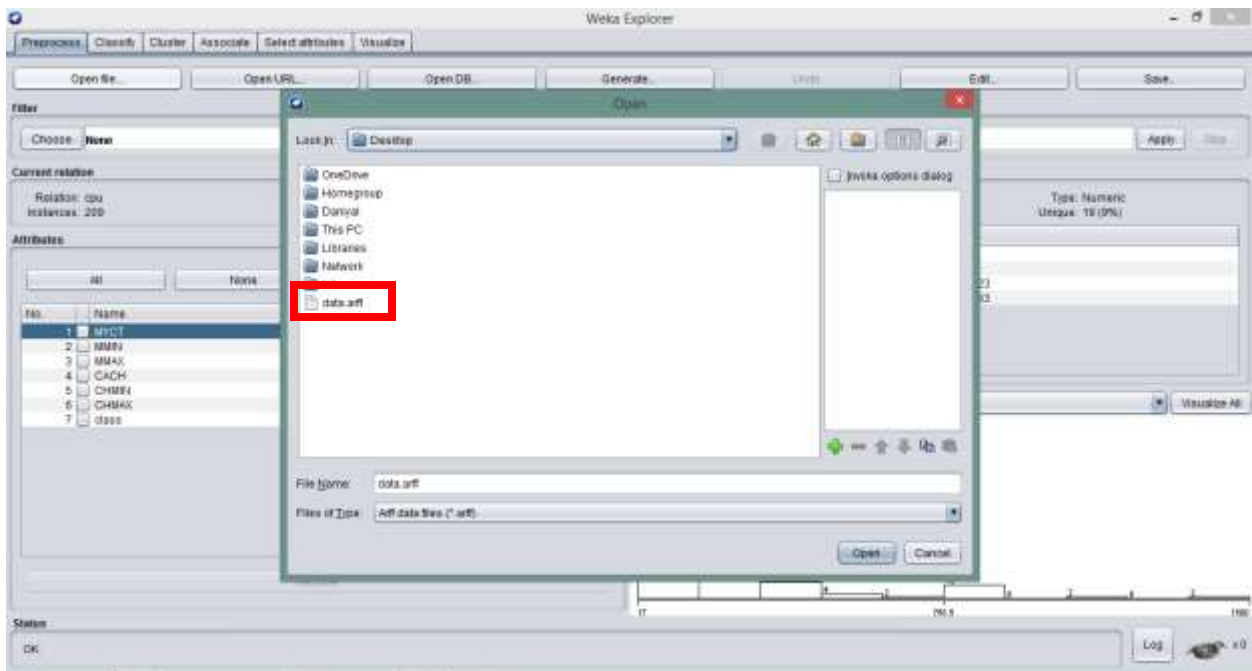


Lab#10

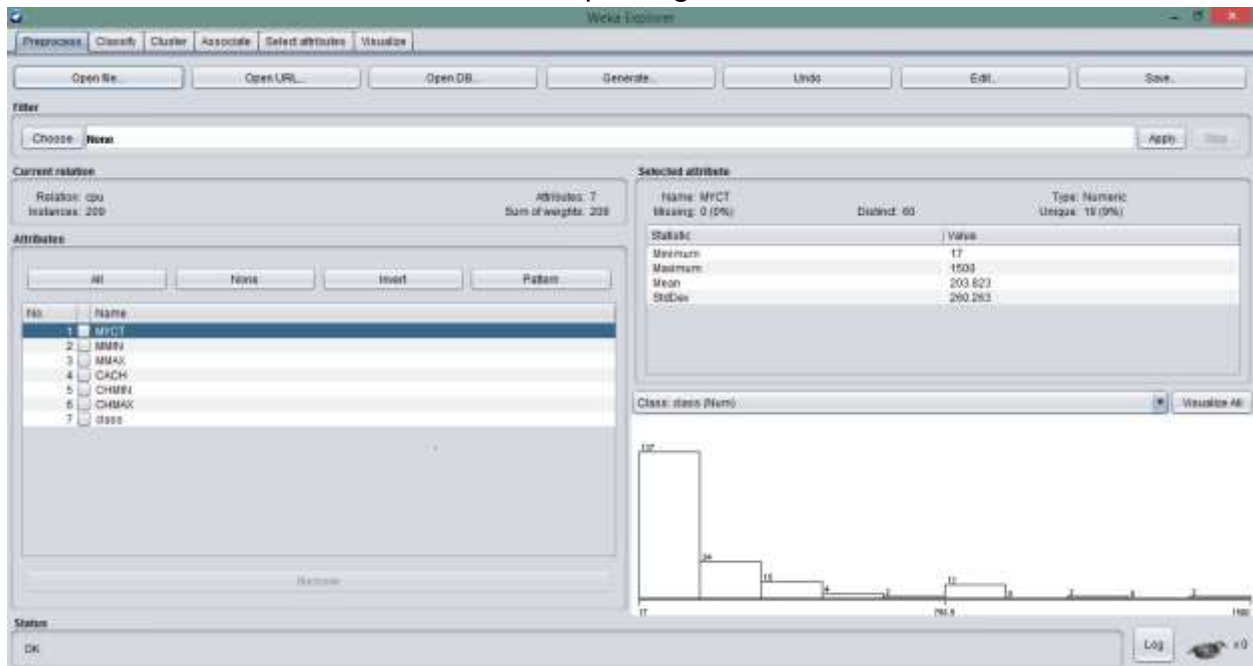
1 – First download the dataset