EXPERIMENT NO: 1

Aim:

Create an Employee Table with the help of Data Mining Tool WEKA.

Description:

We need to create an Employee Table with training data set which includes attributes like name, id, salary, experience, gender, phone number.

Procedure:

Steps:

1) Open Start → Programs → Accessories → Notepad

2) Type the following training data set with the help of Notepad for Employee Table.

```
@relation employee
@attribute name {x,y,z,a,b}
@attribute id numeric
@attribute salary {low,medium,high}
@attribute exp numeric
@attribute gender {male,female}
@attribute phone numeric

@data
x,101,low,2,male,250311
y,102,high,3,female,251665
z,103,medium,1,male,240238
a,104,low,5,female,200200
b,105,high,2,male,240240
```

3) After that the file is saved with **.arff** file format.

4) Minimize the arff file and then open Start → Programs → weka-3-4.

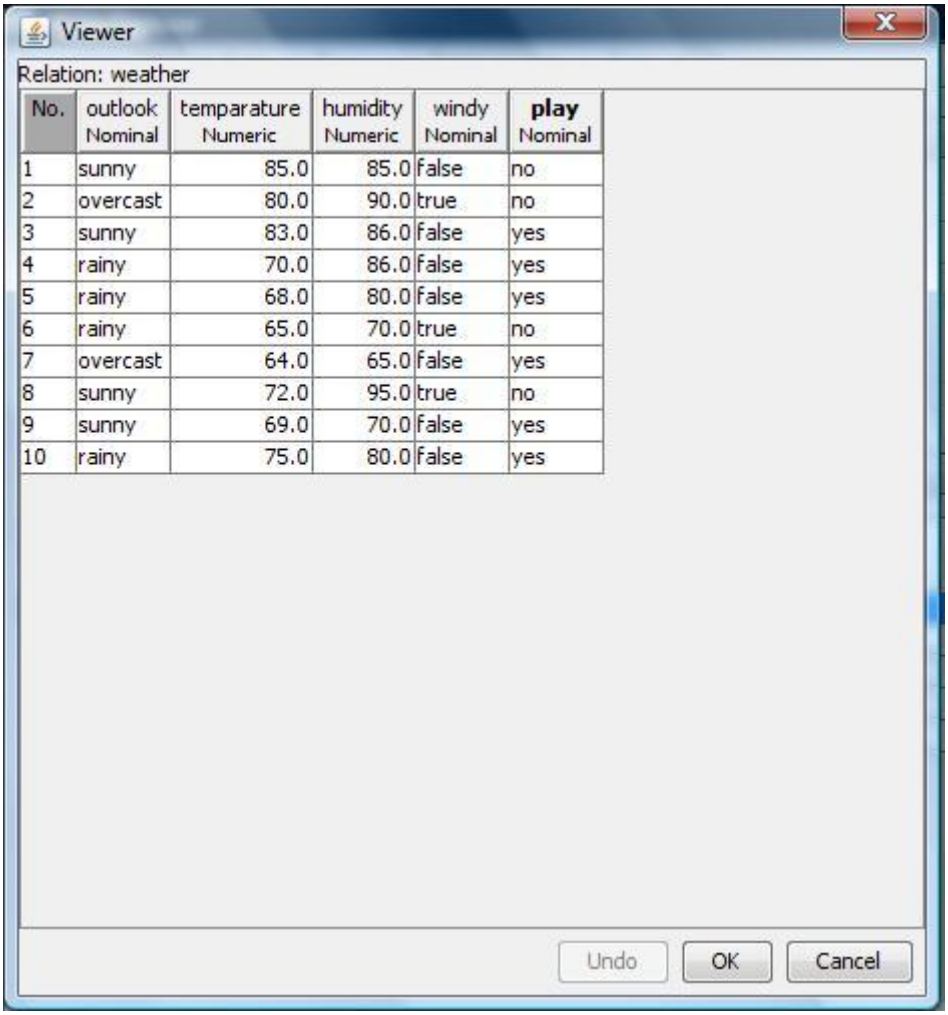
5) Click on **weka-3-4**, then Weka dialog box is displayed on the screen.

6) In that dialog box there are four modes, click on **explorer**.

7) Explorer shows many options. In that click on **'open file'** and select the arff file

8) Click on **edit button** which shows employee table on weka.

Training Data Set → Weather Table



Result:

This program has been successfully executed.

EXPERIMENT NO:2

Aim:

Create a Weather Table with the help of Data Mining Tool WEKA.

Description:

We need to create a Weather table with training data set which includes attributes like outlook, temperature, humidity, windy, play.

