

# EXPERIMENT-11

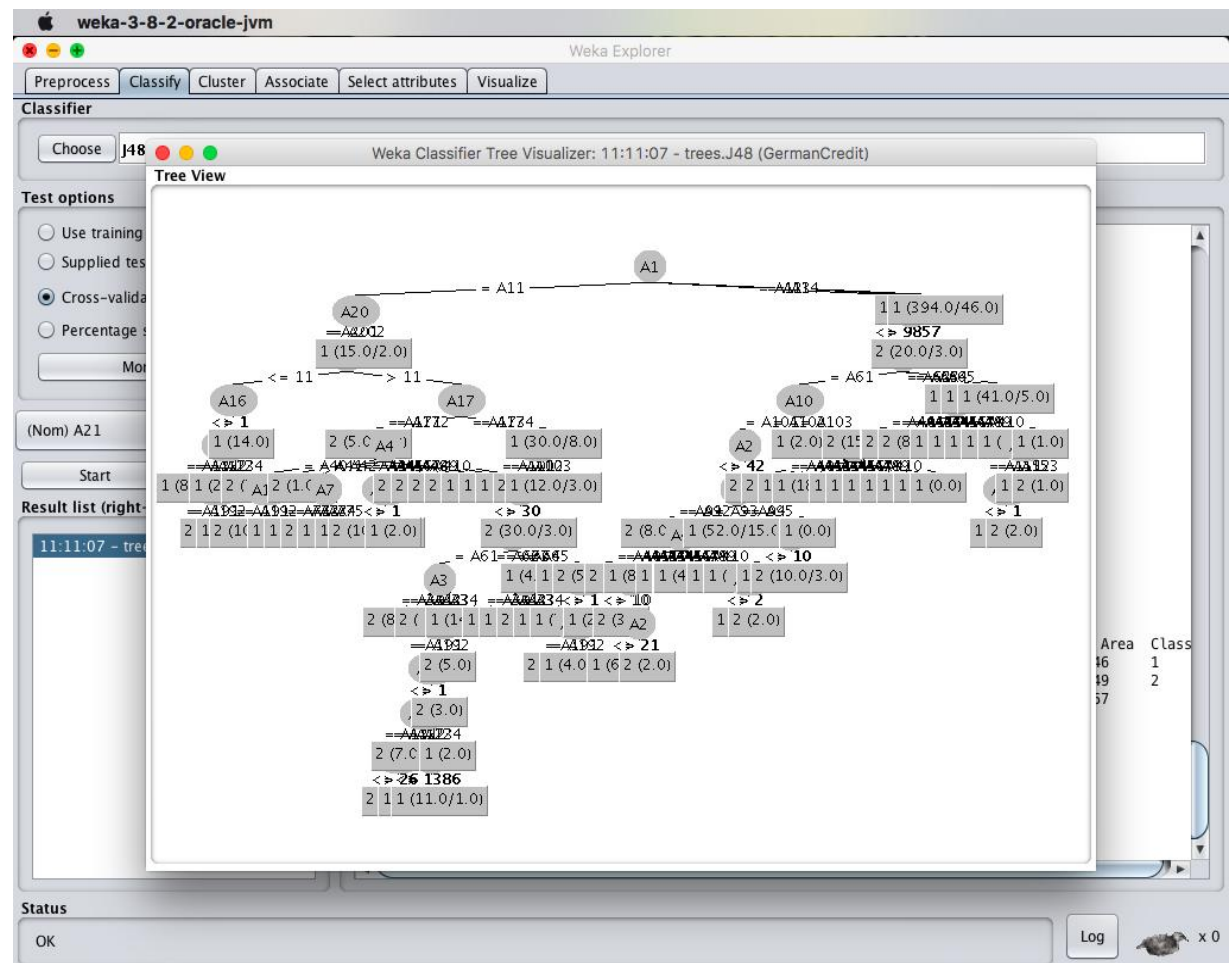
## PREDICTION OF CATEGORICAL DATA USING DECISION TREE ALGORITHM