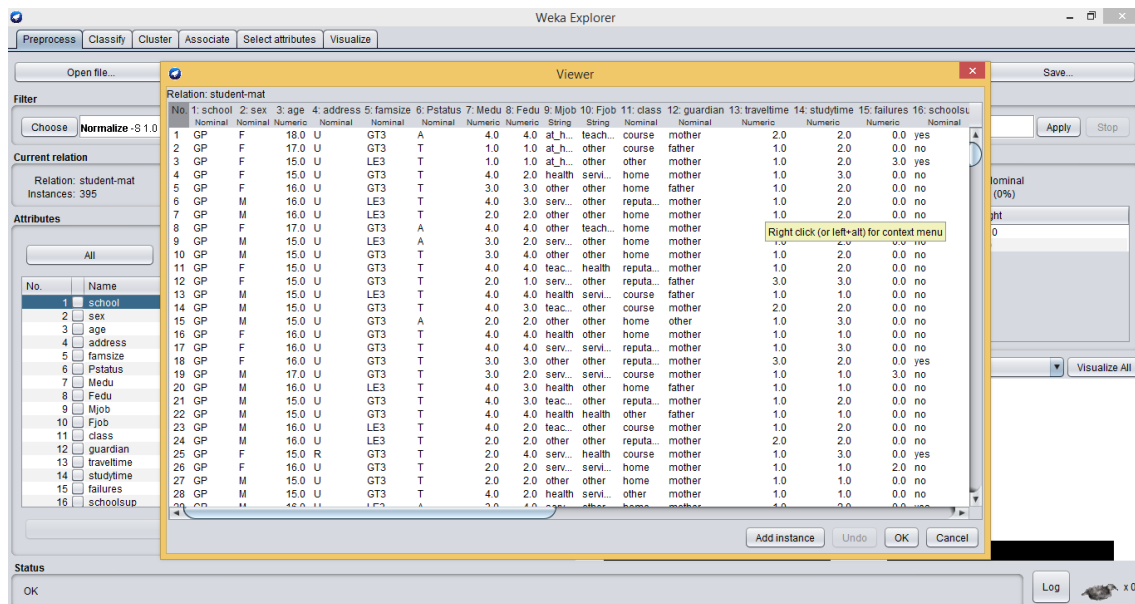
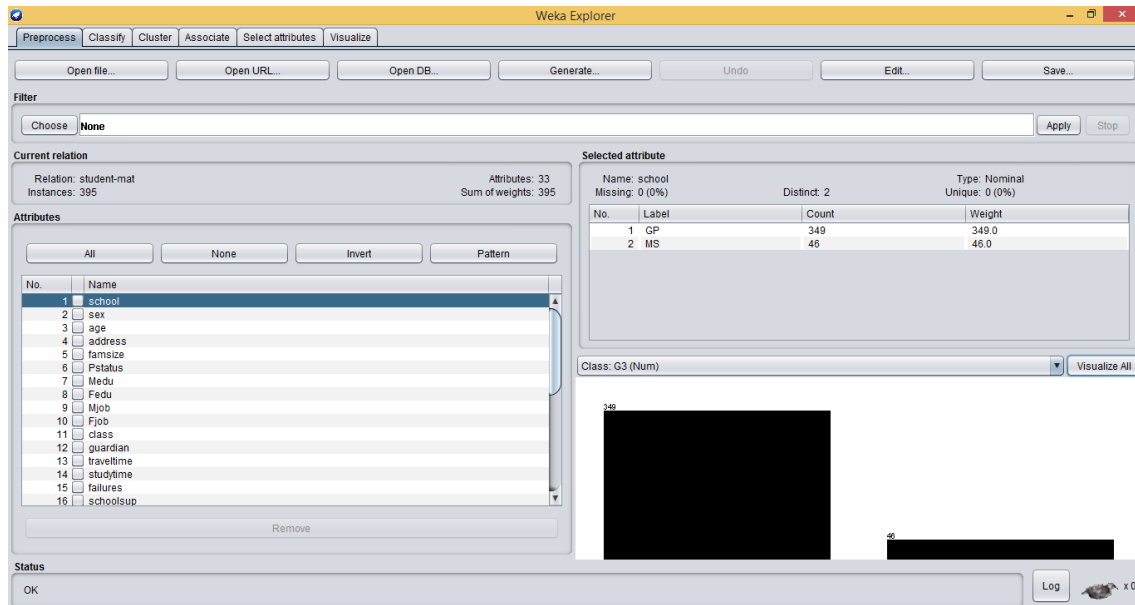