Procedure:

Steps:

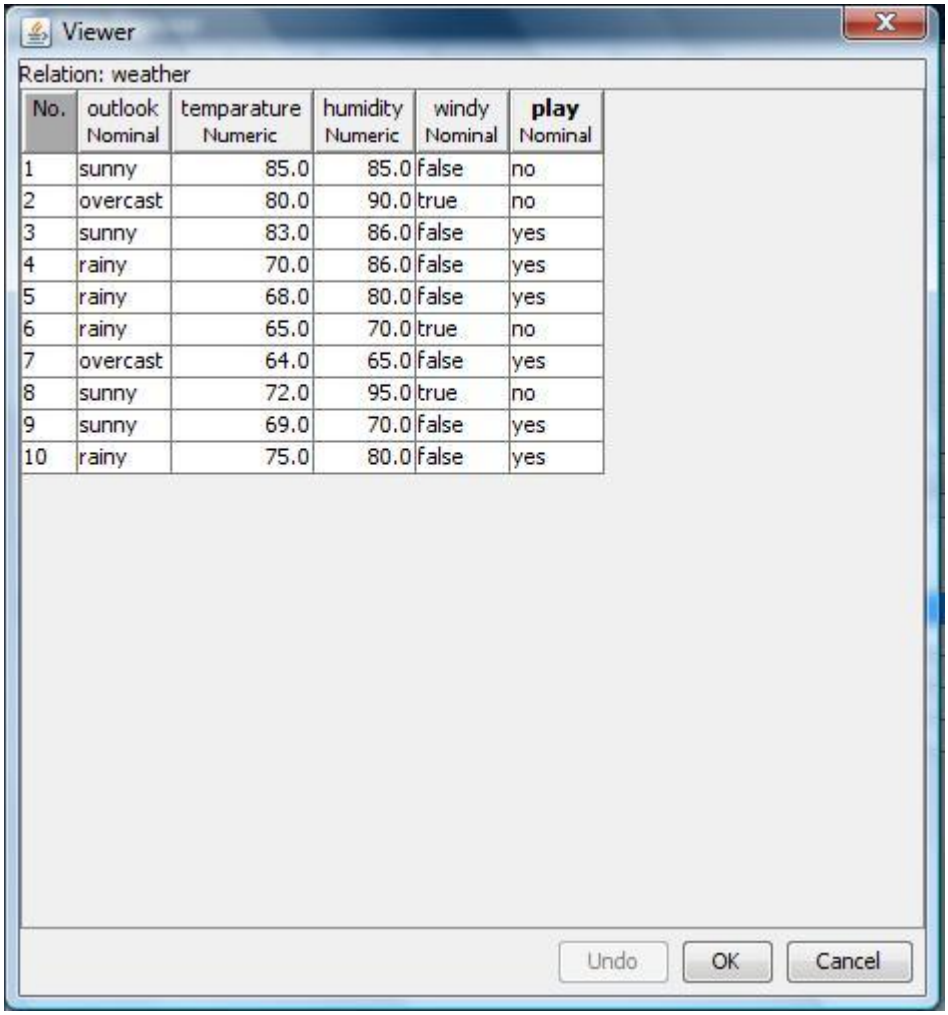
1) Open Start → Programs → Accessories → Notepad
2) Type the following training data set with the help of Notepad for Weather Table.

```
@relation weather
@attribute outlook {sunny,rainy,overcast}
@attribute temparature numeric
@attribute humidity numeric
@attribute windy {true,false}
@attribute play {yes,no}

@data
sunny,85.0,85.0,false,no
overcast,80.0,90.0,true,no
sunny,83.0,86.0,false,yes
rainy,70.0,86.0,false,yes
rainy,68.0,80.0,false,yes
rainy,65.0,70.0,true,no
overcast,64.0,65.0,false,yes
sunny,72.0,95.0,true,no
sunny,69.0,70.0,false,yes
rainy,75.0,80.0,false,yes
```

3) After that the file is saved with **.arff** file format.
4) Minimize the arff file and then open Start → Programs → weka-3-4.
5) Click on **weka-3-4**, then Weka dialog box is displayed on the screen.
6) In that dialog box there are four modes, click on **explorer**.
7) Explorer shows many options. In that click on **'open file'** and select the arff file
8) Click on **edit button** which shows weather table on weka.

Training Data Set → Weather Table



Result:

This program has been successfully executed.

EXPERIMENT NO:3

Aim:

Apply Pre-Processing techniques to the training data set of Weather Table

Description:

Real world databases are highly influenced to noise, missing and inconsistency due to their queue size so the data can be pre-processed to improve the quality of data and missing results and it also improves the efficiency.

There are 3 pre-processing techniques they are:

1) Add
2) Remove
3) Normalization

Creation of Weather Table:

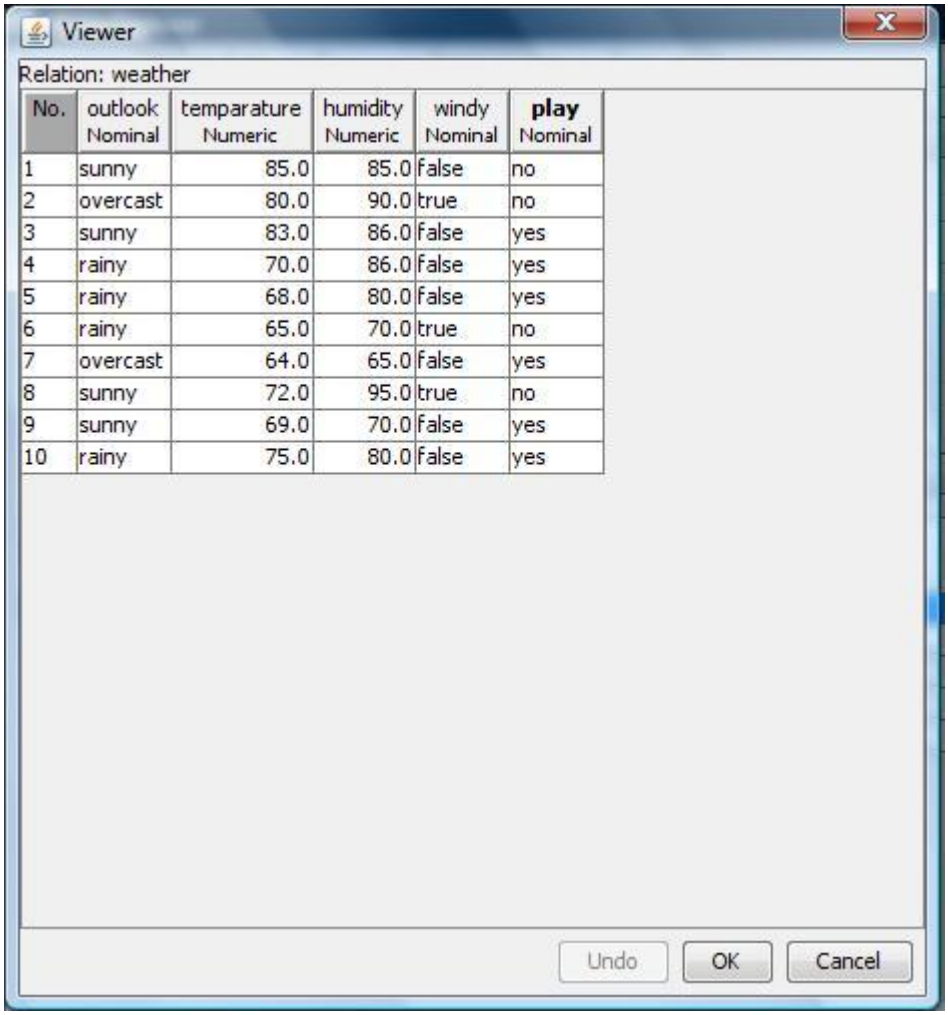
Procedure:

1) Open Start → Programs → Accessories → Notepad
2) Type the following training data set with the help of Notepad for Weather Table.

```
@relation weather
@attribute outlook {sunny,rainy,overcast}
@attribute temparature numeric
@attribute humidity numeric
@attribute windy {true,false}
@attribute play {yes,no}

@data
sunny,85.0,85.0,false,no
overcast,80.0,90.0,true,no
sunny,83.0,86.0,false,yes
rainy,70.0,86.0,false,yes
rainy,68.0,80.0,false,yes
rainy,65.0,70.0,true,no
overcast,64.0,65.0,false,yes
sunny,72.0,95.0,true,no
sunny,69.0,70.0,false,yes
rainy,75.0,80.0,false,yes
```

3) After that the file is saved with **.arff** file format.
4) Minimize the arff file and then open Start → Programs → weka-3-4.
5) Click on **weka-3-4**, then Weka dialog box is displayed on the screen.
6) In that dialog box there are four modes, click on **explorer**.
7) Explorer shows many options. In that click on **'open file'** and select the arff file
8) Click on **edit button** which shows weather table on weka.

