21L-6205

Syed Sheraz Hussain

Lab-03

Nominal data:

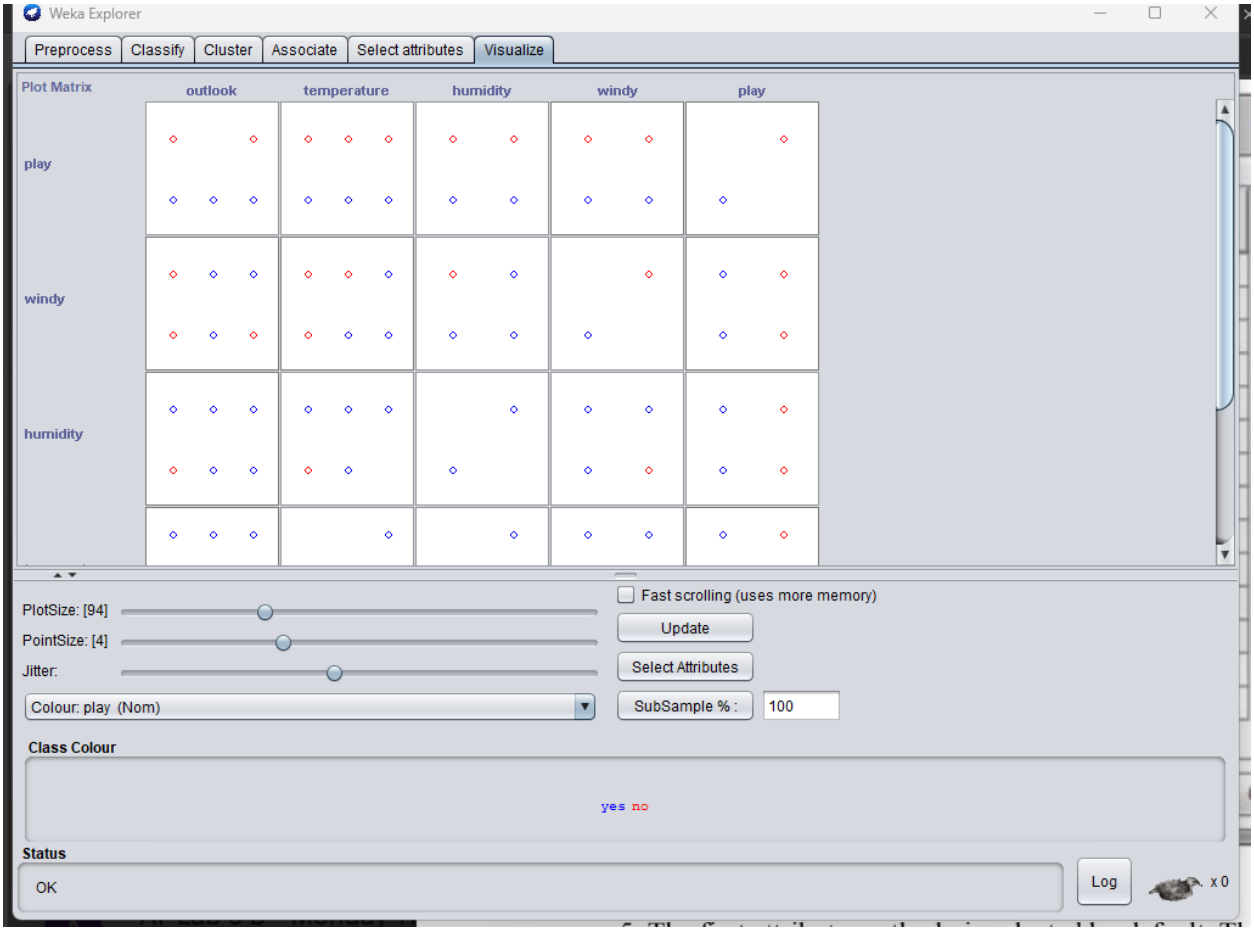
Load the data and click on edit

Viewer

Relation: weather.symbolic

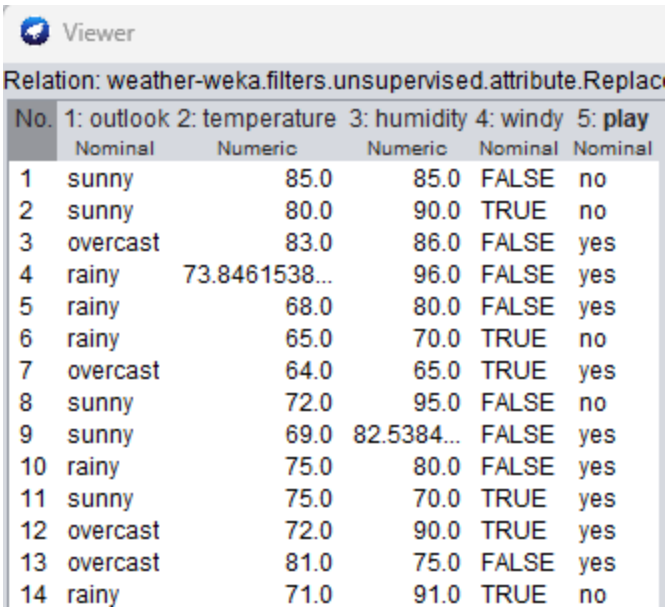
No.	1: outlook	2: temperature	3: humidity	4: windy	5: play
	Nominal	Nominal	Nominal	Nominal	Nominal
1	sunny	hot	high	FALSE	no
2	sunny	hot	high	TRUE	no
3	overcast	hot	high	FALSE	yes
4	rainy	mild	high	FALSE	yes
5	rainy	cool	normal	FALSE	yes
6	rainy	cool	normal	TRUE	no
7	overcast	cool	normal	TRUE	yes
8	sunny	mild	high	FALSE	no
9	sunny	cool	normal	FALSE	yes
10	rainy	mild	normal	FALSE	yes
11	sunny	mild	normal	TRUE	yes
12	overcast	mild	high	TRUE	yes
13	overcast	hot	normal	FALSE	yes
14	rainy	mild	high	TRUE	no

Visual the data



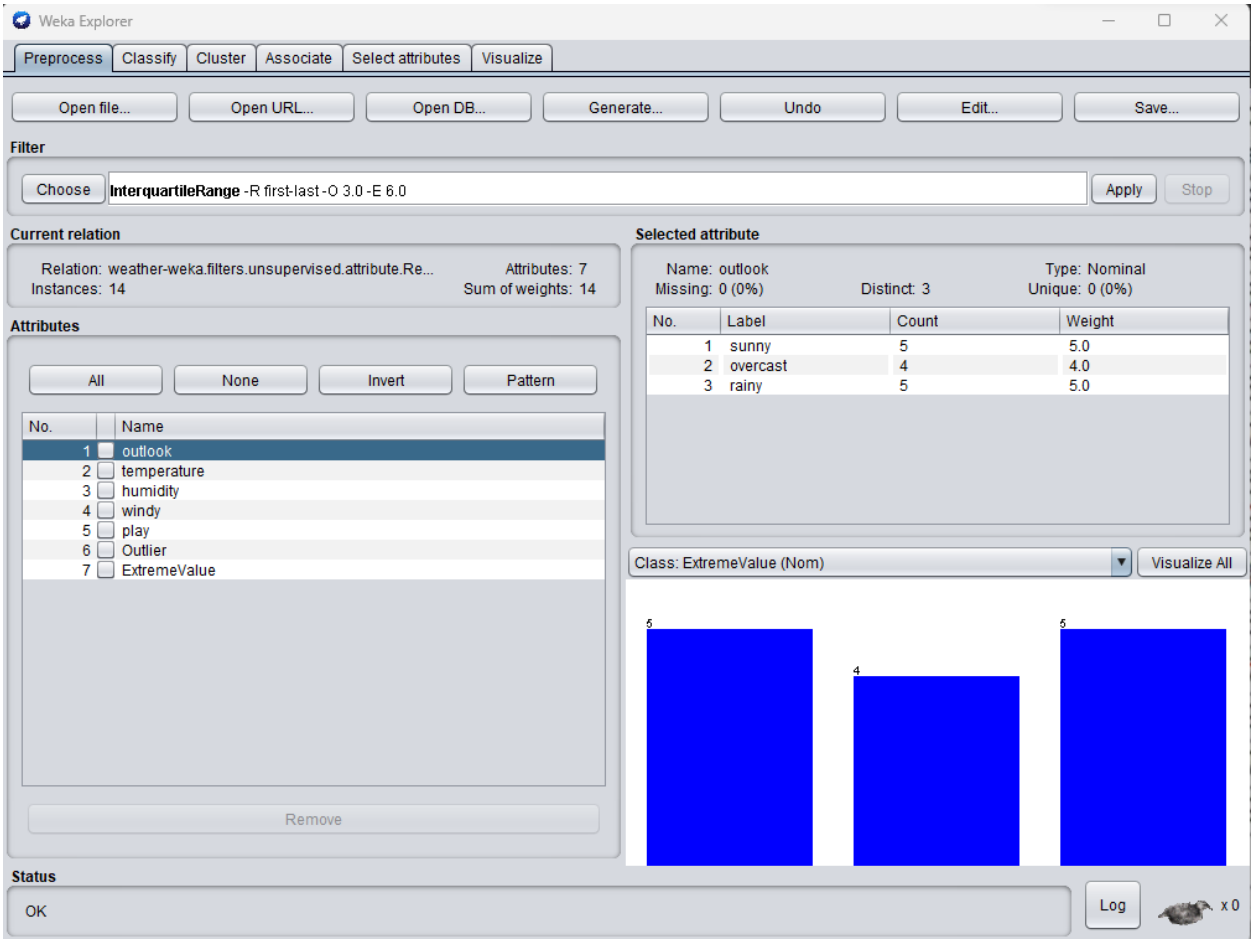
Numerical Data :