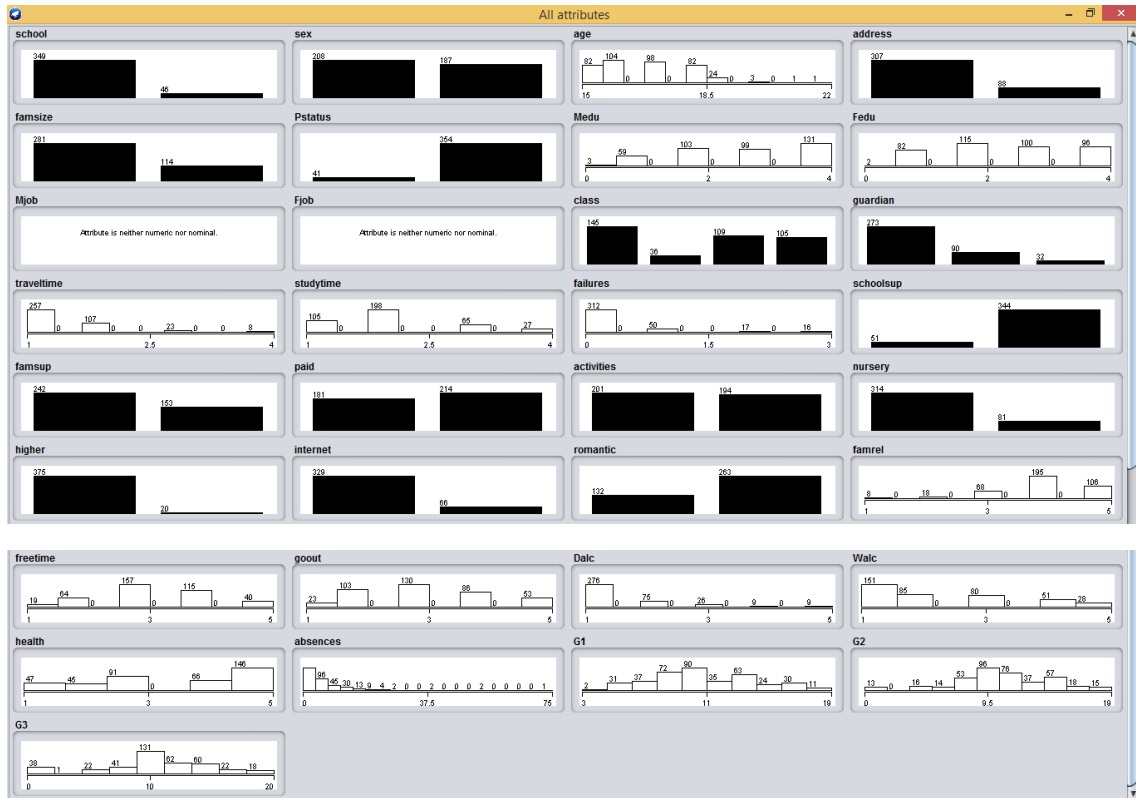