THROUGH WEKA

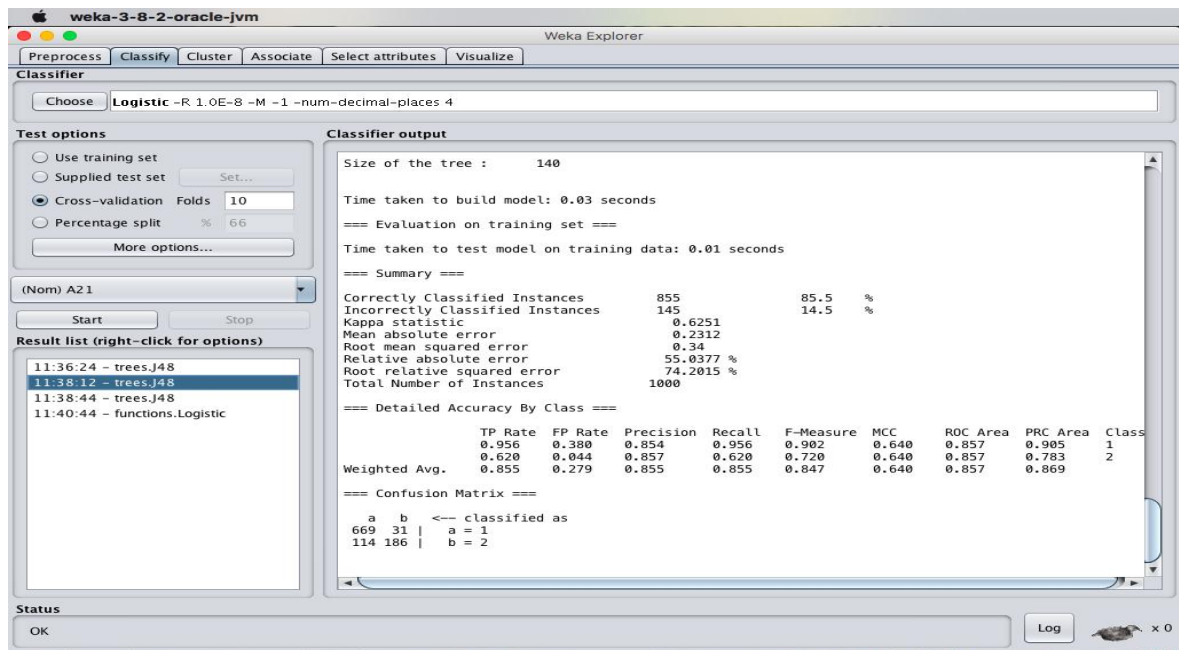
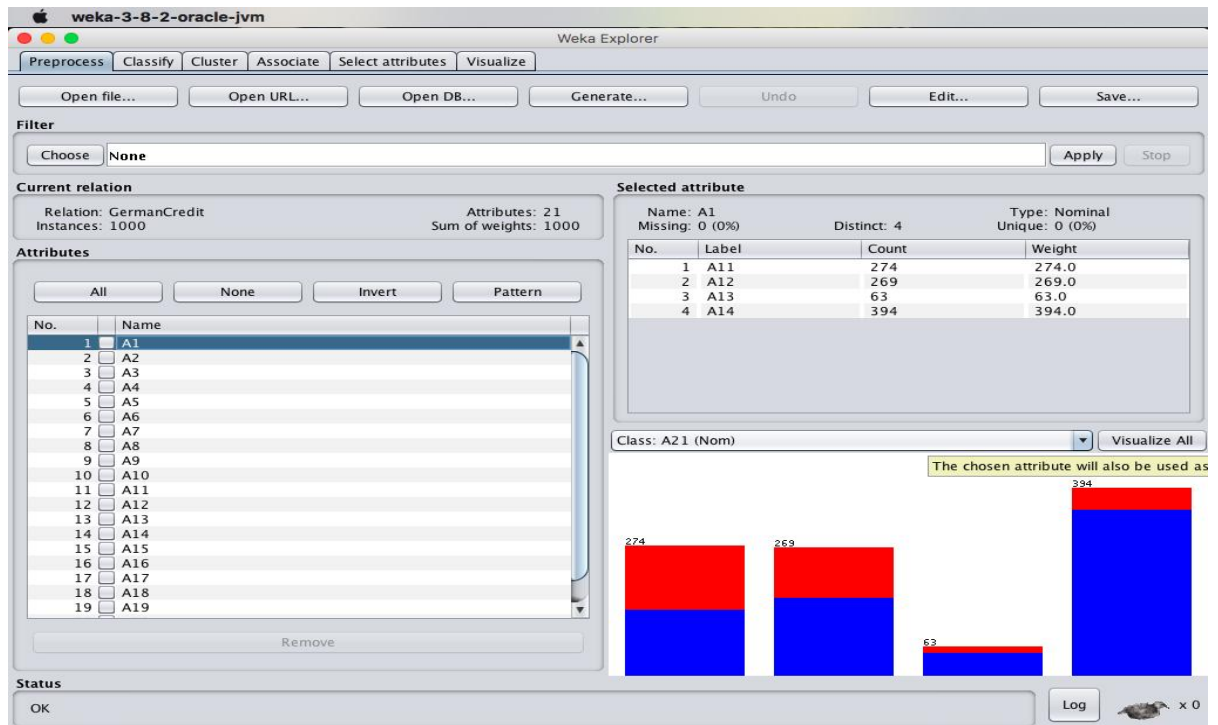
Name: S.G.DEVSACHIN

