



Ahsanullah University of Science & Technology

Department of Computer Science & Engineering

Course No : CSE4142

Course Title : Data Warehousing and Mining Lab

Assignment No : 01

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Submitted To : Mr. Saha Reno & Mr. Raiyan Jahangir

Submitted By-

Name: Nabila Rahman

ID: 20200204065

Section: B1

Original Training Dataset and Modified Training Dataset:

```
@relation weather

@attribute outlook {sunny, overcast, rainy}
@attribute temperature real
@attribute humidity real
@attribute windy {TRUE, FALSE}
@attribute play {yes, no}

@data
sunny, 85, 85, FALSE, no
sunny, 80, 90, TRUE, no
overcast, 83, 86, FALSE, yes
rainy, 70, 96, FALSE, yes
rainy, 68, 80, FALSE, yes
rainy, 65, 70, TRUE, no
overcast, 64, 65, TRUE, yes
overcast, 72, 90, TRUE, yes
sunny, 75, 85, TRUE, no
sunny, 88, 92, FALSE, no
overcast, 81, 88, FALSE, yes
rainy, 67, 78, TRUE, no
rainy, 72, 85, FALSE, yes
sunny, 79, 89, TRUE, no
overcast, 73, 90, TRUE, yes
rainy, 66, 75, FALSE, yes
sunny, 84, 91, FALSE, no
overcast, 80, 87, TRUE, yes
rainy, 69, 79, FALSE, yes
sunny, 77, 88, FALSE, no
sunny, 82, 93, TRUE, no
overcast, 78, 92, FALSE, yes
rainy, 71, 80, TRUE, no
rainy, 68, 77, TRUE, no
sunny, 85, 90, TRUE, no
overcast, 79, 85, FALSE, yes
sunny, 72, 86, FALSE, no
rainy, 70, 82, TRUE, no
```

```
@relation weather-weka.filters.unsupervised.attribute.

@attribute outlook {sunny,overcast,rainy}
@attribute temperature {''(-inf-66.4]','', '(66.4-68.
@attribute humidity {''(-inf-68.1]','', '(68.1-71.2]
@attribute windy {TRUE,FALSE}
@attribute play {yes,no}

@data
sunny, ''(83.2-85.6]','', '(83.6-86.7]','', FALSE, no
sunny, ''(78.4-80.8]','', '(89.8-92.9]','', TRUE, no
overcast, ''(80.8-83.2]','', '(83.6-86.7]','', FALSE, yes
rainy, ''(68.8-71.2]','', '(92.9-inf)','', FALSE, yes
rainy, ''(66.4-68.8]','', '(77.4-80.5]','', FALSE, yes
rainy, ''(-inf-66.4]','', '(68.1-71.2]','', TRUE, no
overcast, ''(-inf-66.4]','', '(-inf-68.1]','', TRUE, yes
overcast, ''(71.2-73.6]','', '(89.8-92.9]','', TRUE, yes
sunny, ''(73.6-76]','', '(83.6-86.7]','', TRUE, no
sunny, ''(85.6-inf)','', '(89.8-92.9]','', FALSE, no
overcast, ''(80.8-83.2]','', '(86.7-89.8]','', FALSE, yes
rainy, ''(66.4-68.8]','', '(77.4-80.5]','', TRUE, no
rainy, ''(71.2-73.6]','', '(83.6-86.7]','', FALSE, yes
sunny, ''(78.4-80.8]','', '(86.7-89.8]','', TRUE, no
overcast, ''(71.2-73.6]','', '(89.8-92.9]','', TRUE, yes
rainy, ''(-inf-66.4]','', '(74.3-77.4]','', FALSE, yes
sunny, ''(83.2-85.6]','', '(89.8-92.9]','', FALSE, no
overcast, ''(78.4-80.8]','', '(86.7-89.8]','', TRUE, yes
rainy, ''(68.8-71.2]','', '(77.4-80.5]','', FALSE, yes
sunny, ''(76-78.4]','', '(86.7-89.8]','', FALSE, no
sunny, ''(80.8-83.2]','', '(92.9-inf)','', TRUE, no
overcast, ''(76-78.4]','', '(89.8-92.9]','', FALSE, yes
rainy, ''(68.8-71.2]','', '(77.4-80.5]','', TRUE, no
rainy, ''(66.4-68.8]','', '(74.3-77.4]','', TRUE, no
sunny, ''(83.2-85.6]','', '(89.8-92.9]','', TRUE, no
overcast, ''(78.4-80.8]','', '(83.6-86.7]','', FALSE, yes
sunny, ''(71.2-73.6]','', '(83.6-86.7]','', FALSE, no
rainy, ''(68.8-71.2]','', '(80.5-83.6]','', TRUE, no
```