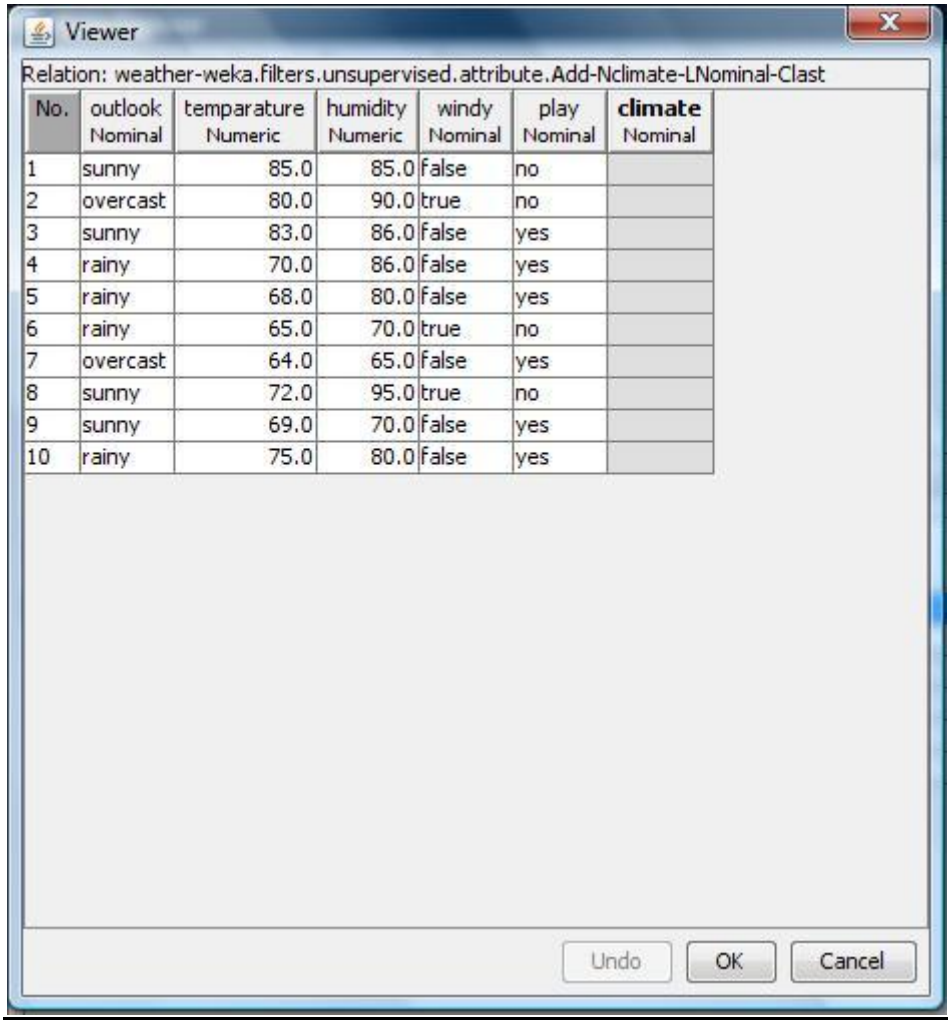


Add → Pre-Processing Technique:

Procedure:

1) Start → Programs → Weka-3-4 → Weka-3-4
2) Click on **explorer.**
3) Click on **open file.**
4) Select **Weather.arff** file and click on open.
5) Click on **Choose button** and select the **Filters option**.
6) In Filters, we have **Supervised** and **Unsupervised data**.
7) Click on **Unsupervised data**.
8) Select the attribute **Add**.
9) A new window is opened.
10) In that we enter attribute index, type, data format, nominal label values for **Climate**.
11) Click on **OK**.
12) Press the **Apply button**, then a new attribute is added to the Weather Table.
13) **Save** the file.
14) Click on the **Edit button**, it shows a new Weather Table on Weka.

Weather Table after adding new attribute CLIMATE:

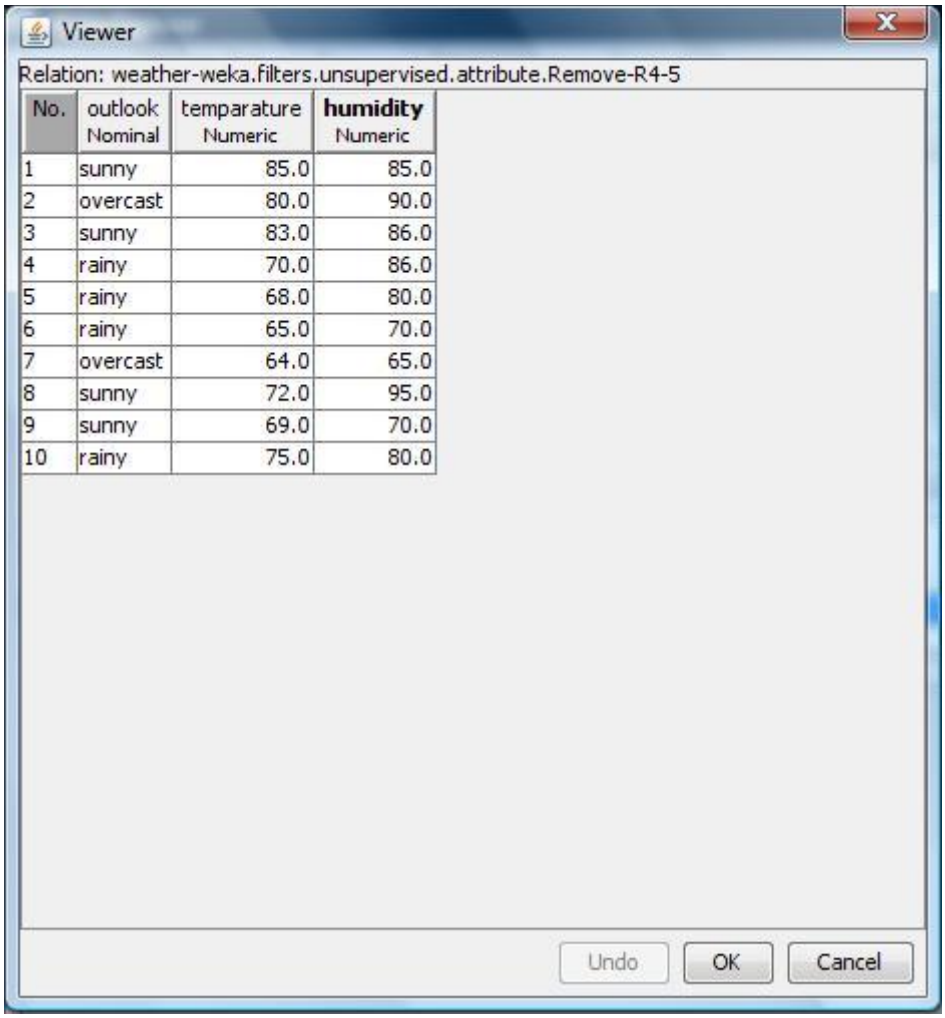


Remove → Pre-Processing Technique:

Procedure:

1) Start → Programs → Weka-3-4 → Weka-3-4
2) Click on **explorer.**
3) Click on **open file.**
4) Select **Weather.arff** file and click on open.
5) Click on **Choose button** and select the **Filters option**.
6) In Filters, we have **Supervised** and **Unsupervised data**.
7) Click on **Unsupervised data**.
8) Select the attribute **Remove**.
9) Select the attributes **windy, play** to Remove.
10) Click **Remove button** and then **Save**.
11) Click on the **Edit button**, it shows a new Weather Table on Weka.