Reg.No: 192111088

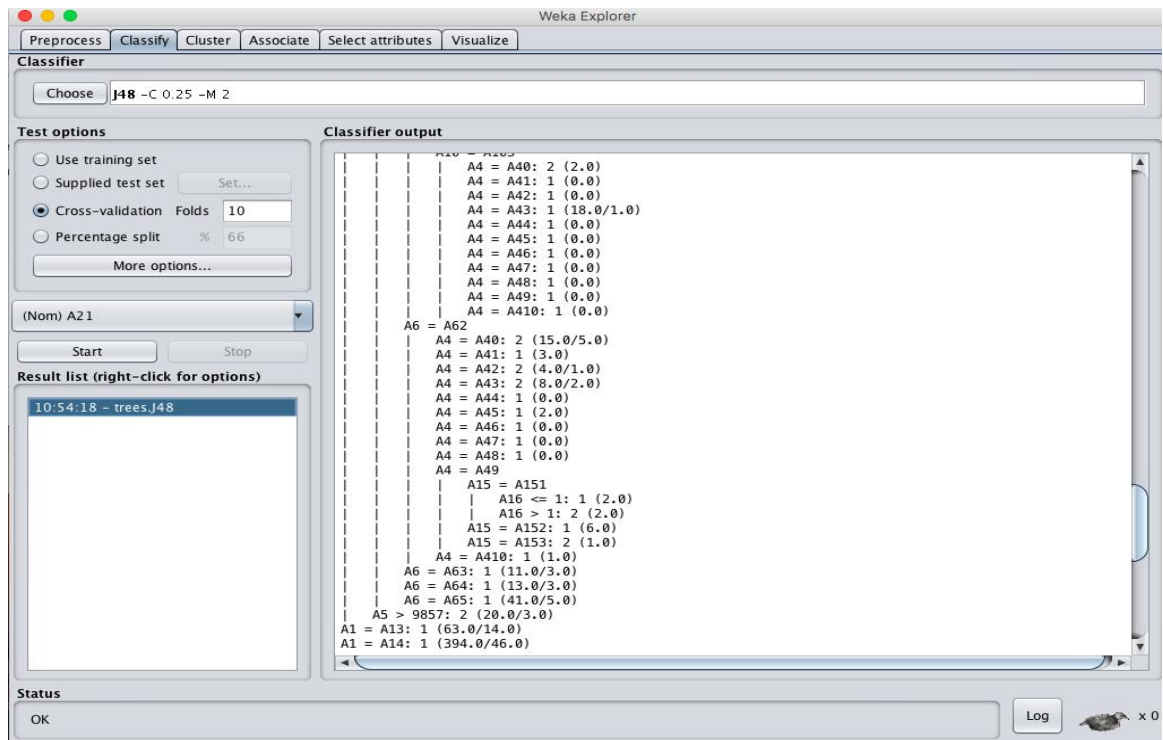
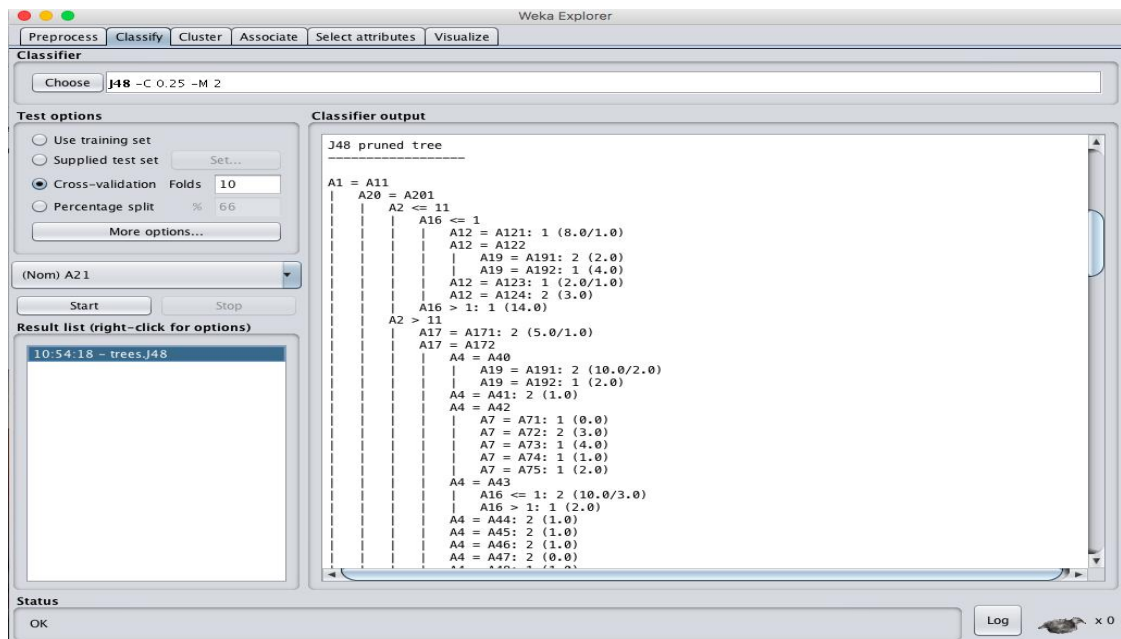
Subject: CSA1672, Data warehouse and data mining