Replace the missing values by apply the filter



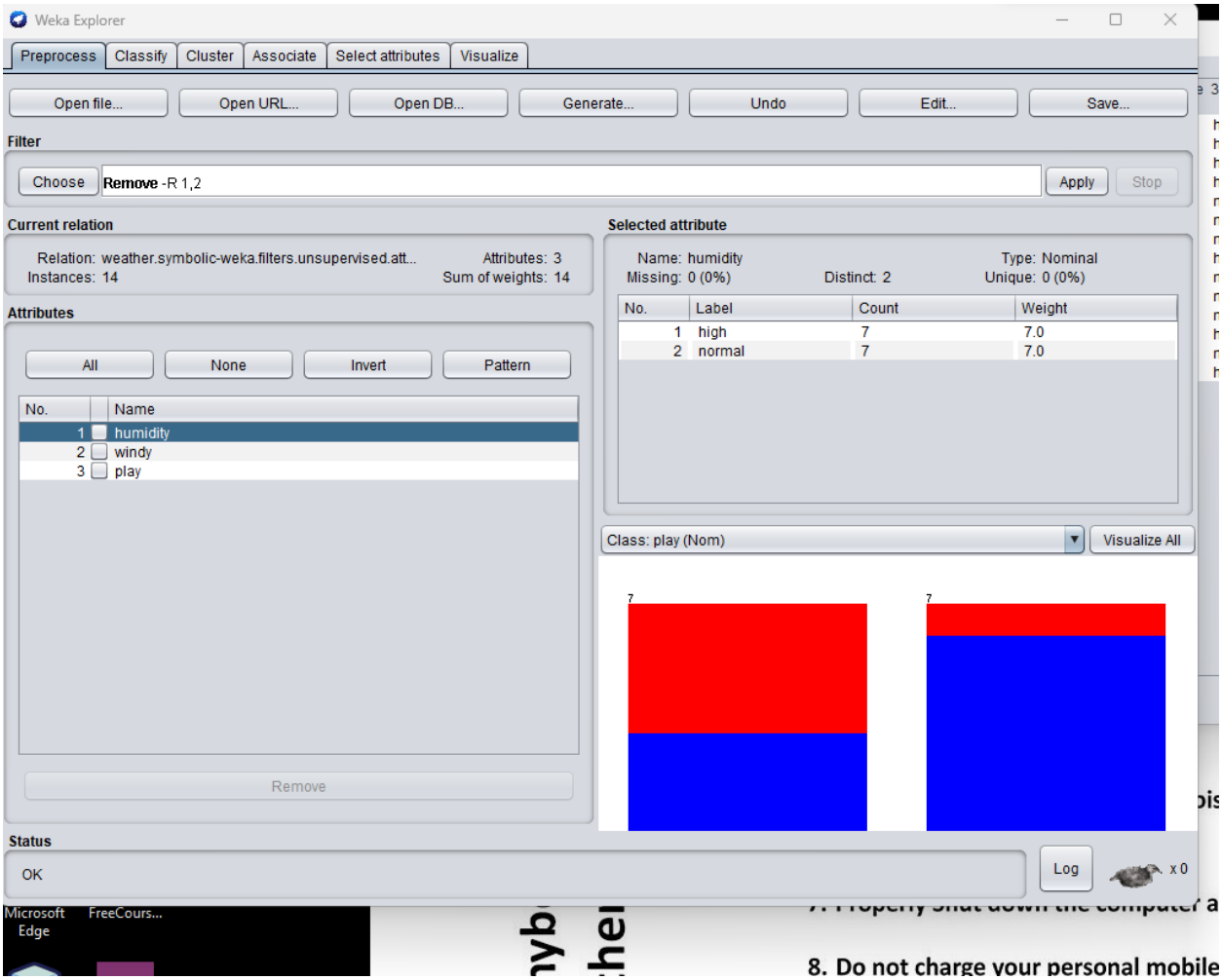
No.	1: outlook Nominal	2: temperature Numeric	3: humidity Numeric	4: windy Nominal	5: **play** Nominal
1	sunny	85.0	85.0	FALSE	no
2	sunny	80.0	90.0	TRUE	no
3	overcast	83.0	86.0	FALSE	yes
4	rainy	73.8461538...	96.0	FALSE	yes
5	rainy	68.0	80.0	FALSE	yes
6	rainy	65.0	70.0	TRUE	no
7	overcast	64.0	65.0	TRUE	yes
8	sunny	72.0	95.0	FALSE	no
9	sunny	69.0	82.5384...	FALSE	yes
10	rainy	75.0	80.0	FALSE	yes
11	sunny	75.0	70.0	TRUE	yes
12	overcast	72.0	90.0	TRUE	yes
13	overcast	81.0	75.0	FALSE	yes
14	rainy	71.0	91.0	TRUE	no

Apply the inter quartile range



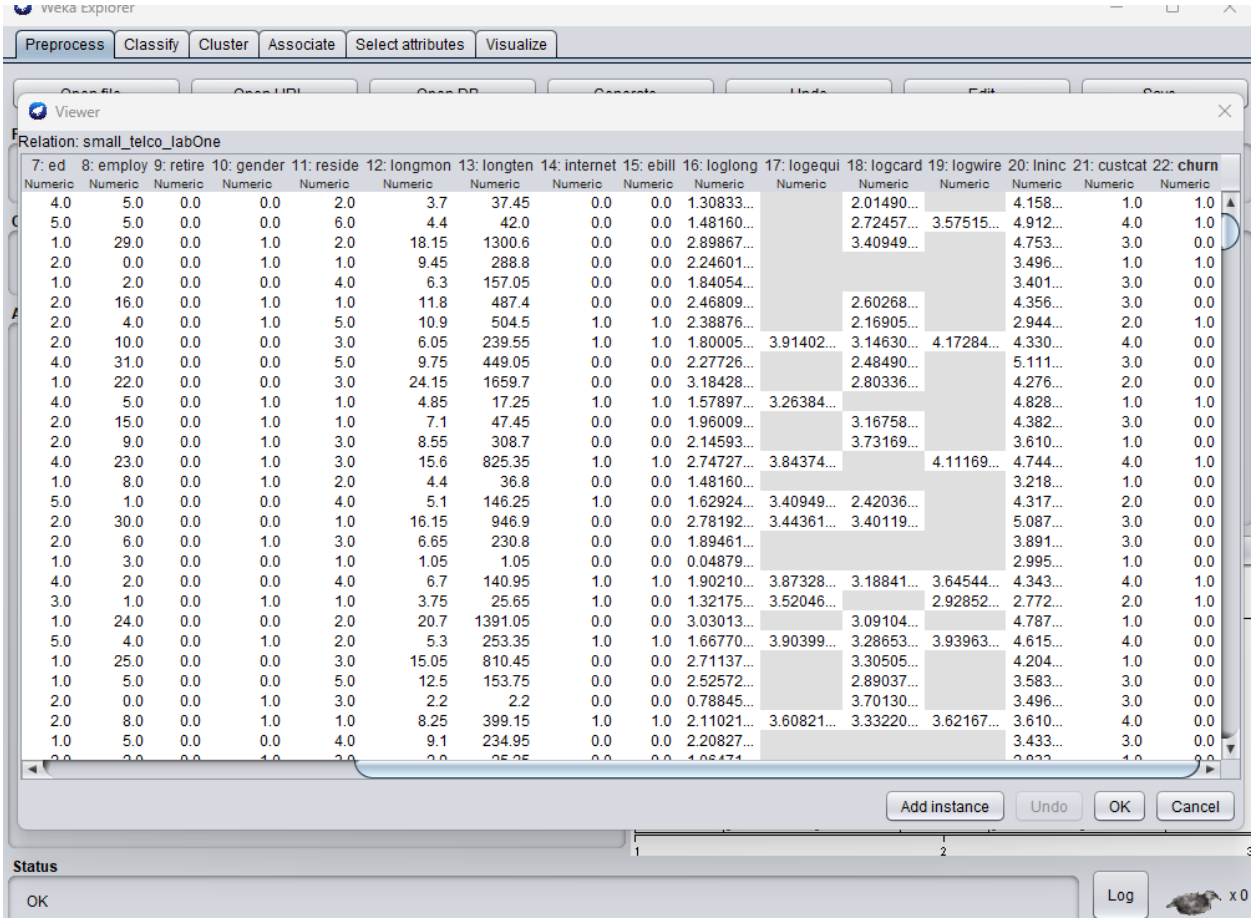
Remove the attribute:

Remove the 2 attibute by apply the filter

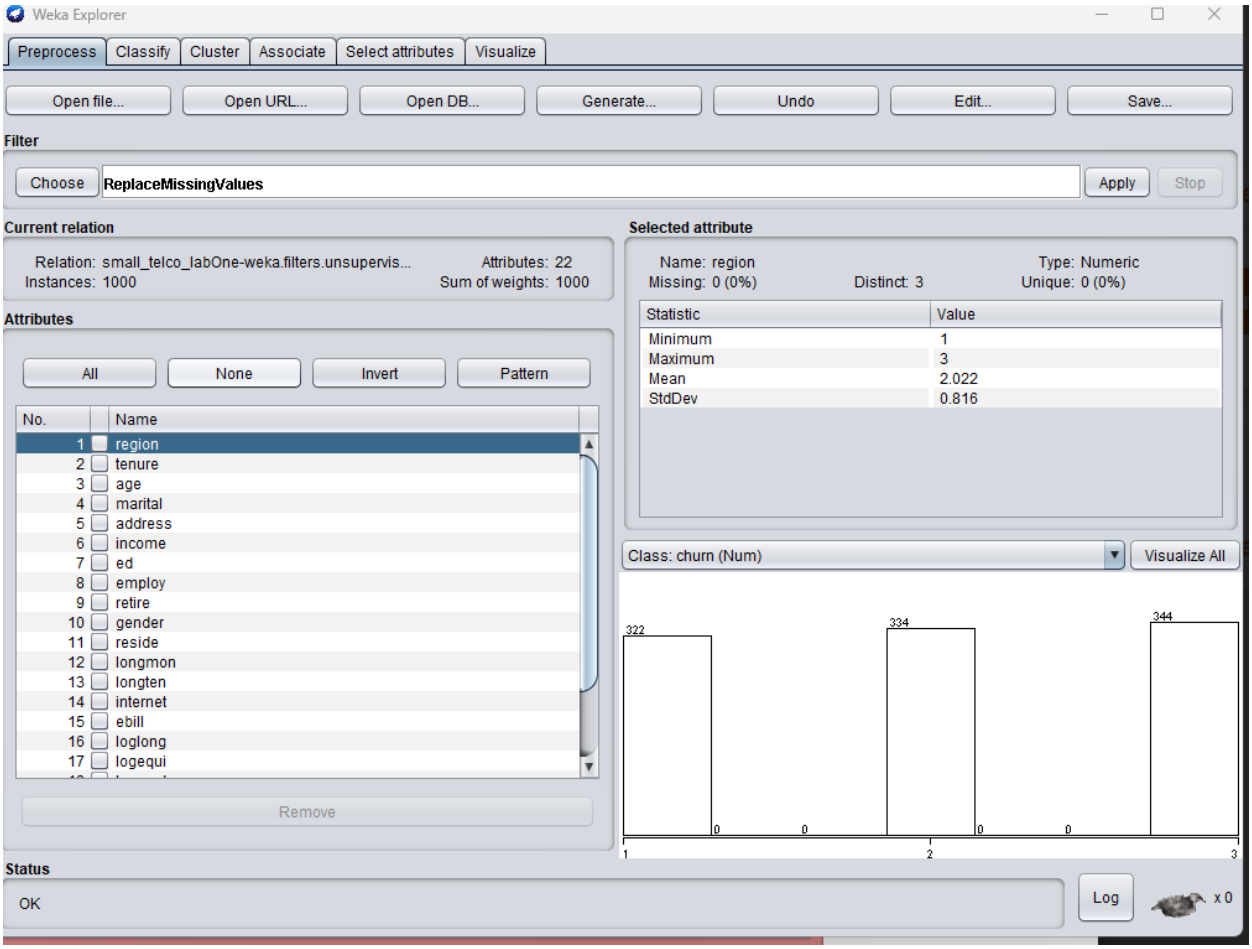


Csv:

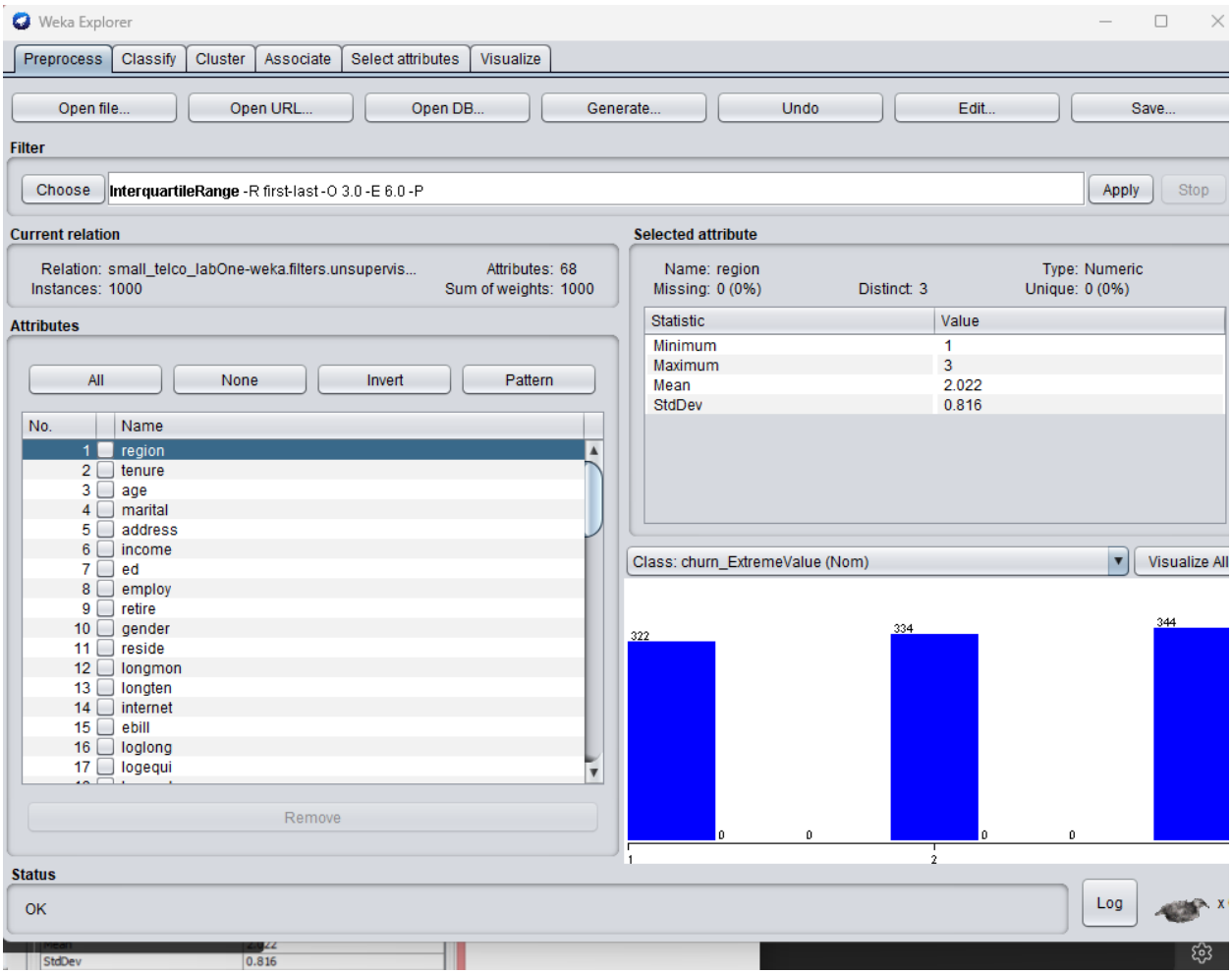
Load the csv file data and click on the edit option the data is as follows:



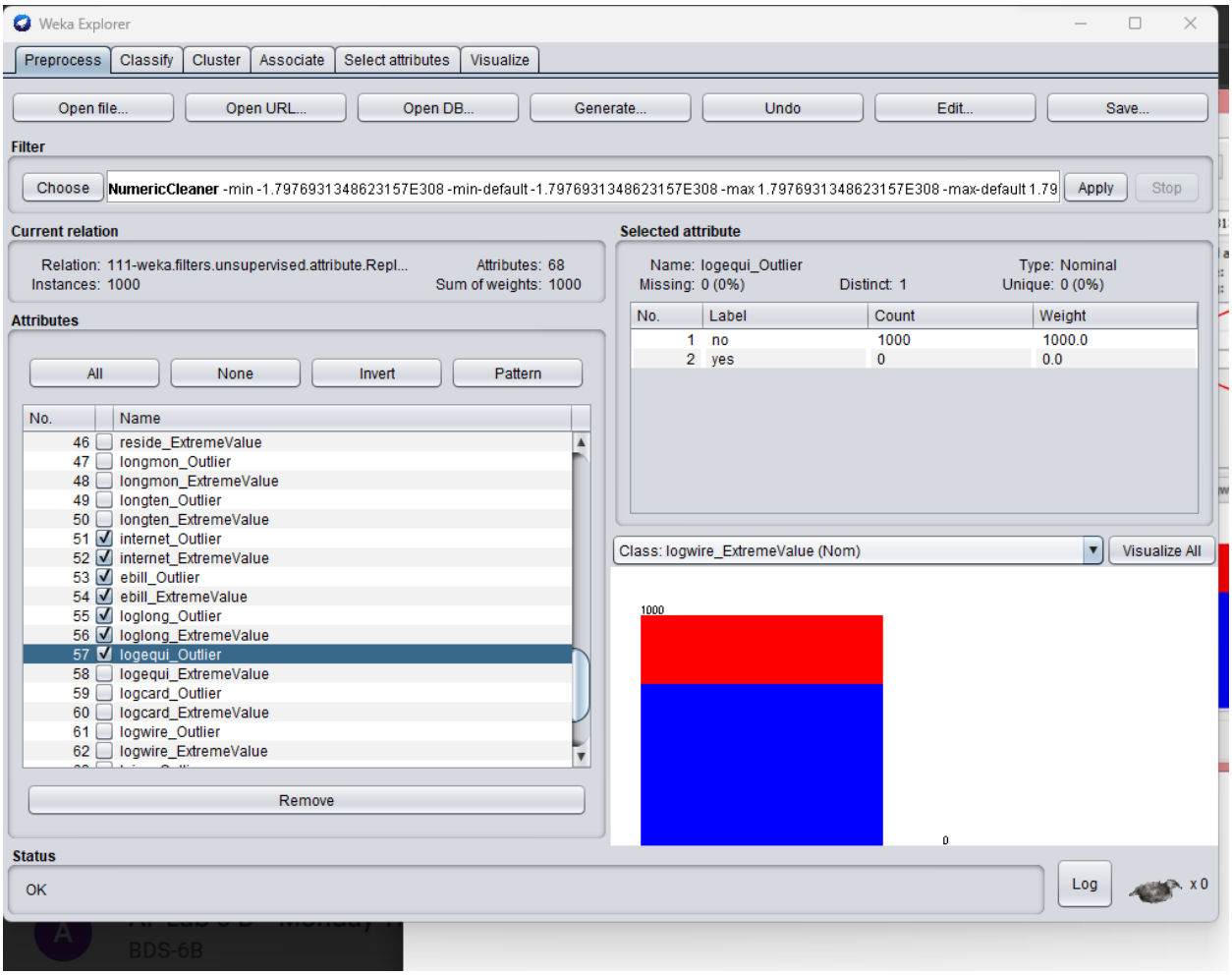
Replace the missing values by apply the filter:



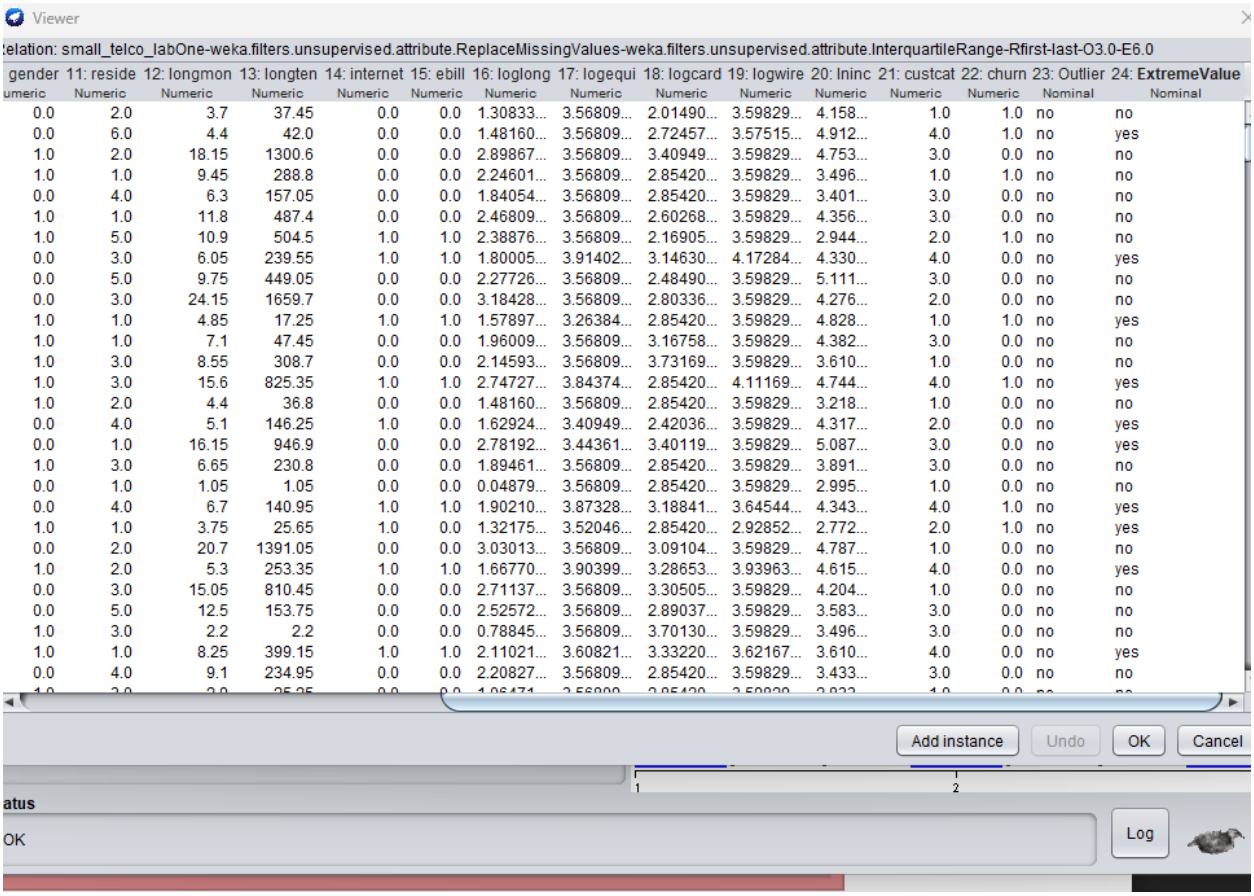
Apply the inter quartile range : by the filter


Weka Explorer
Preprocess
Classify
Cluster
Associate
Select attributes
Visualize
Open file...
Open URL...
Open DB...
Generate...
Undo
Edit...
Save...
Filter
Choose
InterquartileRange -R first-last -O 3.0 -E 6.0 -P
Apply
Stop
Current relation
Relation: small_telco_labOne-weka.filters.unsupervis...
Instances: 1000
Attributes: 68
Sum of weights: 1000
Selected attribute
Name: region
Missing: 0 (0%)
Distinct: 3
Type: Numeric
Unique: 0 (0%)
Statistic
Value
Minimum 1
Maximum 3
Mean 2.022
StdDev 0.816
Attributes
All
None
Invert
Pattern
No.
Name
1 region
2 tenure
3 age
4 marital
5 address
6 income
7 ed
8 employ
9 retire
10 gender
11 reside
12 longmon
13 longten
14 internet
15 ebill
16 loglong
17 logequi
Remove
Class: churn_ExtremeValue (Nom)
Visualize All
322
0
0
334
0
0
344
1
2
Status
OK
Log

Select the attribute by apply inter-quartile range: by deteion true



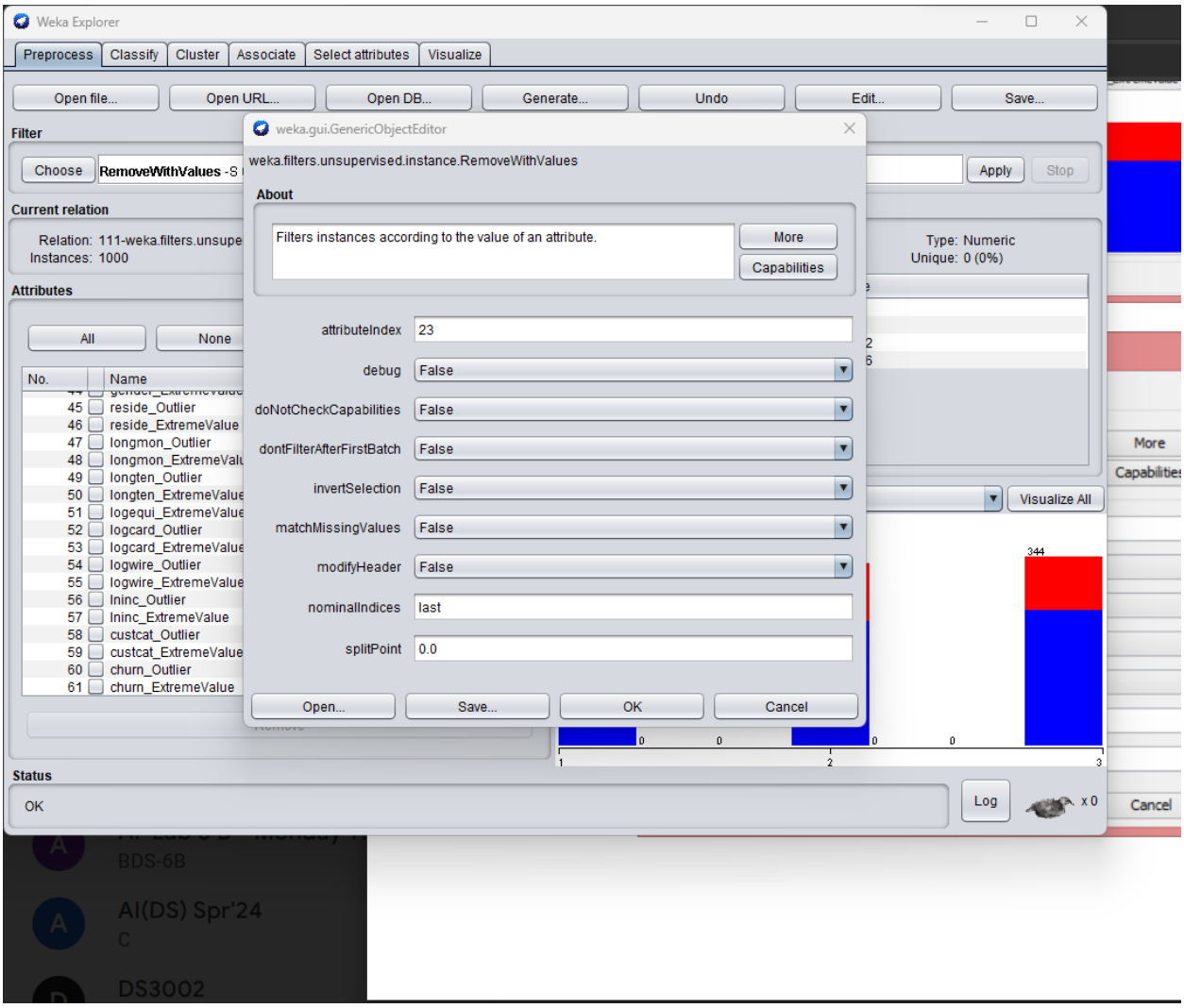
And the data is as by edit option: given extreme values:

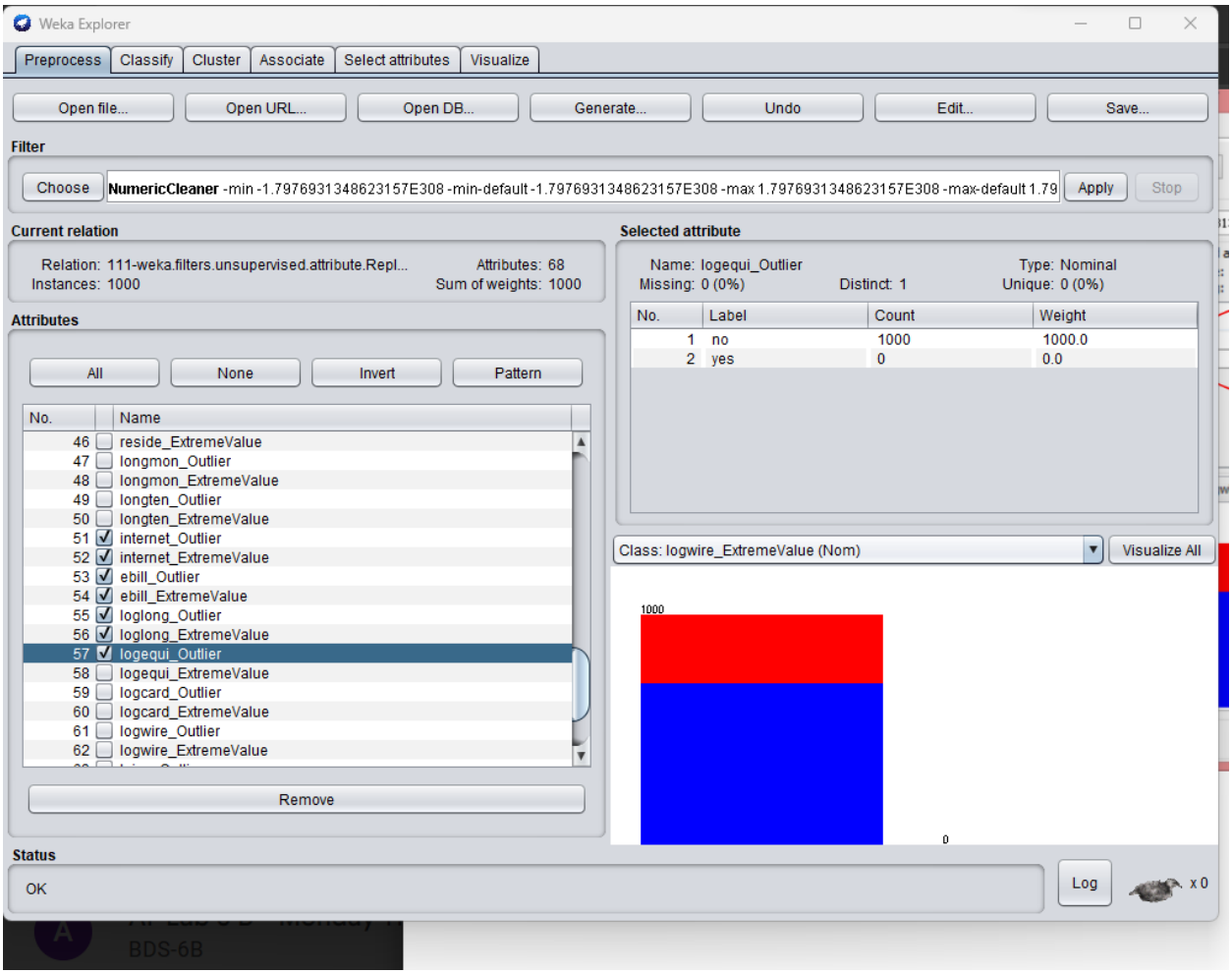


And remove the values by just click remove button below:

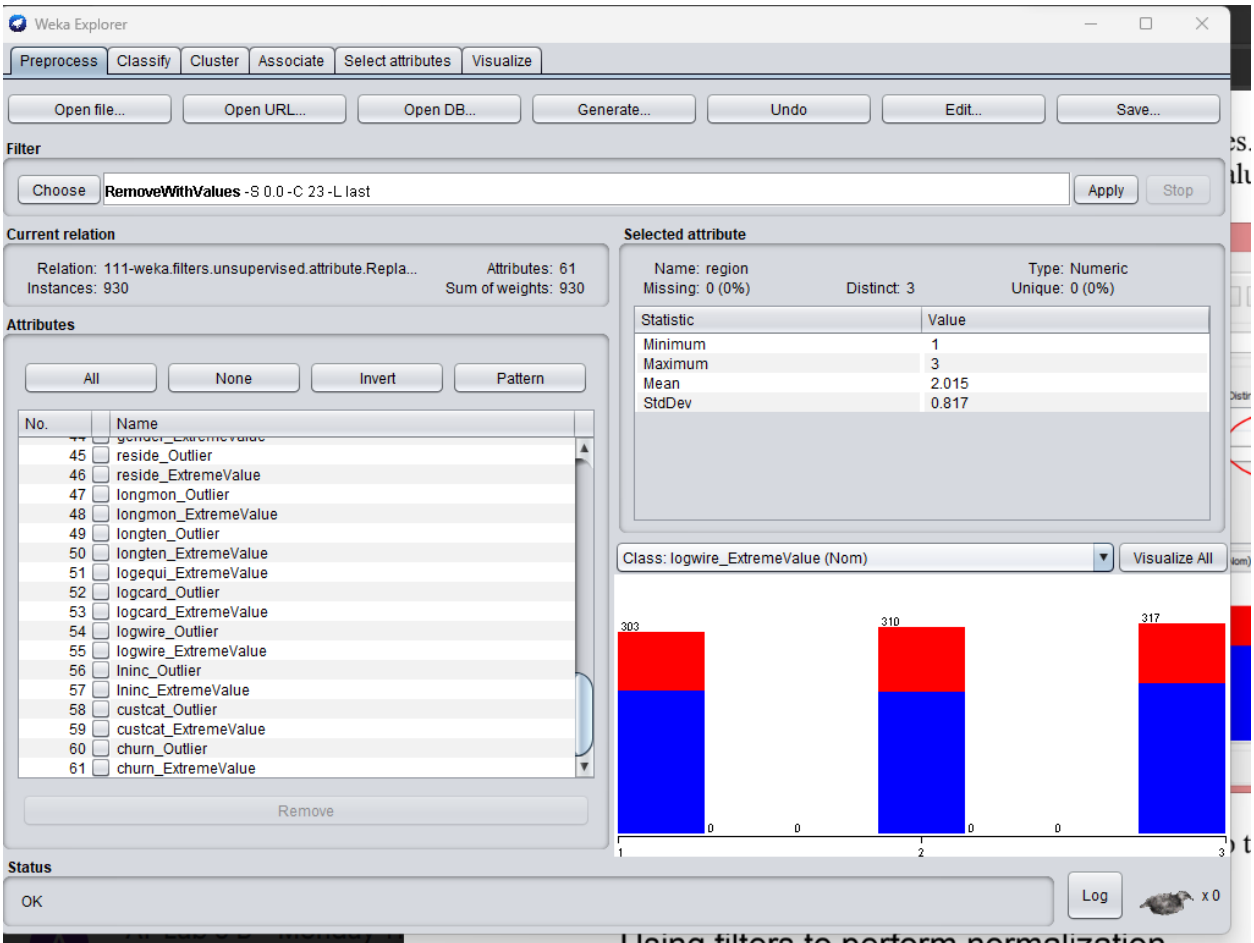
And apply numeric cleaner:

Apply the numeric cleaner and attribute remove with 23 and last instances:


Weka Explorer
Preprocess
Classify
Cluster
Associate
Select attributes
Visualize
Open file...
Open URL...
Open DB...
Generate...
Undo
Edit...
Save...
Filter
Choose
RemoveWithValues -S
Apply
Stop
Current relation
Relation: 111-weka.filters.unsupe
Instances: 1000
Attributes
All
None
No.
Name
45 reside_Outlier
46 reside_ExtremeValue
47 longmon_Outlier
48 longmon_ExtremeValu
49 longten_Outlier
50 longten_ExtremeValue
51 logequi_ExtremeValue
52 logcard_Outlier
53 logcard_ExtremeValue
54 logwire_Outlier
55 logwire_ExtremeValue
56 lninc_Outlier
57 lninc_ExtremeValue
58 custcat_Outlier
59 custcat_ExtremeValue
60 churn_Outlier
61 churn_ExtremeValue
Type: Numeric
Unique: 0 (0%)
More
Capabilities
Visualize All
344
Status
OK
Log
x 0
Cancel
weka.gui.GenericObjectEditor
weka.filters.unsupervised.instance.RemoveWithValues
About
Filters instances according to the value of an attribute.
More
Capabilities
attributeIndex 23
debug False
doNotCheckCapabilities False
dontFilterAfterFirstBatch False
invertSelection False
matchMissingValues False
modifyHeader False
nominalIndices last
splitPoint 0.0
Open...
Save...
OK
Cancel
BDS-6B
AI(DS) Spr'24
C
DS3002