2. En WEKA, realice tres algoritmos de preprocesamiento.

## Seleccionamos el Dataset





## Aplicamos Normalización

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: student-mat Instances: 395 Attributes: 33 Sum of weights: 395

Attributes:

No.	Name
1	<input checked="" type="checkbox"/> school
2	<input type="checkbox"/> sex
3	<input type="checkbox"/> age
4	<input type="checkbox"/> address
5	<input type="checkbox"/> famsize
6	<input type="checkbox"/> Pstatus
7	<input type="checkbox"/> Medu
8	<input type="checkbox"/> Fedu
9	<input type="checkbox"/> Mjob
10	<input type="checkbox"/> Fjob
11	<input type="checkbox"/> class
12	<input type="checkbox"/> guardian
13	<input type="checkbox"/> traveltime
14	<input type="checkbox"/> studytime
15	<input type="checkbox"/> failures
16	<input type="checkbox"/> schoolsup

Remove

Selected attribute:

No.	Label	Count	Weight
1	GP	349	349.0
2	MS	46	46.0

Class: G3 (Num) Visualize All

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 0.0** Apply Stop

Current relation: Relation: student-mat Instances: 395

Attributes:

No.	Name
1	<input checked="" type="checkbox"/> school
2	<input type="checkbox"/> sex
3	<input type="checkbox"/> age
4	<input type="checkbox"/> address
5	<input type="checkbox"/> famsize
6	<input type="checkbox"/> Pstatus
7	<input type="checkbox"/> Medu
8	<input type="checkbox"/> Fedu
9	<input type="checkbox"/> Mjob
10	<input type="checkbox"/> Fjob
11	<input type="checkbox"/> class
12	<input type="checkbox"/> guardian
13	<input type="checkbox"/> traveltime
14	<input type="checkbox"/> studytime
15	<input type="checkbox"/> failures
16	<input type="checkbox"/> schoolsup

Remove

Selected attribute:

No.	Label	Count	Weight
1	GP	349	349.0
2	MS	46	46.0

Class: G3 (Num) Visualize All

Status: OK Log x 0

weka.filters.unsupervised.attribute.Normalize

About: Normalizes all numeric values in the given dataset (apart from the class attribute, if set). More Capabilities