### OUTPUT:





When cross validation folds are 10 :



**When cross validation folds are : 05**

Weka Explorer

Preprocess Classify Cluster Associate Select attributes Visualize

**Classifier**

Choose **J48 -C 0.25 -M 2**

**Test options**

☐ Use training set

☐ Supplied test set Set...

☒ Cross-validation Folds **05**

☐ Percentage split % **66**

More options...

(Nom) A21

Start Stop

**Result list (right-click for options)**

10:54:18 - trees.J48

10:54:52 - trees.J48

**Classifier output**

J48 pruned tree

```

A1 = A11
|
| A20 = A201
| |
| | A2 <= 11
| | |
| | | A16 <= 1
| | | |
| | | | A12 = A121: 1 (8.0/1.0)
| | | | A12 = A122
| | | | |
| | | | | A19 = A191: 2 (2.0)
| | | | | A19 = A192: 1 (4.0)
| | | | | A12 = A123: 1 (2.0/1.0)
| | | | | A12 = A124: 2 (3.0)
| | | | A16 > 1: 1 (14.0)
| | | A2 > 11
| | | |
| | | | A17 = A171: 2 (5.0/1.0)
| | | | A17 = A172
| | | | |
| | | | | A4 = A40
| | | | | |
| | | | | | A19 = A191: 2 (10.0/2.0)
| | | | | | A19 = A192: 1 (2.0)
| | | | | A4 = A41: 2 (1.0)
| | | | | A4 = A42
| | | | | |
| | | | | | A7 = A71: 1 (0.0)
| | | | | | A7 = A72: 2 (3.0)
| | | | | | A7 = A73: 1 (4.0)
| | | | | | A7 = A74: 1 (1.0)
| | | | | | A7 = A75: 1 (2.0)
| | | | | A4 = A43
| | | | | |
| | | | | | A16 <= 1: 2 (10.0/3.0)
| | | | | | A16 > 1: 1 (2.0)
| | | | | A4 = A44: 2 (1.0)
| | | | | A4 = A45: 2 (1.0)
| | | | | A4 = A46: 2 (1.0)
| | | | | A4 = A47: 2 (0.0)

