

CSA1618 DWDM-DE

EXPERIMENT-29

EVALUATING ACCURACY OF THE CLASSIFIERS

AIM:

To create evaluating accuracy of the classifiers using weka tool.

PROCEDURE:

1. Download and install WEKA.
2. Open WEKA and Choose "Explorer" from the main menu.
3. Under Preprocess, Click on the open file button and select the dataset. Ensure that your dataset contains categorical (nominal) attributes.
4. Go to the Classify tab.
5. Click Choose and select a classifier. Examples:

J48 (Decision Tree) → trees > J48

Naïve Bayes → bayes > NaiveBayes

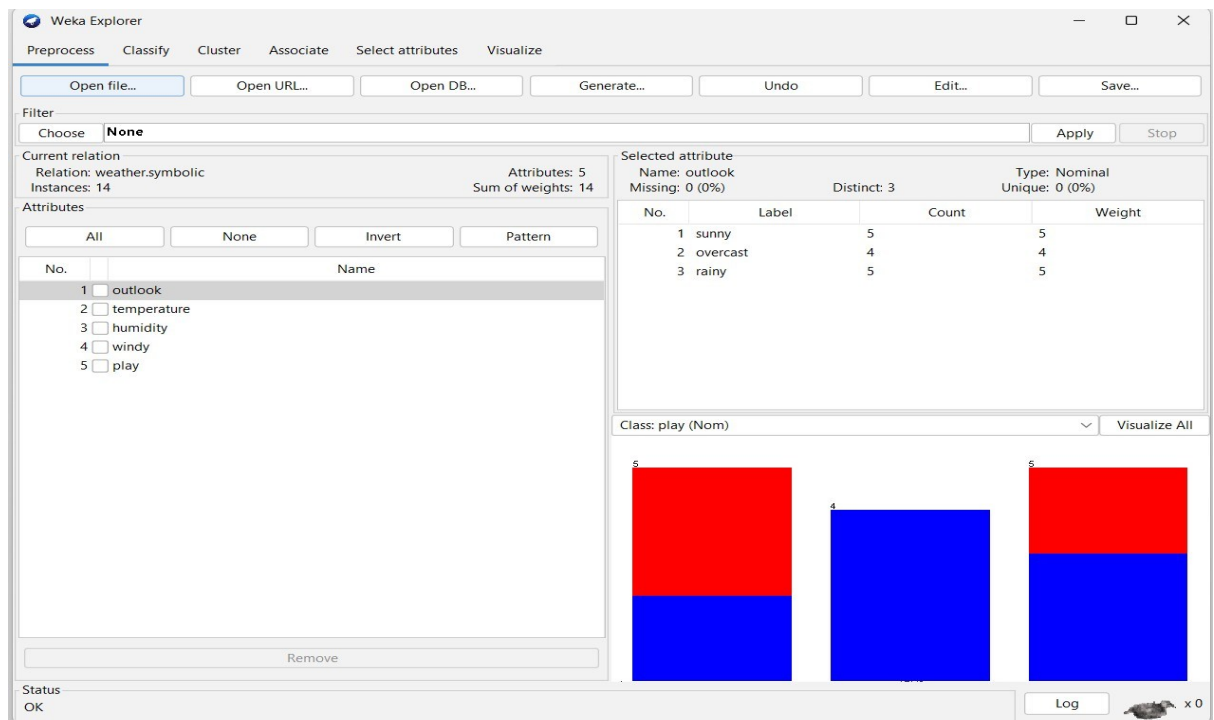
SMO (SVM) → functions > SMO

Random Forest → trees > RandomForest

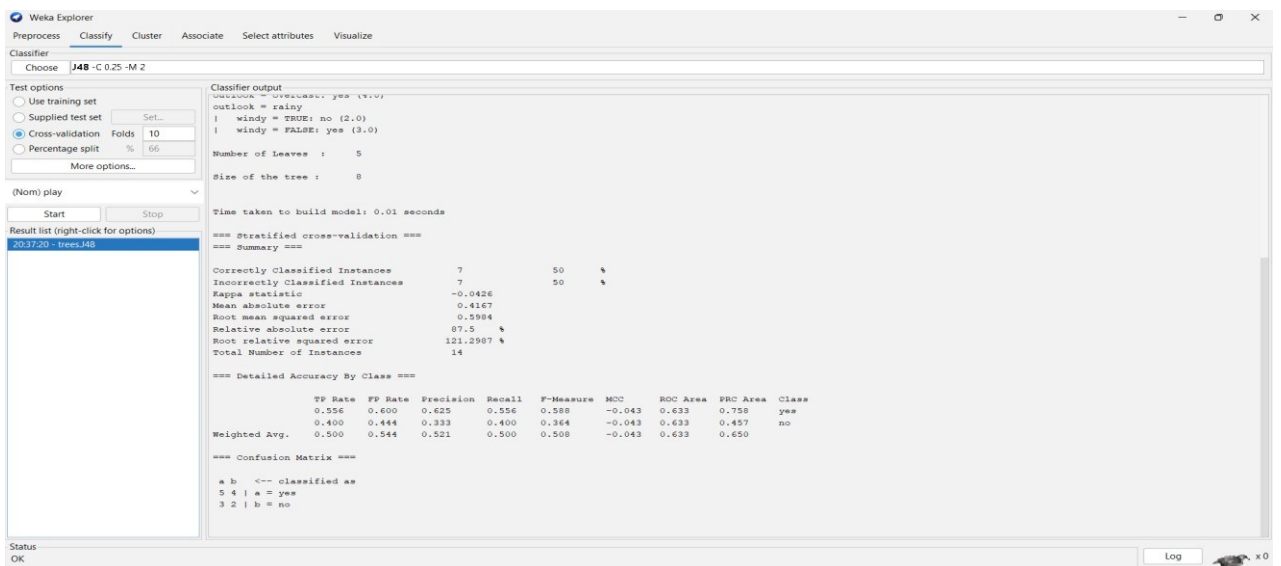
Logistic Regression → functions > Logistic

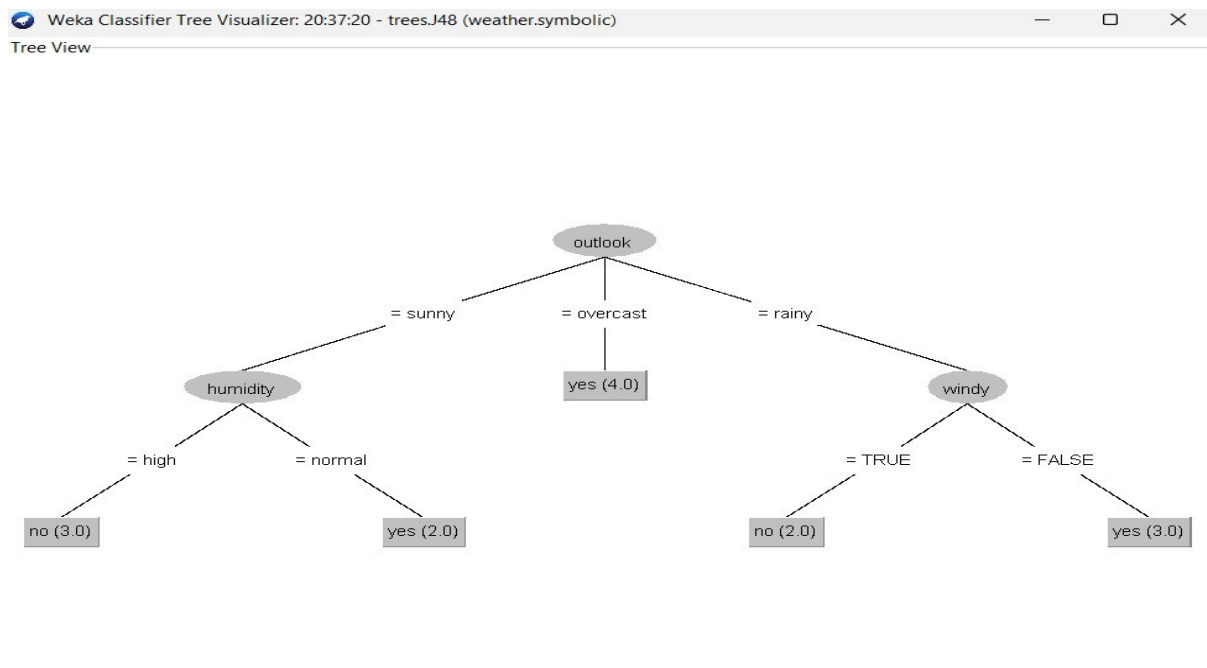
6. Select Evaluation Method : Cross-validation.
7. Click Start to begin classification. The Classifier output section will display results.