debug: False

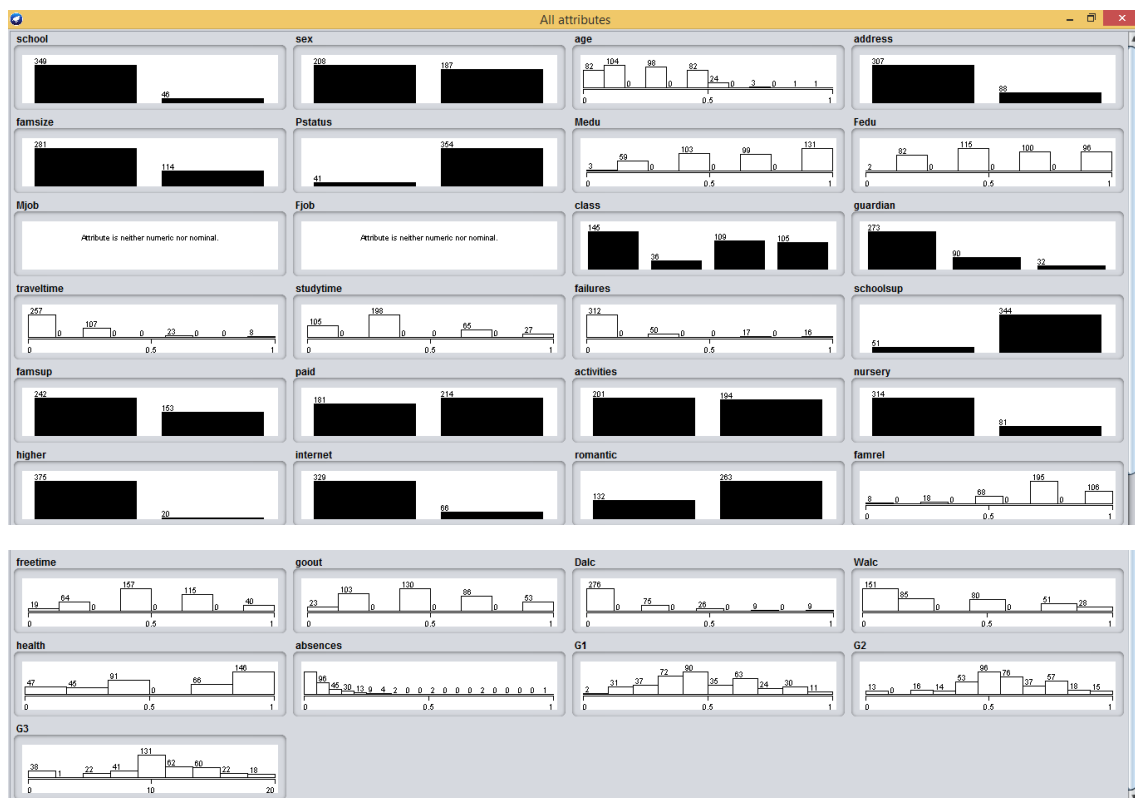
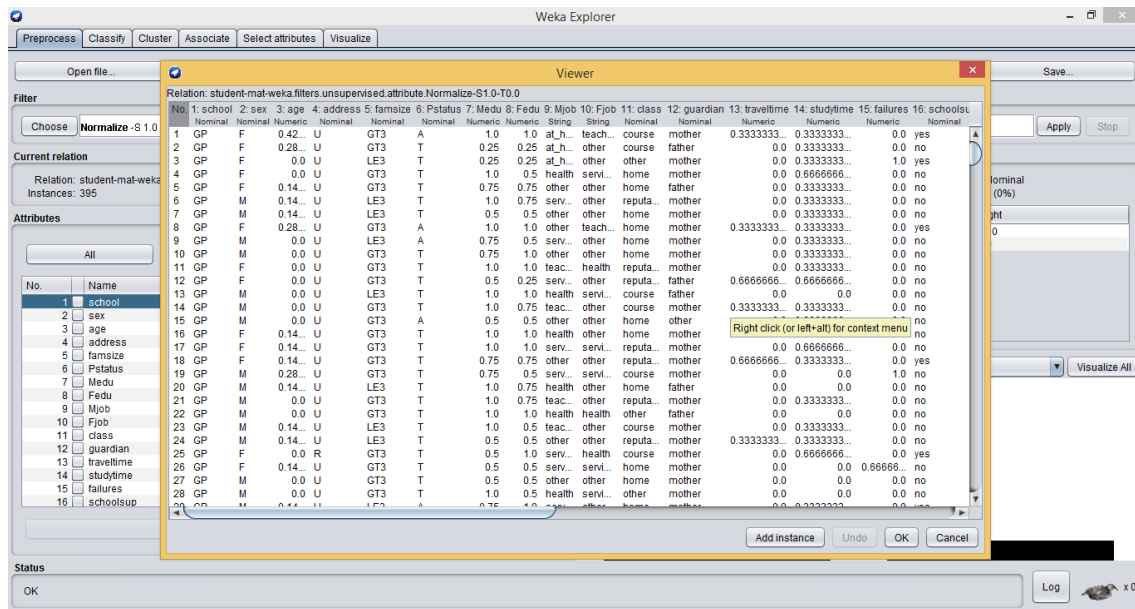
doNotCheckCapabilities: False

ignoreClass: False

scale: 1.0

translation: 0.0

Open... Save... OK Cancel



## Aplicamos Discretización

The screenshot shows the Weka Explorer interface. The 'Filter' tab is active, and the 'Discretize' filter is selected with parameters: -B 10 -M -1.0 -R first-last-precision 6. The 'Current relation' is 'student-mat' with 395 instances. The 'Attributes' list on the left includes 'school', 'sex', 'age', 'address', 'famsize', 'Pstatus', 'Medu', 'Fedu', 'Mjob', 'Fjob', 'class', 'guardian', 'traveltime', 'studytime', 'failures', and 'schoolsup'. The 'Selected attribute' panel shows 'school' with 2 distinct values: 'GP' (349 instances) and 'MS' (46 instances). The 'Visualize All' button is visible at the bottom right.