from UCI/Kaggle



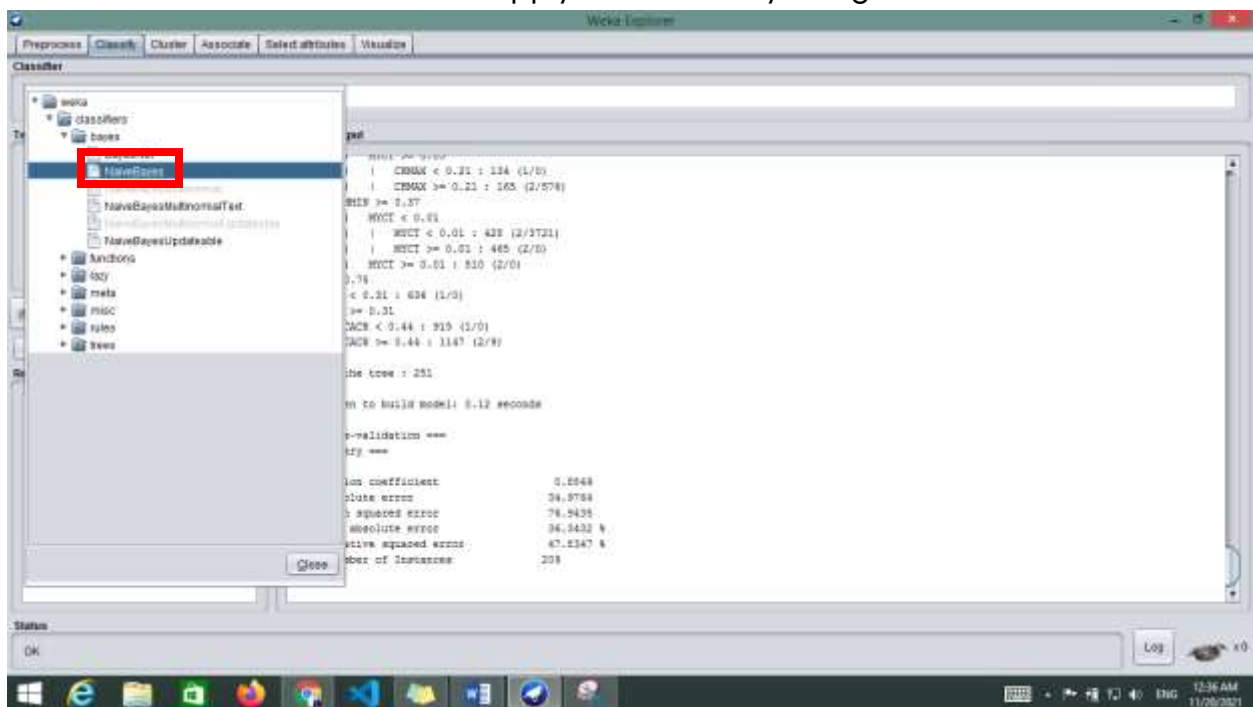
2 – Then import this data into weka using explorer....