1.J48 (Decision Tree):





=== Detailed Accuracy By Class ===

	TP Rate	FP Rate	Precision	Recall	F-Measure	MCC	ROC Area	PRC Area
yes	0.556	0.600	0.625	0.556	0.588	-0.043	0.633	0.758
no	0.400	0.444	0.333	0.400	0.364	-0.043	0.633	0.457
Weighted Avg.	0.500	0.544	0.521	0.500	0.508	-0.043	0.633	0.650

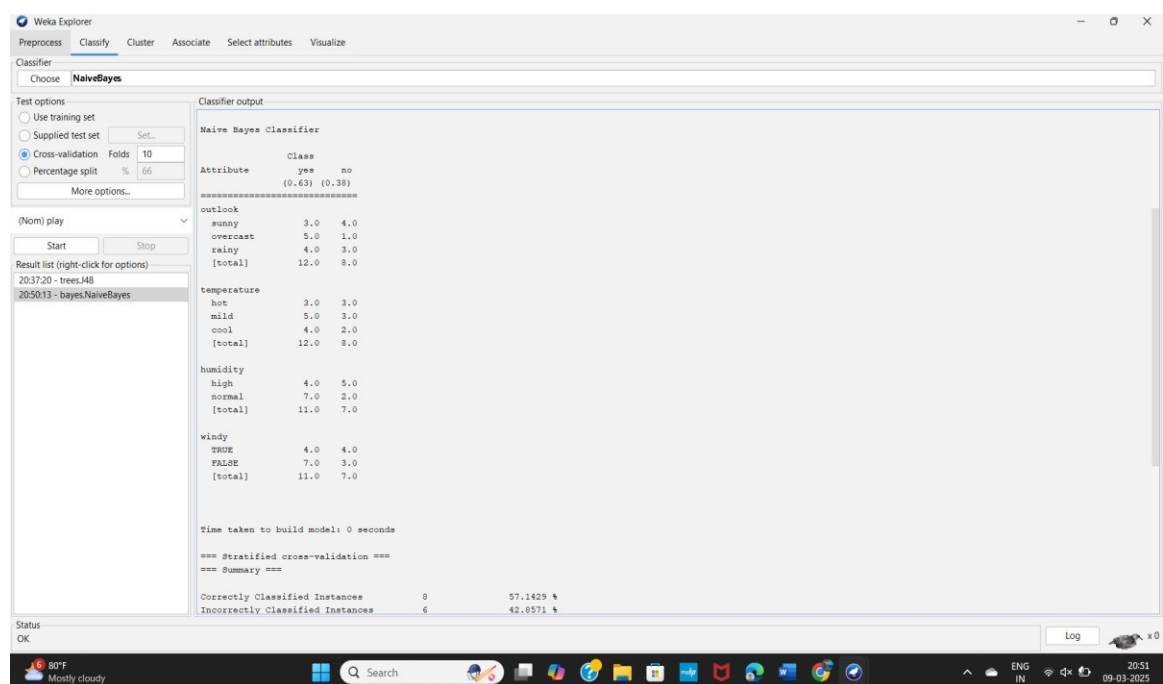
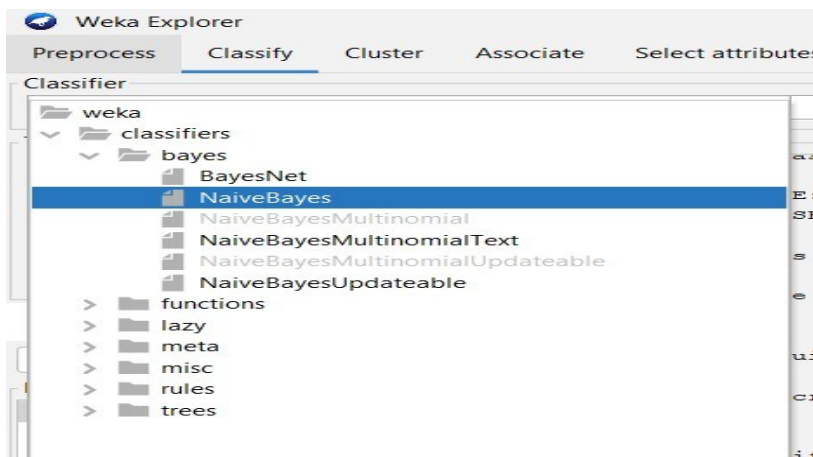
=== Confusion Matrix ===

a b <-- classified as

5 4 | a = yes

3 2 | b = no

2.Naive Bayes:



=== Detailed Accuracy By Class ===

	TP Rate	FP Rate	Precision	Recall	F-Measure	MCC	ROC Area	PRC Area
yes	0.778	0.800	0.636	0.778	0.700	-0.026	0.578	0.697
no	0.200	0.222	0.333	0.200	0.250	-0.026	0.578	0.557
Wt Avg.	0.571	0.594	0.528	0.571	0.539	-0.026	0.578	0.647

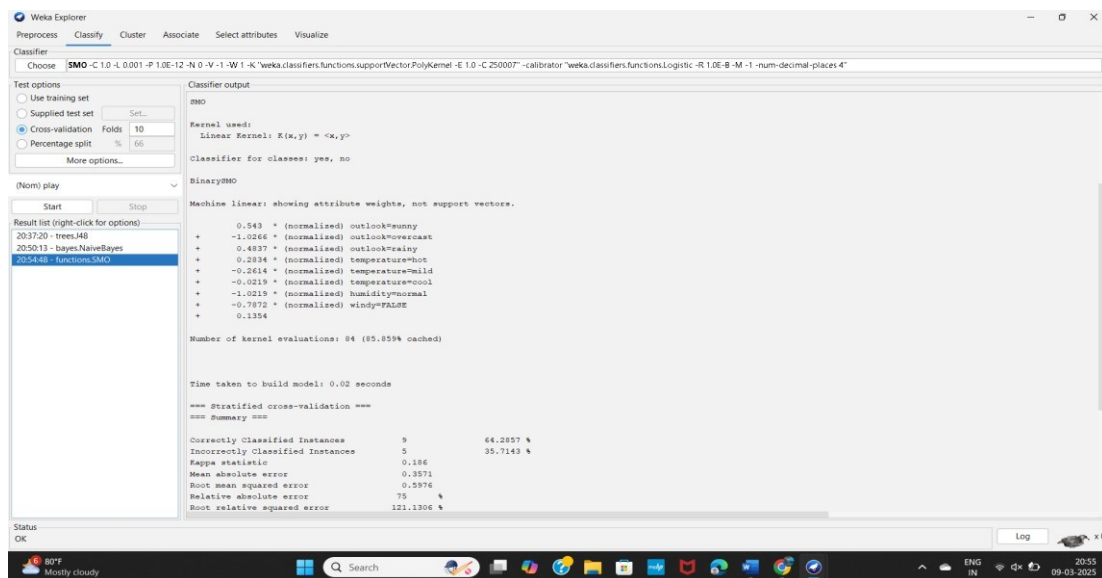
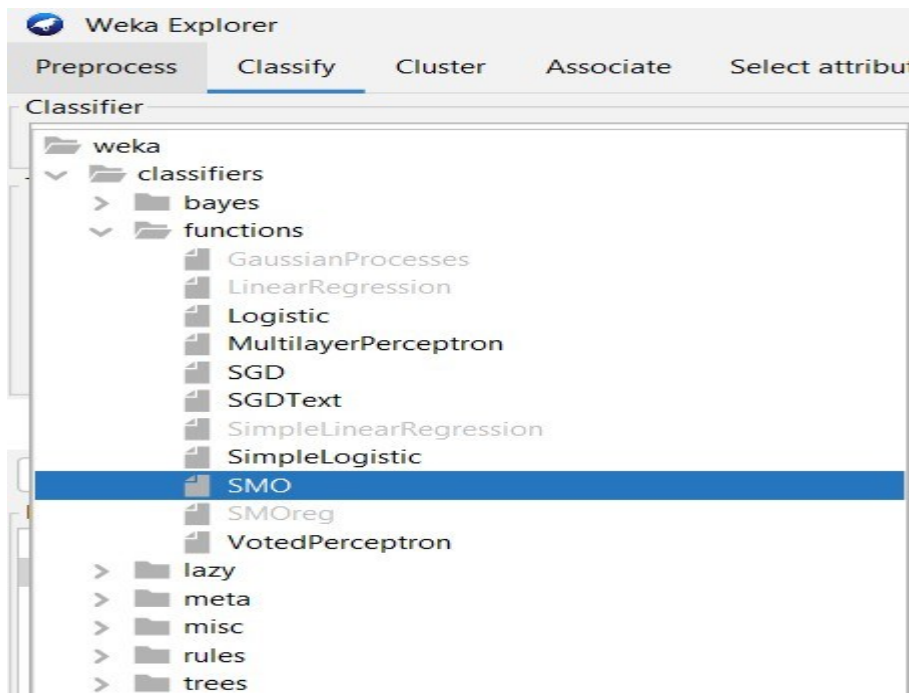
=== Confusion Matrix ===