No.	Label	Count	Weight
1	GP	349	349.0
2	MS	46	46.0

The screenshot shows the 'weka.gui.GenericObjectEditor' dialog box for the 'weka.filters.unsupervised.attribute.Discretize' filter. The 'About' tab is active, displaying the filter's description: 'An instance filter that discretizes a range of numeric attributes in the dataset into nominal attributes.' The 'attributeIndices' field is set to 'first-last', 'binRangePrecision' is 6, 'bins' is 10, 'debug' is False, 'desiredWeightOfInstancesPerInterval' is -1.0, 'doNotCheckCapabilities' is False, 'findNumBins' is False, 'ignoreClass' is False, 'invertSelection' is False, 'makeBinary' is False, 'spreadAttributeWeight' is False, 'useBinNumbers' is False, and 'useEqualFrequency' is True. The 'Open...', 'Save...', 'OK', and 'Cancel' buttons are at the bottom.

Weka Explorer

Preprocess Classify Cluster Associate Select attributes Visualize

Open file...

Filter

Choose Discretize F-B1

Current relation

Relation: student-mat-weka

Instances: 395

Attributes

All

No. Name

1 school

2 sex

3 age

4 address

5 famsize

6 Pstatus

7 Medu

8 Fedu

9 Mjob

10 Fjob

11 class

12 guardian

13 travelltime

14 studytime

15 failures

16 schoolsup

Relation: student-mat-weka.filters.unsupervised.attribute.Discretize-F-B10-M-1.0-Rfirst-last-precision6

No. 1 school 2 sex 3 age 4 address 5 famsize 6 Pstatus 7 Medu 8 Fedu 9 Mjob 10 Fjob 11 class 12 guardian 13 travelltime 14 studytime 15 failures 16 schoolsup