Weather Table after removing attributes WINDY, PLAY:

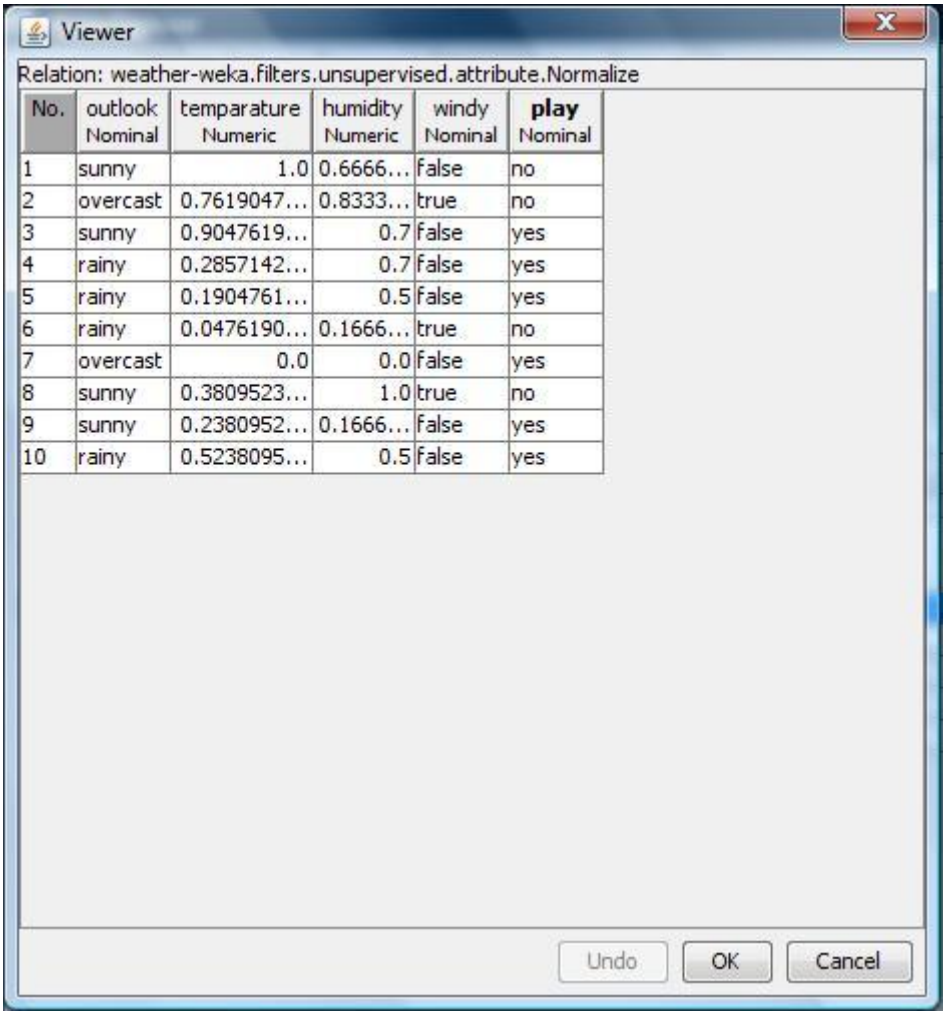


Normalize → Pre-Processing Technique:

Procedure:

1) Start → Programs → Weka-3-4 → Weka-3-4
2) Click on **explorer.**
3) Click on **open file.**
4) Select **Weather.arff** file and click on open.
5) Click on **Choose button** and select the **Filters option**.
6) In Filters, we have **Supervised** and **Unsupervised data**.
7) Click on **Unsupervised data**.
8) Select the attribute **Normalize**.
9) Select the attributes **temparature, humidity** to Normalize.
10) Click on **Apply button** and then **Save**.
11) Click on the **Edit button**, it shows a new Weather Table with normalized values on Weka.

Weather Table after Normalizing TEMPARATURE, HUMIDITY:



Result:

This program has been successfully executed.

EXPERIMENT NO:4

Aim:

Apply Pre-Processing techniques to the training data set of Employee Table

Description:

Real world databases are highly influenced to noise, missing and inconsistency due to their queue size so the data can be pre-processed to improve the quality of data and missing results and it also improves the efficiency.