```

Status

OK Log x 0

Weka Explorer

Preprocess Classify Cluster Associate Select attributes Visualize

**Classifier**

Choose **J48 -C 0.25 -M 2**

**Test options**

☐ Use training set

☐ Supplied test set Set...

☒ Cross-validation Folds **05**

☐ Percentage split % **66**

More options...

(Nom) A21

Start Stop

**Result list (right-click for options)**

10:54:18 - trees.J48

10:54:52 - trees.J48

**Classifier output**

```

A10 = A100
|
| A4 = A40: 2 (2.0)
| A4 = A41: 1 (0.0)
| A4 = A42: 1 (0.0)
| A4 = A43: 1 (18.0/1.0)
| A4 = A44: 1 (0.0)
| A4 = A45: 1 (0.0)
| A4 = A46: 1 (0.0)
| A4 = A47: 1 (0.0)
| A4 = A48: 1 (0.0)
| A4 = A49: 1 (0.0)
| A4 = A410: 1 (0.0)
|
| A6 = A62
| |
| | A4 = A40: 2 (15.0/5.0)
| | A4 = A41: 1 (3.0)
| | A4 = A42: 2 (4.0/1.0)
| | A4 = A43: 2 (8.0/2.0)
| | A4 = A44: 1 (0.0)
| | A4 = A45: 1 (2.0)
| | A4 = A46: 1 (0.0)
| | A4 = A47: 1 (0.0)
| | A4 = A48: 1 (0.0)
| | A4 = A49
| | |
| | | A15 = A151
| | | |
| | | | A16 <= 1: 1 (2.0)
| | | | A16 > 1: 2 (2.0)
| | | | A15 = A152: 1 (6.0)
| | | | A15 = A153: 2 (1.0)
| | | A4 = A410: 1 (1.0)
| | A6 = A63: 1 (11.0/3.0)
| | A6 = A64: 1 (13.0/3.0)
| | A6 = A65: 1 (41.0/5.0)
| A5 > 9857: 2 (20.0/3.0)
A1 = A13: 1 (63.0/14.0)
A1 = A14: 1 (394.0/46.0)

```

Status

OK Log x 0

PreprocessClassifyClusterAssociateSelect attributesVisualize

Weka Explorer

Classifier

ChooseJ48 -C 0.25 -M 2

Test options

Use training set

Supplied test set

Cross-validation Folds05

Percentage split %66

More options...

(Nom) A21

Start

Stop

Result list (right-click for options)

10:54:18 - trees.J48

10:54:52 - trees.J48

A1 = A14: 1 (394.0/46.0)

Number of Leaves : 103

Size of the tree : 140

Time taken to build model: 0.03 seconds

=== Stratified cross-validation ===

=== Summary ===

Correctly Classified Instances73373.3%

Incorrectly Classified Instances26726.7%

Kappa statistic0.3264

Mean absolute error0.3293

Root mean squared error0.4579

Relative absolute error78.3705%

Root relative squared error99.914%

Total Number of Instances1000

=== Detailed Accuracy By Class ===

	TP Rate	FP Rate	Precision	Recall	F-Measure	MCC	ROC Area	PRC Area	Class
	0.851	0.543	0.785	0.851	0.817	0.330	0.685	0.789	1
	0.457	0.149	0.568	0.457	0.506	0.330	0.685	0.463	2
Weighted Avg.	0.733	0.425	0.720	0.733	0.724	0.330	0.685	0.697	

=== Confusion Matrix ===

a b <-- classified as

596 104 | a = 1

163 137 | b = 2

Status

OK

Log

x 0