1 GP F (17... U GT3 A (3.5... (3.5... a.h... teach... course mother (1.5-2.5] (1.5-2.5] (1.5-0.5] yes

2 GP F (16... U GT3 T (1.5... (0.5... a.h... other course father (1.5-1.5] (1.5-2.5] (1.5-0.5] no

3 GP F (1.5... U LE3 T (1.5... (0.5... a.h... other other mother (1.5-1.5] (1.5-2.5] (2.5-inf] yes

4 GP F (1.5... U GT3 T (3.5... (1.5... health servi... home mother (1.5-1.5] (2.5-3.5] (1.5-0.5] no

5 GP F (15... U GT3 T (2.5... (2.5... other other home father (1.5-1.5] (1.5-2.5] (1.5-0.5] no

6 GP M (15... U LE3 T (3.5... (2.5... servi... other reputa... mother (1.5-1.5] (1.5-2.5] (1.5-0.5] no

7 GP M (15... U LE3 T (1.5... (1.5... other other home mother (1.5-1.5] (1.5-2.5] (1.5-0.5] no

8 GP F (16... U GT3 A (3.5... (3.5... other teach... home mother (1.5-2.5] (1.5-2.5] (1.5-0.5] yes

9 GP M (1.5... U LE3 A (2.5... (1.5... servi... other home mother (1.5-1.5] (1.5-2.5] (1.5-0.5] no

10 GP M (1.5... U GT3 T (2.5... (3.5... other other home mother (1.5-1.5] (1.5-2.5] (1.5-0.5] no

11 GP F (1.5... U GT3 T (3.5... (3.5... teach... health reputa... mother (1.5-1.5] (1.5-2.5] (1.5-0.5] no

12 GP F (1.5... U GT3 T (1.5... (0.5... servi... other reputa... father (2.5-3.5] (1.5-2.5] (1.5-0.5] no

13 GP M (1.5... U LE3 T (3.5... (3.5... health servi... course father (1.5-1.5] (1.5-2.5] (1.5-0.5] no

14 GP M (1.5... U GT3 T (3.5... (2.5... teach... other course mother (1.5-2.5] (1.5-2.5] (1.5-0.5] no

15 GP M (1.5... U GT3 A (1.5... (1.5... other other home other mother (1.5-1.5] (2.5-3.5] (1.5-0.5] no

16 GP F (15... U GT3 T (3.5... (3.5... health other home mother (1.5-1.5] (1.5-1.5] (1.5-0.5] no

17 GP F (15... U GT3 T (3.5... (3.5... servi... servi... reputa... mother (1.5-1.5] (2.5-3.5] (1.5-0.5] no

18 GP F (15... U GT3 T (2.5... (2.5... other other reputa... mother (2.5-3.5] (1.5-2.5] (1.5-0.5] yes

19 GP M (16... U GT3 T (2.5... (1.5... servi... servi... course mother (1.5-1.5] (1.5-1.5] (2.5-inf] no

20 GP M (15... U LE3 T (3.5... (2.5... health other home father (1.5-1.5] (1.5-1.5] (1.5-0.5] no

21 GP M (1.5... U GT3 T (3.5... (2.5... teach... other reputa... mother (1.5-1.5] (1.5-2.5] (1.5-0.5] no

22 GP M (1.5... U GT3 T (3.5... (3.5... health health other father (1.5-1.5] (1.5-1.5] (1.5-0.5] no

23 GP M (15... U LE3 T (3.5... (3.5... teach... other course mother (1.5-1.5] (1.5-2.5] (1.5-0.5] no

24 GP M (15... U LE3 T (1.5... (1.5... other other reputa... mother (1.5-2.5] (1.5-2.5] (1.5-0.5] no

25 GP F (1.5... R GT3 T (1.5... (3.5... servi... health course mother (1.5-1.5] (2.5-3.5] (1.5-0.5] yes

26 GP F (15... U GT3 T (1.5... (1.5... servi... servi... home mother (1.5-1.5] (1.5-1.5] (1.5-2.5] no

27 GP M (1.5... U GT3 T (1.5... (1.5... other other home mother (1.5-1.5] (1.5-1.5] (1.5-0.5] no

28 GP M (1.5... U GT3 T (3.5... (1.5... health servi... other mother (1.5-1.5] (1.5-1.5] (1.5-0.5] no

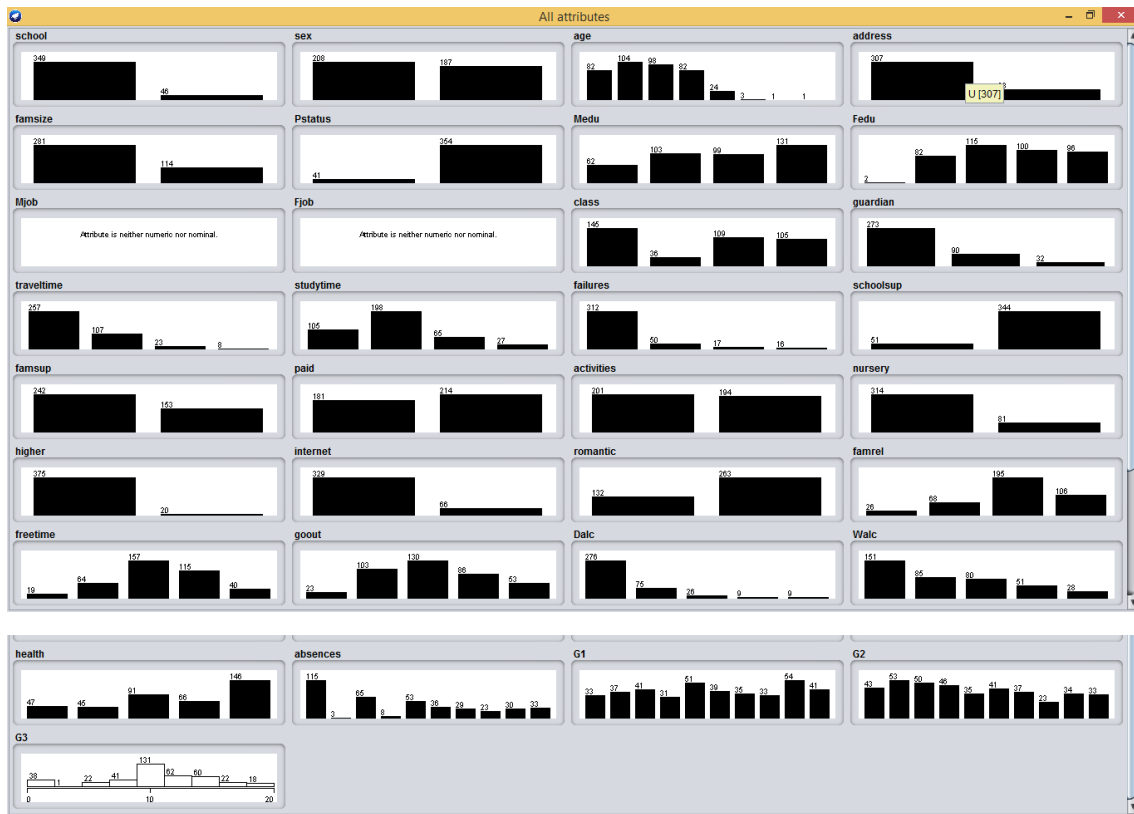
Right click (or left-alt) for context menu