There are 3 pre-processing techniques they are:

1) Add
2) Remove
3) Normalization

Creation of Employee Table:

Procedure:

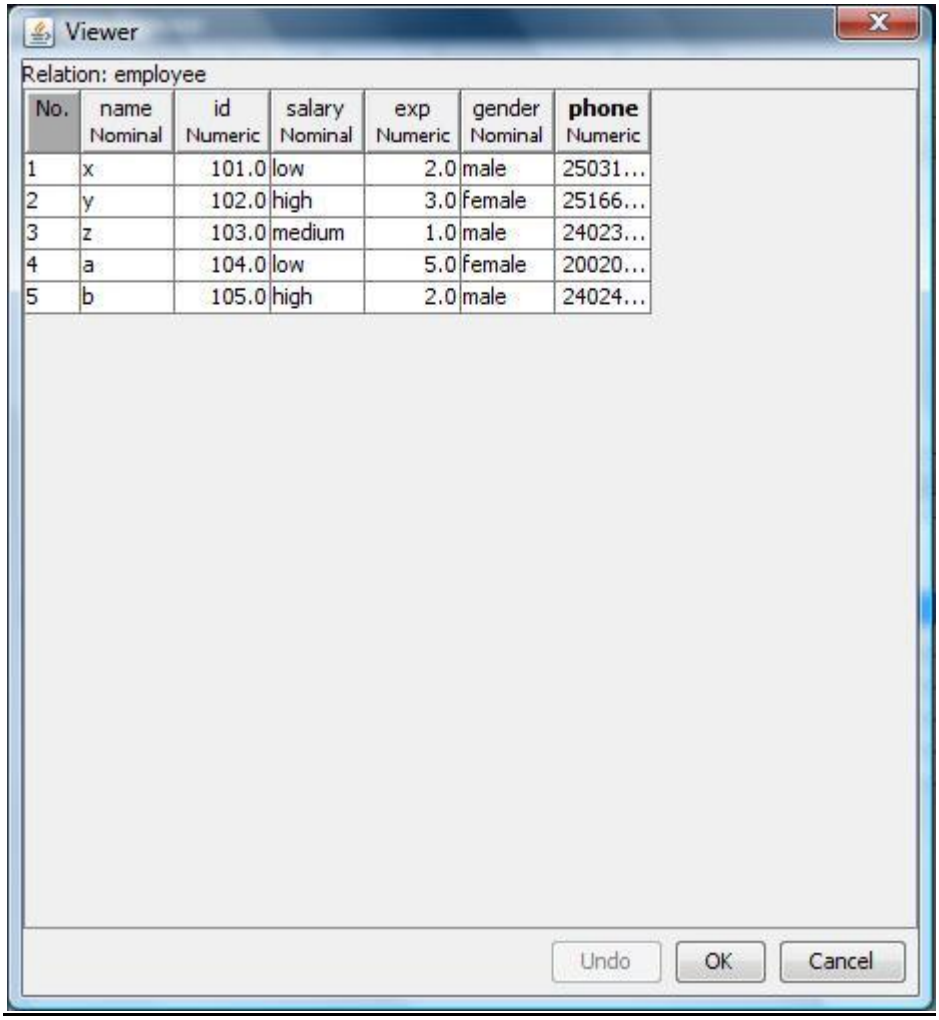
1) Open Start → Programs → Accessories → Notepad
2) Type the following training data set with the help of Notepad for Employee Table.

```
@relation employee
@attribute name {x,y,z,a,b}
@attribute id numeric
@attribute salary {low,medium,high}
@attribute exp numeric
@attribute gender {male,female}
@attribute phone numeric

@data
x,101,low,2,male,250311
y,102,high,3,female,251665
z,103,medium,1,male,240238
a,104,low,5,female,200200
b,105,high,2,male,240240
```

3) After that the file is saved with **.arff** file format.
4) Minimize the arff file and then open Start → Programs → weka-3-4.
5) Click on **weka-3-4**, then Weka dialog box is displayed on the screen.
6) In that dialog box there are four modes, click on **explorer**.
7) Explorer shows many options. In that click on **'open file'** and select the arff file
8) Click on **edit button** which shows employee table on weka.