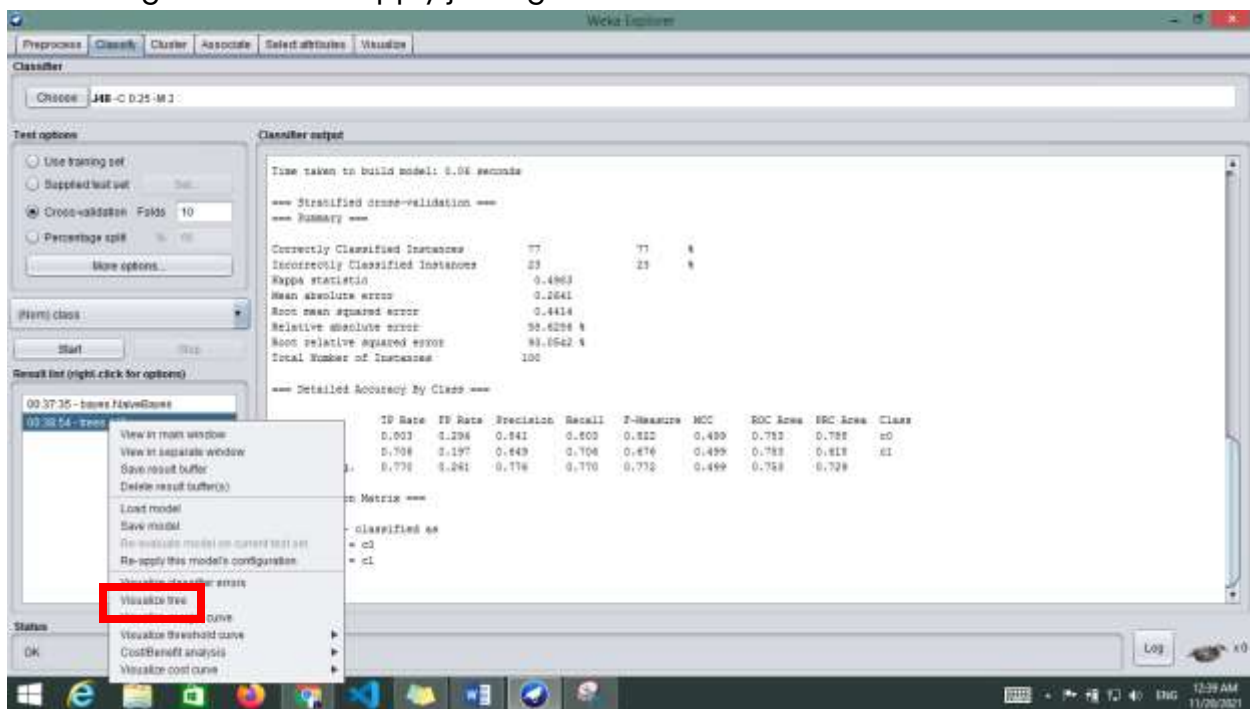
3 – Then it will show this screen after importing...



4 – Go to Classification Tab then apply the Naive Bayes algorithm:



5 – Then go to tree and apply j48 algorithm and then click on visualize tree.



6 – then it will show the tree for the relative dataset.