Original Test Dataset and Modified Test Dataset:

<pre>@relation weather @attribute outlook {sunny, overcast, rainy} @attribute temperature real @attribute humidity real @attribute windy {TRUE, FALSE} @attribute play {yes, no} @data sunny, 76, 83, FALSE, no rainy, 65, 72, FALSE, yes overcast, 77, 89, TRUE, yes sunny, 83, 94, TRUE, no rainy, 68, 81, TRUE, no sunny, 78, 87, FALSE, no overcast, 75, 86, FALSE, yes rainy, 63, 75, TRUE, yes sunny, 81, 90, TRUE, no overcast, 76, 88, TRUE, yes</pre>	<pre>@relation weather-weka.filters.unsupervised.attribute.1 @attribute outlook {sunny,overcast,rainy} @attribute temperature {'\''(-inf-66.4]\'', '\''(66.4-68.8] @attribute humidity {'\''(-inf-68.1]\'', '\''(68.1-71.2] @attribute windy {TRUE,FALSE} @attribute play {yes,no} @data sunny, '\''(83.2-85.6]\'', '\''(83.6-86.7]\'', FALSE, no sunny, '\''(78.4-80.8]\'', '\''(89.8-92.9]\'', TRUE, no overcast, '\''(80.8-83.2]\'', '\''(83.6-86.7]\'', FALSE, yes rainy, '\''(68.8-71.2]\'', '\''(92.9-inf)\'', FALSE, yes rainy, '\''(66.4-68.8]\'', '\''(77.4-80.5]\'', FALSE, yes rainy, '\''(-inf-66.4]\'', '\''(68.1-71.2]\'', TRUE, no overcast, '\''(-inf-66.4]\'', '\''(-inf-68.1]\'', TRUE, yes overcast, '\''(71.2-73.6]\'', '\''(89.8-92.9]\'', TRUE, yes sunny, '\''(73.6-76]\'', '\''(83.6-86.7]\'', TRUE, no sunny, '\''(85.6-inf)\'', '\''(89.8-92.9]\'', FALSE, no</pre>
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Model and Output:

Choose **NaiveBayes**

Test options

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

(Nom) play

Result list (right-click for options)

20:44:29 - bayes.NaiveBayes

Classifier output

=== Predictions on user test set ===

inst#	actual	predicted	error	prediction
1	2:no	2:no	0.952	
2	2:no	2:no	0.958	
3	1:yes	1:yes	0.967	
4	1:yes	1:yes	0.687	
5	1:yes	1:yes	0.594	
6	2:no	2:no	0.69	
7	1:yes	1:yes	0.942	
8	1:yes	1:yes	0.896	
9	2:no	2:no	0.973	
10	2:no	2:no	0.926	

=== Summary ===

Correctly Classified Instances	10	100	%
Incorrectly Classified Instances	0	0	%
Kappa statistic	1		
Mean absolute error	0.1413		
Root mean squared error	0.196		
Total Number of Instances	10		

=== Detailed Accuracy By Class ===

	TP Rate	FP Rate	Precision	Recall	F-Measure	MCC	ROC Area	PRC Area	Class
	1.000	0.000	1.000	1.000	1.000	1.000	1.000	1.000	yes
	1.000	0.000	1.000	1.000	1.000	1.000	1.000	1.000	no
Weighted Avg.	1.000	0.000	1.000	1.000	1.000	1.000	1.000	1.000	

=== Confusion Matrix ===

```
a b <-- classified as
5 0 | a = yes
0 5 | b = no
```