Training Data Set → Employee Table

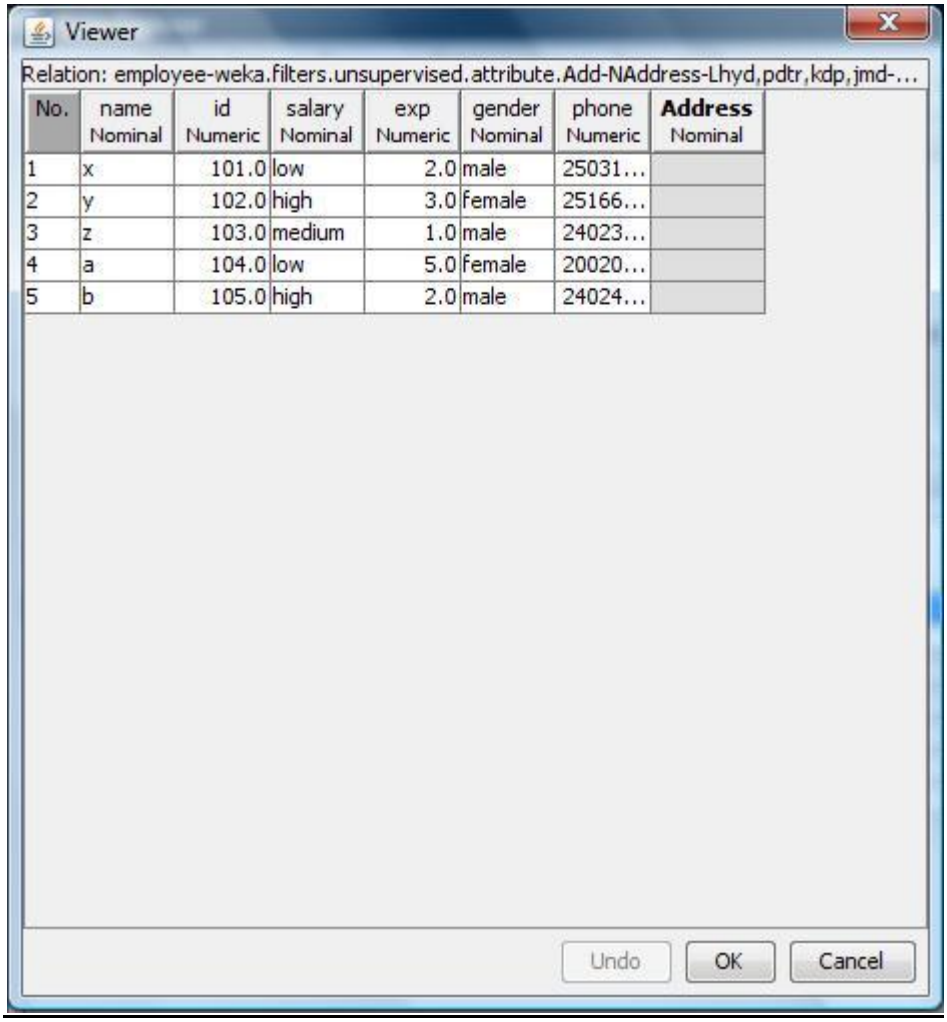


Add → Pre-Processing Technique:

Procedure:

1) Start → Programs → Weka-3-4 → Weka-3-4
2) Click on **explorer.**
3) Click on **open file.**
4) Select **Employee.arff** file and click on open.
5) Click on **Choose button** and select the **Filters option**.
6) In Filters, we have **Supervised** and **Unsupervised data**.
7) Click on **Unsupervised data**.
8) Select the attribute **Add**.
9) A new window is opened.
10) In that we enter attribute index, type, data format, nominal label values for **Address**.
11) Click on **OK**.
12) Press the **Apply button**, then a new attribute is added to the Employee Table.
13) **Save** the file.
14) Click on the **Edit button**, it shows a new Employee Table on Weka.

Employee Table after adding new attribute ADDRESS:



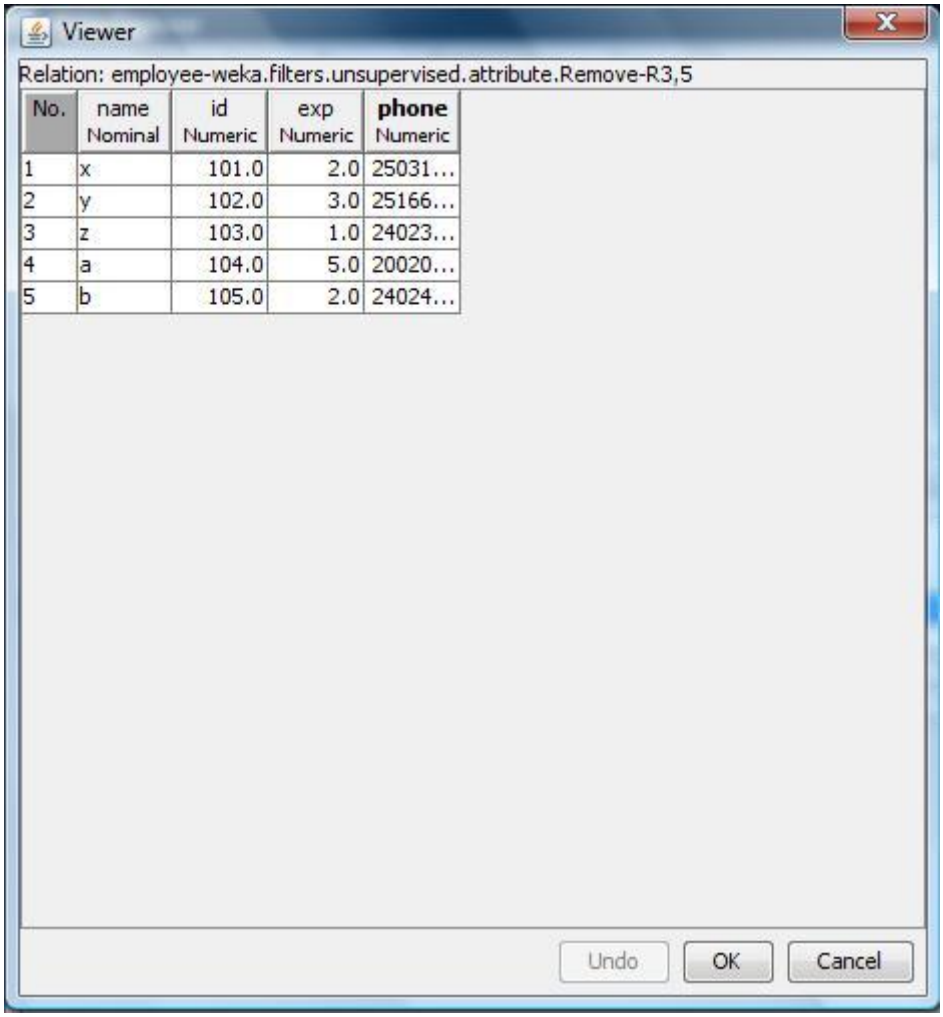
No.	name Nominal	id Numeric	salary Nominal	exp Numeric	gender Nominal	phone Numeric	Address Nominal
1	x	101.0	low	2.0	male	25031...	
2	y	102.0	high	3.0	female	25166...	
3	z	103.0	medium	1.0	male	24023...	
4	a	104.0	low	5.0	female	20020...	
5	b	105.0	high	2.0	male	24024...	