Add instance Undo OK Cancel

Status

OK

Log x0



## Aplicando Estandarización

The screenshot shows the Weka Explorer interface with the 'Standardize' filter applied to the 'school' attribute. The 'Current relation' panel shows the relation 'student-mat' with 395 instances and 33 attributes. The 'Attributes' list on the left includes 'school', 'sex', 'age', 'address', 'famsize', 'Pstatus', 'Medu', 'Fedu', 'Mjob', 'Fjob', 'class', 'guardian', 'travelttime', 'studyttime', 'failures', and 'schoolsup'. The 'Standardize' filter is selected in the 'Filter' dropdown. The 'Class' is set to 'G3 (Num)'. The 'Visualize All' button is visible.

Weka Explorer

Preprocess | Classify | Cluster | Associate | Select attributes | Visualize

Open file... Open URL... Open DB... Generate... Undo Edit... Save...

Filter: Choose Standardize Apply Stop

Current relation: Relation: student-mat Instances: 395 Attributes: 33 Sum of weights: 395

Attributes: All None Invert Pattern

No. Name

No.	Name
1	school
2	sex
3	age
4	address
5	famsize
6	Pstatus
7	Medu
8	Fedu
9	Mjob
10	Fjob
11	class
12	guardian
13	travelttime
14	studyttime
15	failures
16	schoolsup

Remove

Name: school Missing: 0 (0%) Distinct: 2 Type: Nominal Unique: 0 (0%)

No.	Label	Count	Weight
1	GP	349	349.0
2	MS	46	46.0

Class: G3 (Num) Visualize All

Status: OK Log x 0

The screenshot shows the Weka Explorer interface with the 'Standardize' filter applied to the 'school' attribute. A dialog box titled 'weka.filters.unsupervised.attribute.Standardize' is open, showing the 'About' tab. The dialog box contains the following text: 'Standardizes all numeric attributes in the given dataset to have zero mean and unit variance (apart from the class attribute, if set)'. The 'debug' checkbox is checked, and the 'doNotCheckCapabilities' checkbox is checked. The 'IgnoreClass' dropdown is set to 'False'. The 'Open...' button is highlighted.

Weka Explorer

Preprocess | Classify | Cluster | Associate | Select attributes | Visualize

Open file... Open URL... Open DB... Generate... Undo Edit... Save...

Filter: Choose Standardize Apply Stop

Current relation: Relation: student-mat Instances: 395

Attributes: All None Invert Pattern

No. Name

No.	Name
1	school
2	sex
3	age
4	address
5	famsize
6	Pstatus
7	Medu
8	Fedu
9	Mjob
10	Fjob
11	class
12	guardian
13	travelttime
14	studyttime
15	failures
16	schoolsup

Remove

Name: school Missing: 0 (0%) Distinct: 2 Type: Nominal Unique: 0 (0%)

No.	Label	Count	Weight
1	GP	349	349.0
2	MS	46	46.0

Class: G3 (Num) Visualize All

Status: OK Log x 0

weka.filters.unsupervised.attribute.Standardize

About

Standardizes all numeric attributes in the given dataset to have zero mean and unit variance (apart from the class attribute, if set).

debug: False

doNotCheckCapabilities: False

IgnoreClass: False

Open... Save... OK Cancel