The attribute is remove



BDS-6B

AI(DS) Spr'24

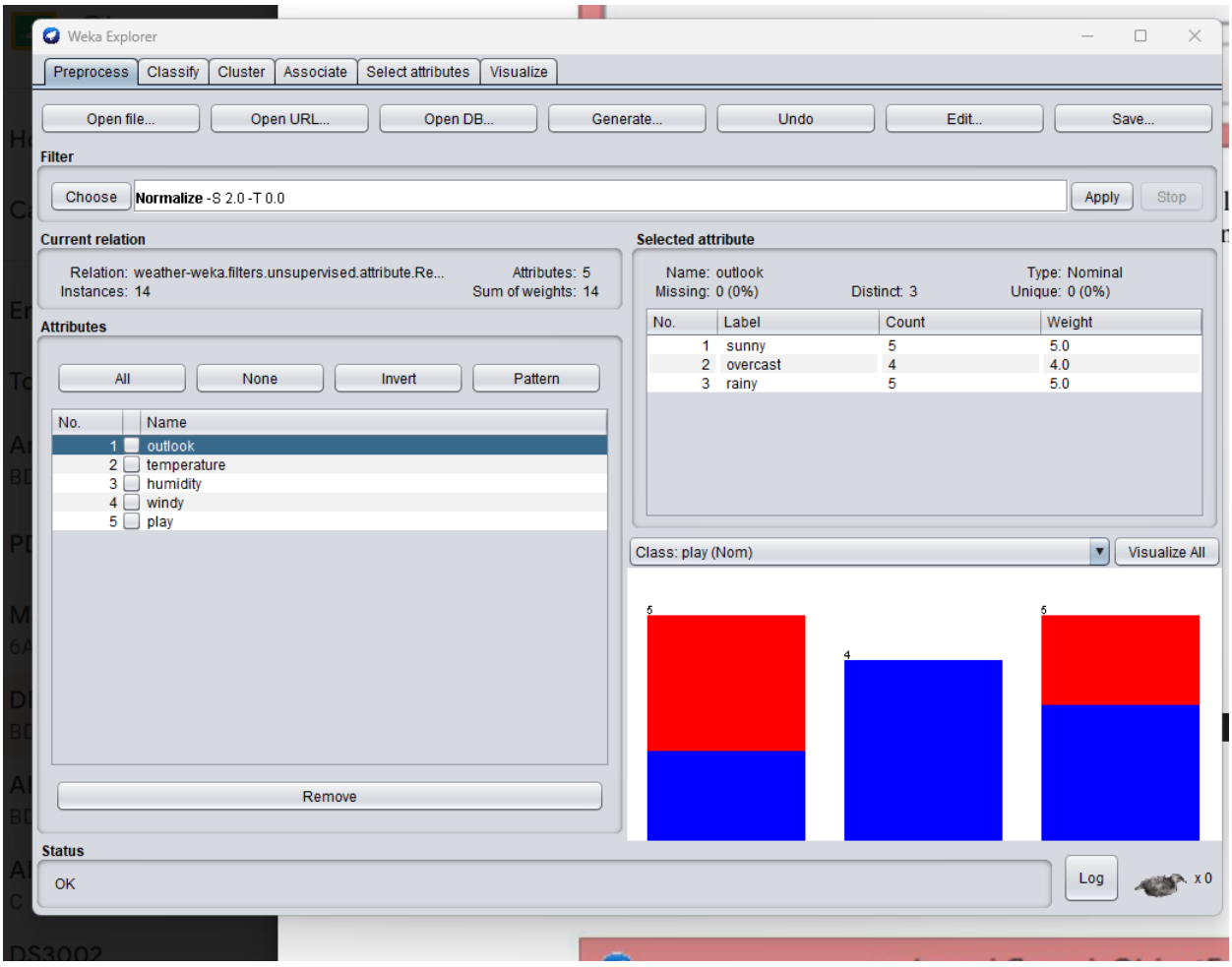
C

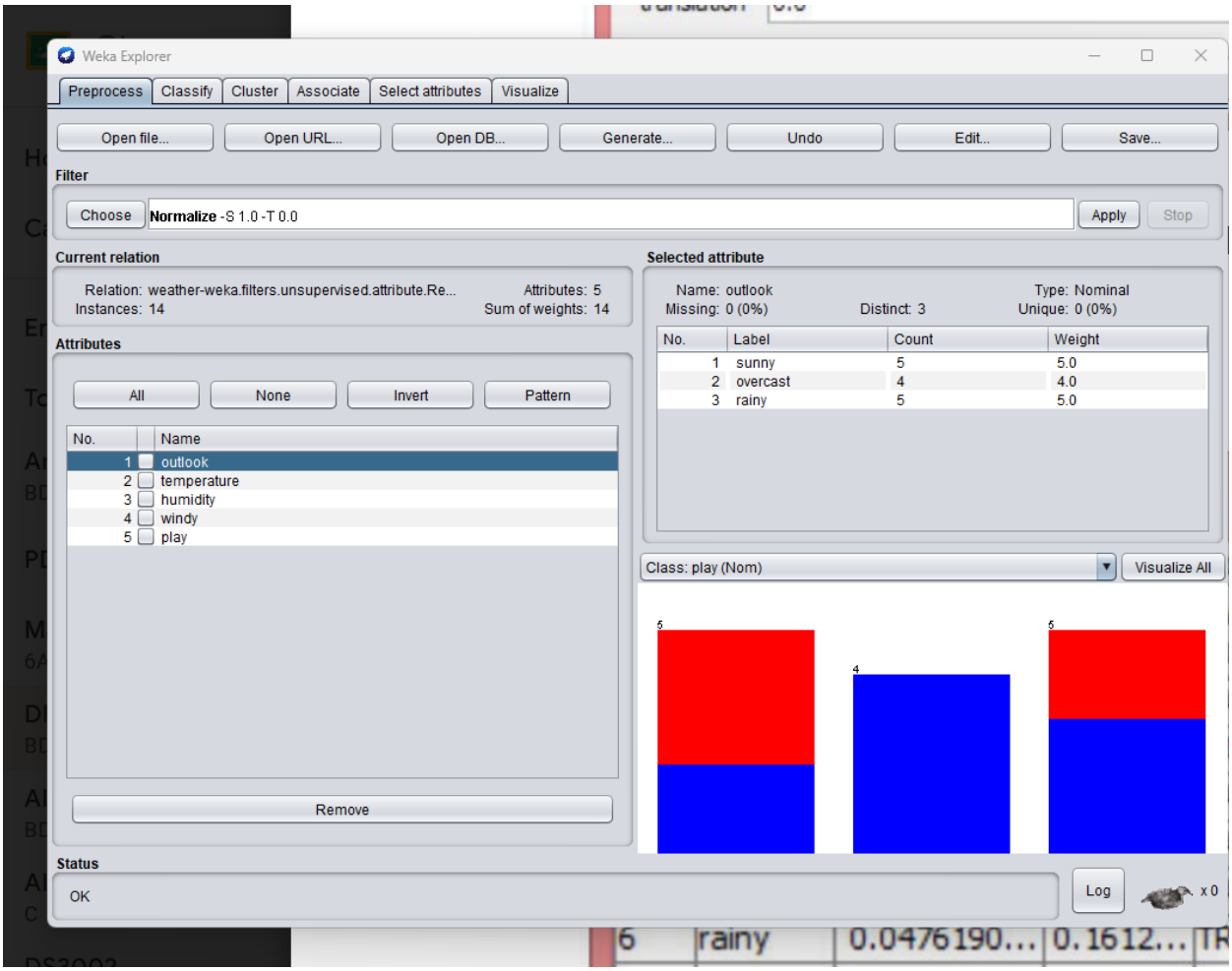
Using filters to perform normalization

Unsupervised Attribute Filter – Normalize: This
values values in the given dataset for the default ra

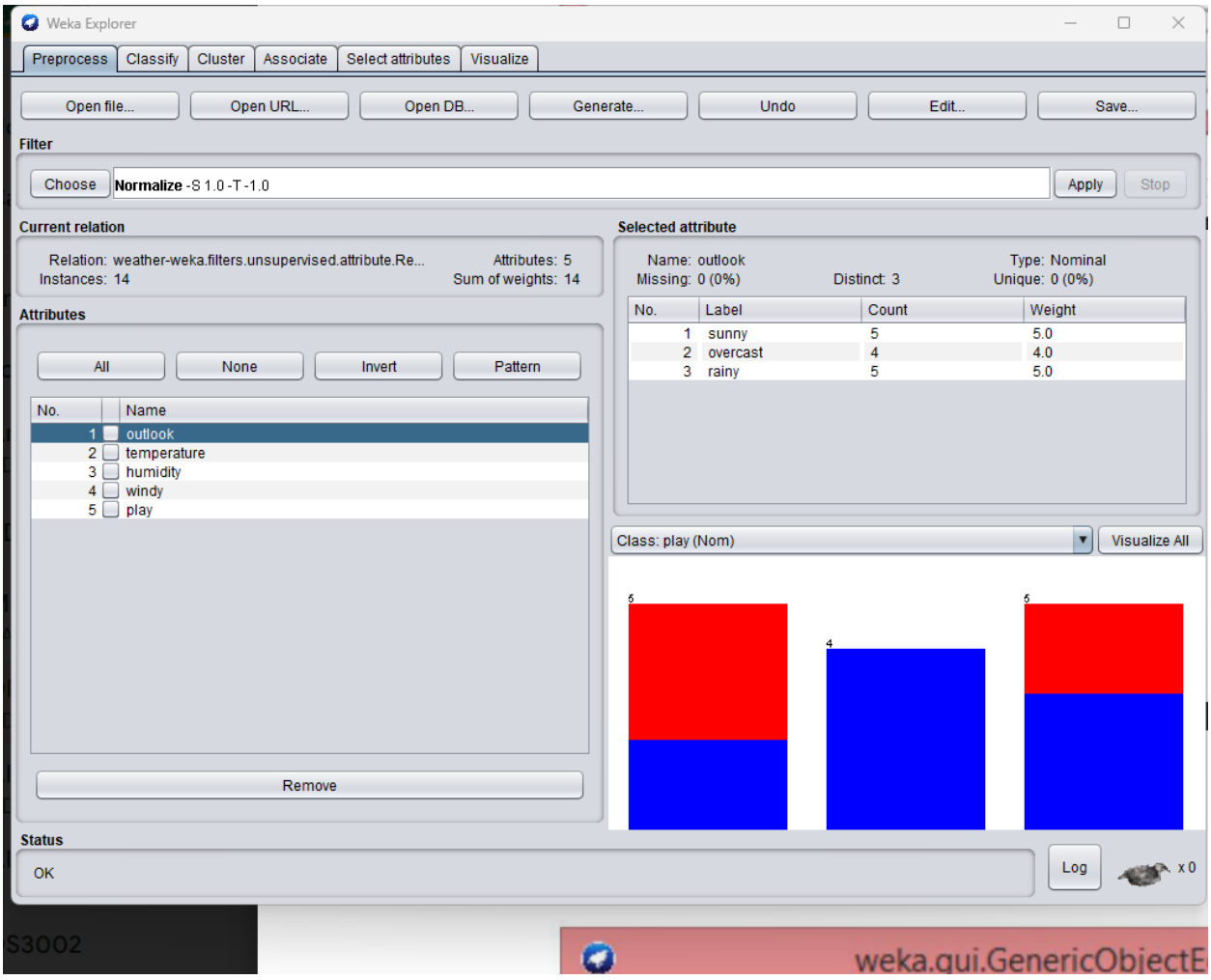
Numerical Data Normalization:

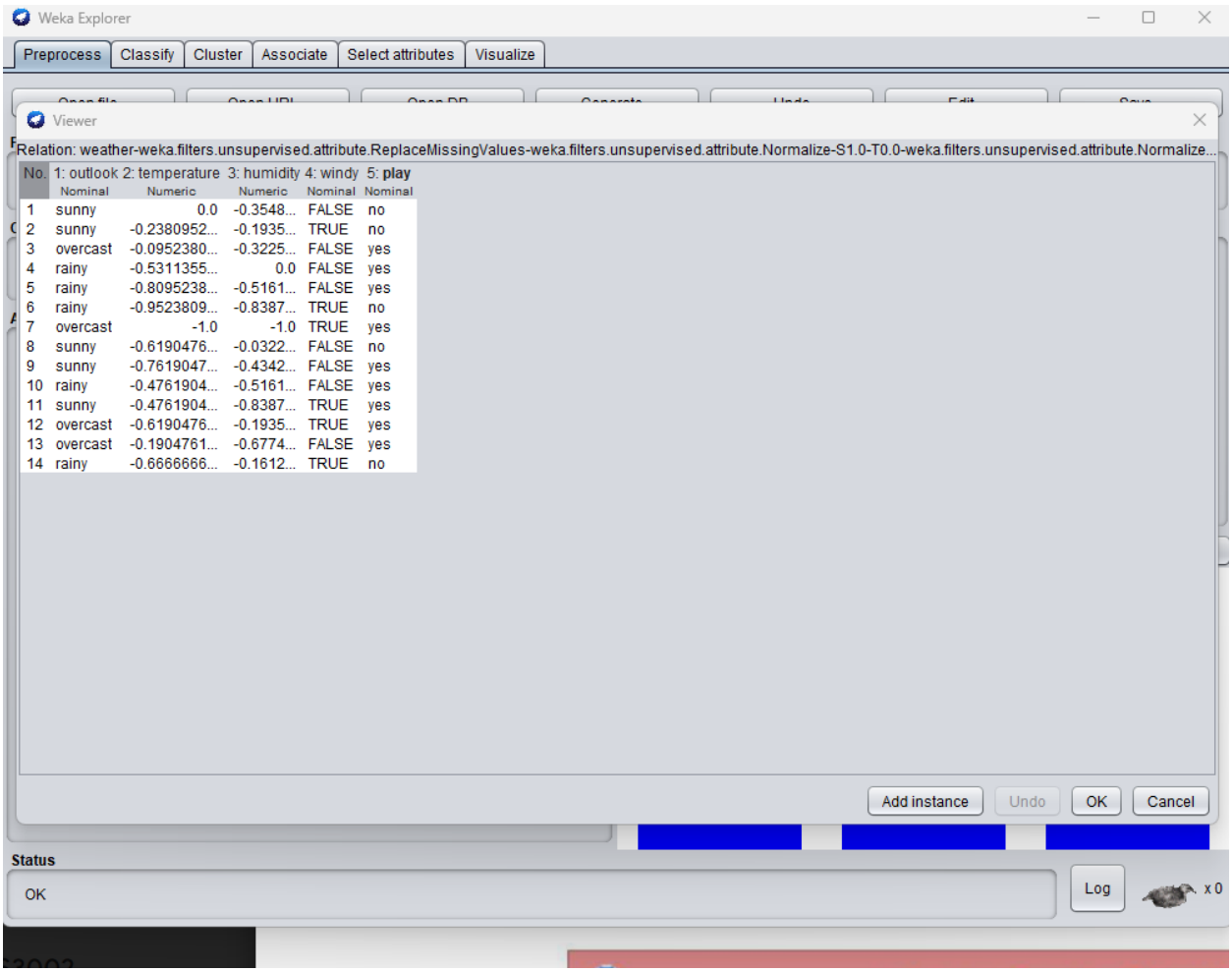
Normalize with range (0,1),(-1,1),(2,0) And the normalization results are