Remove → Pre-Processing Technique:

Procedure:

1) Start → Programs → Weka-3-4 → Weka-3-4
2) Click on **explorer.**
3) Click on **open file.**
4) Select **Employee.arff** file and click on open.
5) Click on **Choose button** and select the **Filters option**.
6) In Filters, we have **Supervised** and **Unsupervised data**.
7) Click on **Unsupervised data**.
8) Select the attribute **Remove**.
9) Select the attributes **salary, gender** to Remove.
10) Click **Remove button** and then **Save**.
11) Click on the **Edit button**, it shows a new Employee Table on Weka.

Employee Table after removing attributes SALARY, GENDER:

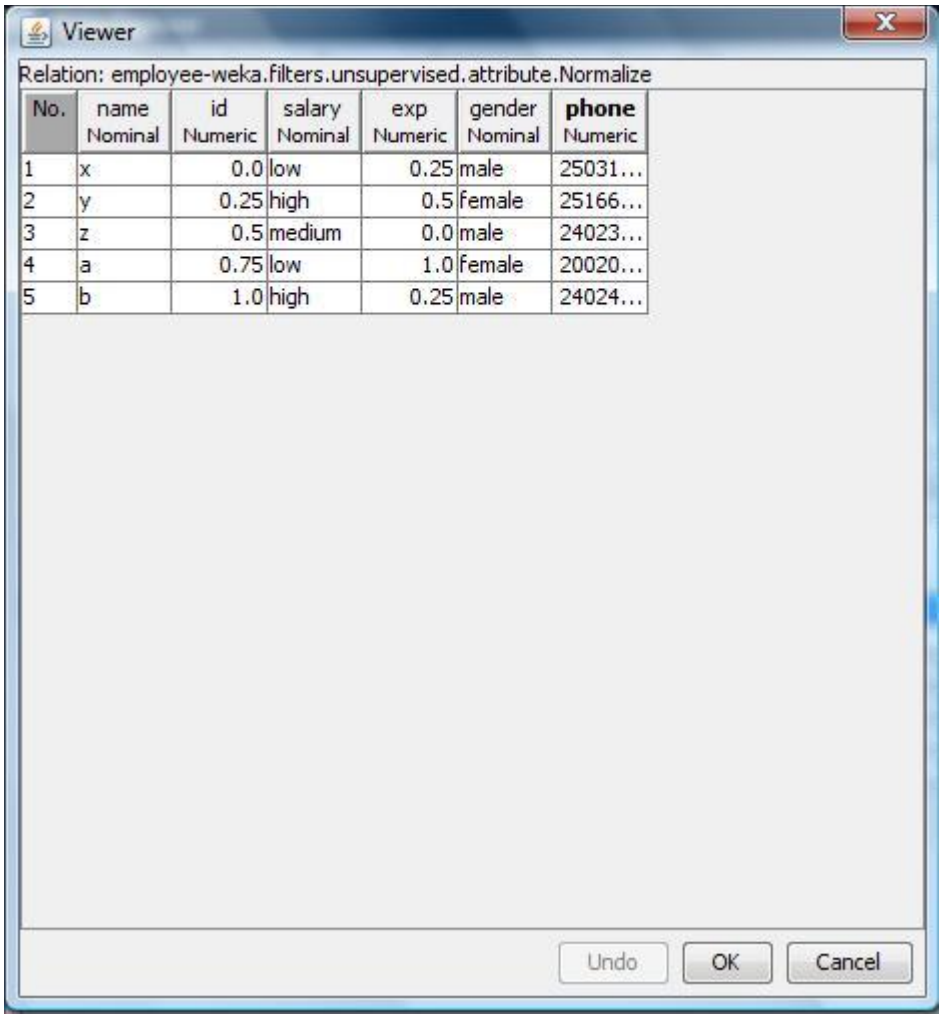


Normalize → Pre-Processing Technique:

Procedure:

1) Start → Programs → Weka-3-4 → Weka-3-4
2) Click on **explorer.**
3) Click on **open file.**
4) Select **Employee.arff** file and click on open.
5) Click on **Choose button** and select the **Filters option**.
6) In Filters, we have **Supervised** and **Unsupervised data**.
7) Click on **Unsupervised data**.
8) Select the attribute **Normalize**.
9) Select the attributes **id, experience, phone** to Normalize.
10) Click on **Apply button** and then **Save**.
11) Click on the **Edit button**, it shows a new Employee Table with normalized values on Weka.

Employee Table after Normalizing ID, EXP, PHONE:



Result:

This program has been successfully executed.