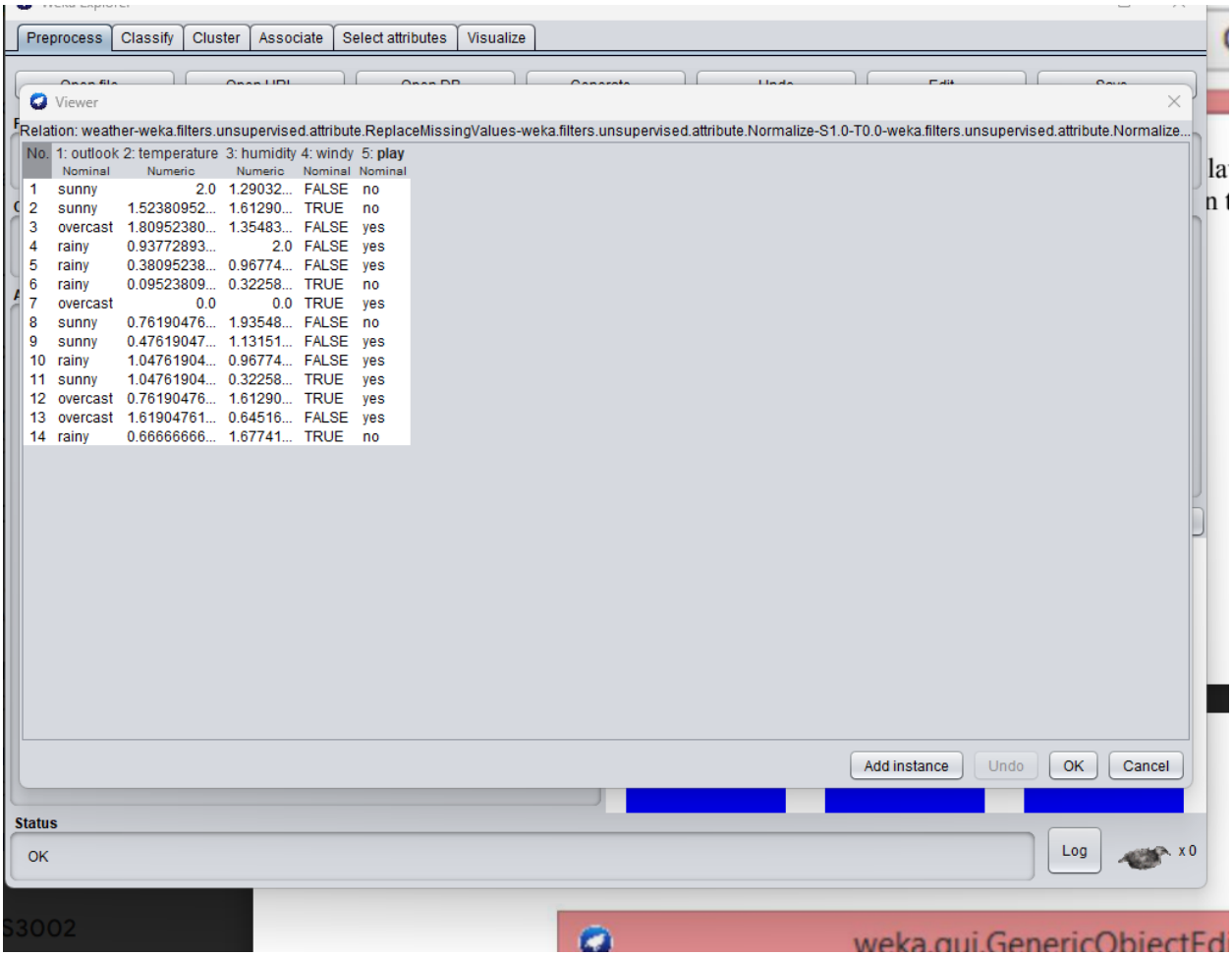


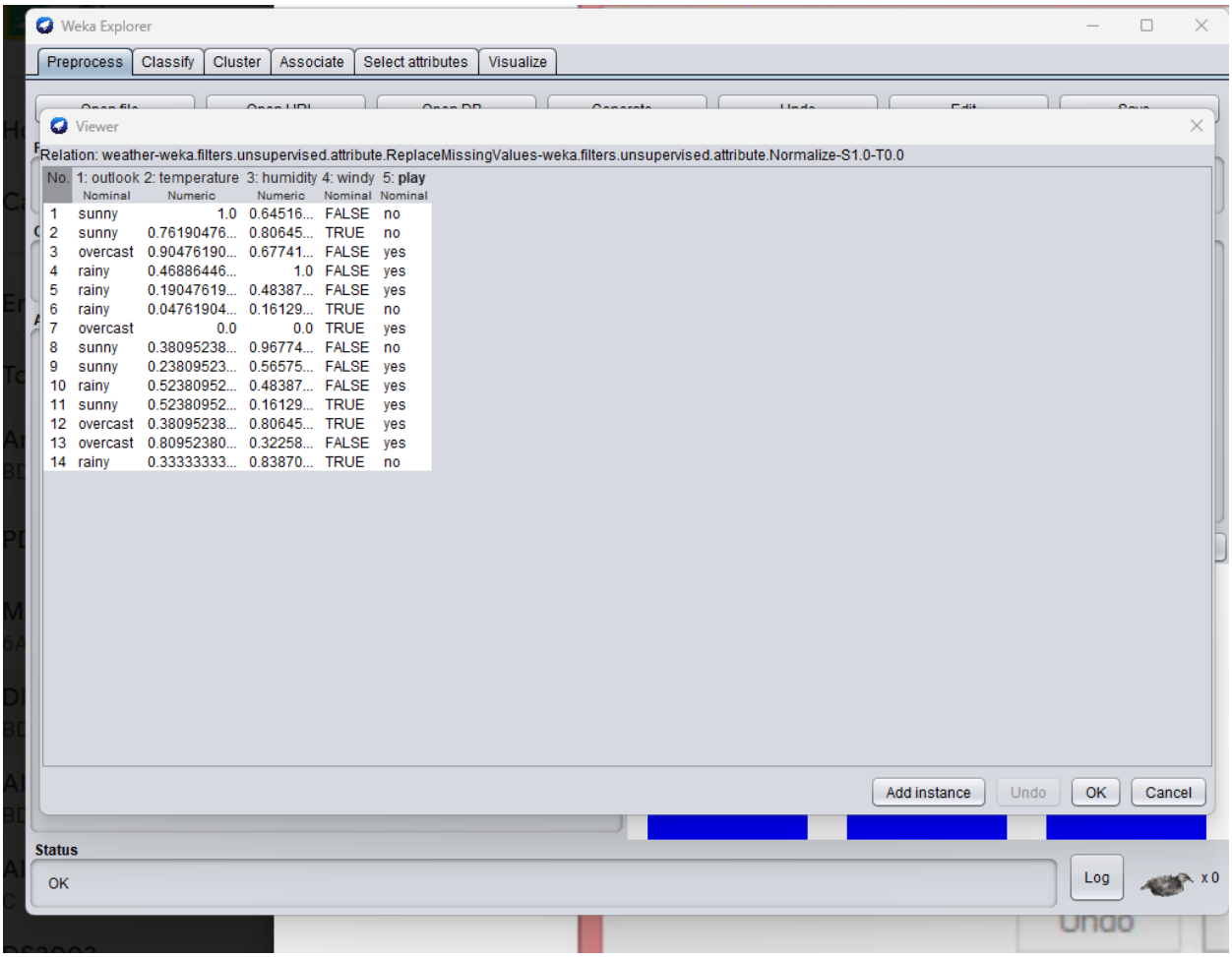

Weka Explorer
Preprocess
Classify
Cluster
Associate
Select attributes
Visualize
Open file...
Open URL...
Open DB...
Generate...
Undo
Edit...
Save...
Filter
Choose
Normalize -S 1.0 -T 0.0
Apply
Stop
Current relation
Relation: weather-weka.filters.unsupervised.attribute.Re...
Attributes: 5
Instances: 14
Sum of weights: 14
Attributes
All
None
Invert
Pattern
No.
Name
1 outlook
2 temperature
3 humidity
4 windy
5 play
Remove
Selected attribute
Name: outlook
Type: Nominal
Missing: 0 (0%)
Distinct: 3
Unique: 0 (0%)
No.
Label
Count
Weight
1 sunny 5 5.0
2 overcast 4 4.0
3 rainy 5 5.0
Class: play (Nom)
Visualize All
5
4
5
Status
OK
Log
x 0

-
-


Weka Explorer
Preprocess
Classify
Cluster
Associate
Select attributes
Visualize
Open file...
Open URL...
Open DB...
Generate...
Undo
Edit...
Save...
Filter
Choose
Normalize -S 1.0 -T -1.0
Apply
Stop
Current relation
Relation: weather-weka.filters.unsupervised.attribute.Re...
Attributes: 5
Instances: 14
Sum of weights: 14
Selected attribute
Name: outlook
Type: Nominal
Missing: 0 (0%)
Distinct: 3
Unique: 0 (0%)
No. Label Count Weight
1 sunny 5 5.0
2 overcast 4 4.0
3 rainy 5 5.0
Attributes
All
None
Invert
Pattern
No. Name
1 outlook
2 temperature
3 humidity
4 windy
5 play
Remove
Class: play (Nom)
Visualize All
5
4
5
Status
OK
Log
x 0
S3002
weka.gui.GenericObjectE


Weka Explorer
Preprocess
Classify
Cluster
Associate
Select attributes
Visualize
Viewer
Relation: weather-weka.filters.unsupervised.attribute.ReplaceMissingValues-weka.filters.unsupervised.attribute.Normalize-S1.0-T0.0-weka.filters.unsupervised.attribute.Normalize...
No. 1: outlook Nominal 2: temperature Numeric 3: humidity Numeric 4: windy Nominal 5: play Nominal
1 sunny 0.0 -0.3548... FALSE no
2 sunny -0.2380952... -0.1935... TRUE no
3 overcast -0.0952380... -0.3225... FALSE yes
4 rainy -0.5311355... 0.0 FALSE yes
5 rainy -0.8095238... -0.5161... FALSE yes
6 rainy -0.9523809... -0.8387... TRUE no
7 overcast -1.0 -1.0 TRUE yes
8 sunny -0.6190476... -0.0322... FALSE no
9 sunny -0.7619047... -0.4342... FALSE yes
10 rainy -0.4761904... -0.5161... FALSE yes
11 sunny -0.4761904... -0.8387... TRUE yes
12 overcast -0.6190476... -0.1935... TRUE yes
13 overcast -0.1904761... -0.6774... FALSE yes
14 rainy -0.6666666... -0.1612... TRUE no
Add instance
Undo
OK
Cancel
Status
OK
Log
x 0


Preprocess
Classify
Cluster
Associate
Select attributes
Visualize
Viewer
Relation: weather-weka.filters.unsupervised.attribute.ReplaceMissingValues-weka.filters.unsupervised.attribute.Normalize-S1.0-T0.0-weka.filters.unsupervised.attribute.Normalize...
No. 1: outlook 2: temperature 3: humidity 4: windy 5: play
Nominal Numeric Numeric Nominal Nominal
1 sunny 2.0 1.29032... FALSE no
2 sunny 1.52380952... 1.61290... TRUE no
3 overcast 1.80952380... 1.35483... FALSE yes
4 rainy 0.93772893... 2.0 FALSE yes
5 rainy 0.38095238... 0.96774... FALSE yes
6 rainy 0.09523809... 0.32258... TRUE no
7 overcast 0.0 0.0 TRUE yes
8 sunny 0.76190476... 1.93548... FALSE no
9 sunny 0.47619047... 1.13151... FALSE yes
10 rainy 1.04761904... 0.96774... FALSE yes
11 sunny 1.04761904... 0.32258... TRUE yes
12 overcast 0.76190476... 1.61290... TRUE yes
13 overcast 1.61904761... 0.64516... FALSE yes
14 rainy 0.66666666... 1.67741... TRUE no
Add instance
Undo
OK
Cancel
Status
OK
Log
x 0


Weka Explorer
Preprocess
Classify
Cluster
Associate
Select attributes
Visualize
Viewer
Relation: weather-weka.filters.unsupervised.attribute.ReplaceMissingValues-weka.filters.unsupervised.attribute.Normalize-S1.0-T0.0
No. 1: outlook Nominal 2: temperature Numeric 3: humidity Numeric 4: windy Nominal 5: play Nominal
1 sunny 1.0 0.64516... FALSE no
2 sunny 0.76190476... 0.80645... TRUE no
3 overcast 0.90476190... 0.67741... FALSE yes
4 rainy 0.46886446... 1.0 FALSE yes
5 rainy 0.19047619... 0.48387... FALSE yes
6 rainy 0.04761904... 0.16129... TRUE no
7 overcast 0.0 0.0 TRUE yes
8 sunny 0.38095238... 0.96774... FALSE no
9 sunny 0.23809523... 0.56575... FALSE yes
10 rainy 0.52380952... 0.48387... FALSE yes
11 sunny 0.52380952... 0.16129... TRUE yes
12 overcast 0.38095238... 0.80645... TRUE yes
13 overcast 0.80952380... 0.32258... FALSE yes
14 rainy 0.33333333... 0.83870... TRUE no
Add instance
Undo
OK
Cancel
Status
OK
Log
x 0