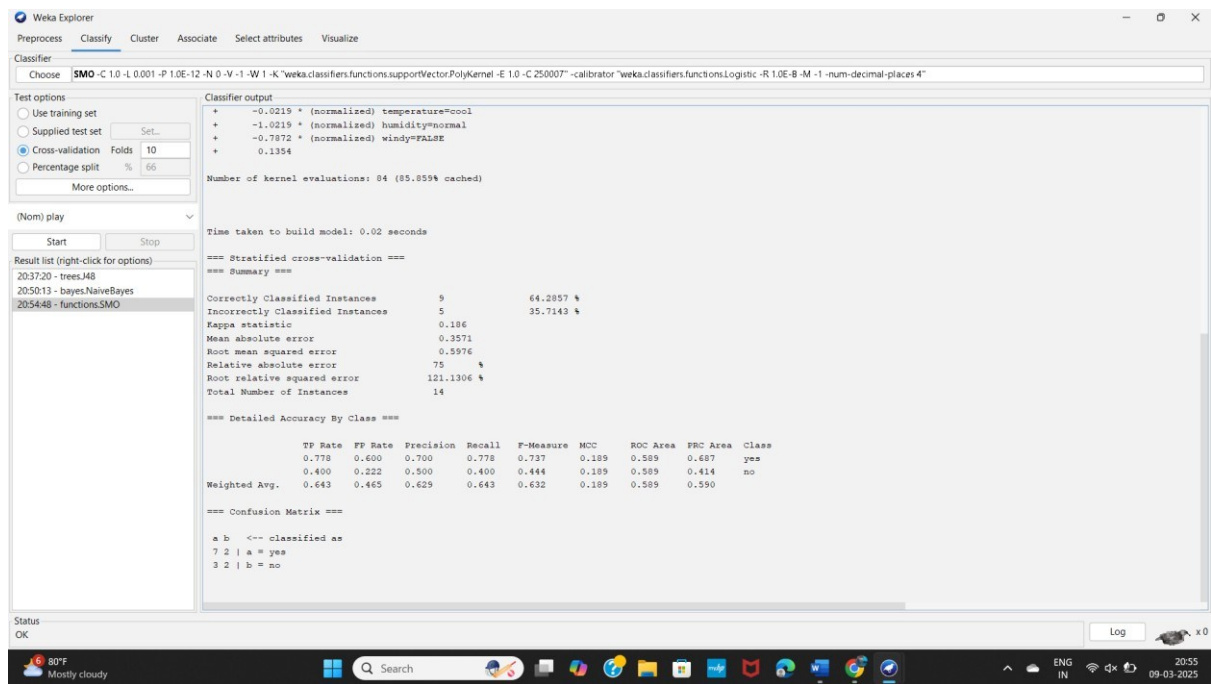
a b <-- classified as

7 2 | a = yes

4 1 | b = no

3. SMO:





=== Detailed Accuracy By Class ===

	TP Rate	FP Rate	Precision	Recall	F-Measure	MCC	ROC Area	PRC Area	
	0.778	0.600	0.700	0.778	0.737	0.189	0.589	0.687	yes
	0.400	0.222	0.500	0.400	0.444	0.189	0.589	0.414	no
Wt Avg.	0.643	0.465	0.629	0.643	0.632	0.189	0.589	0.590	

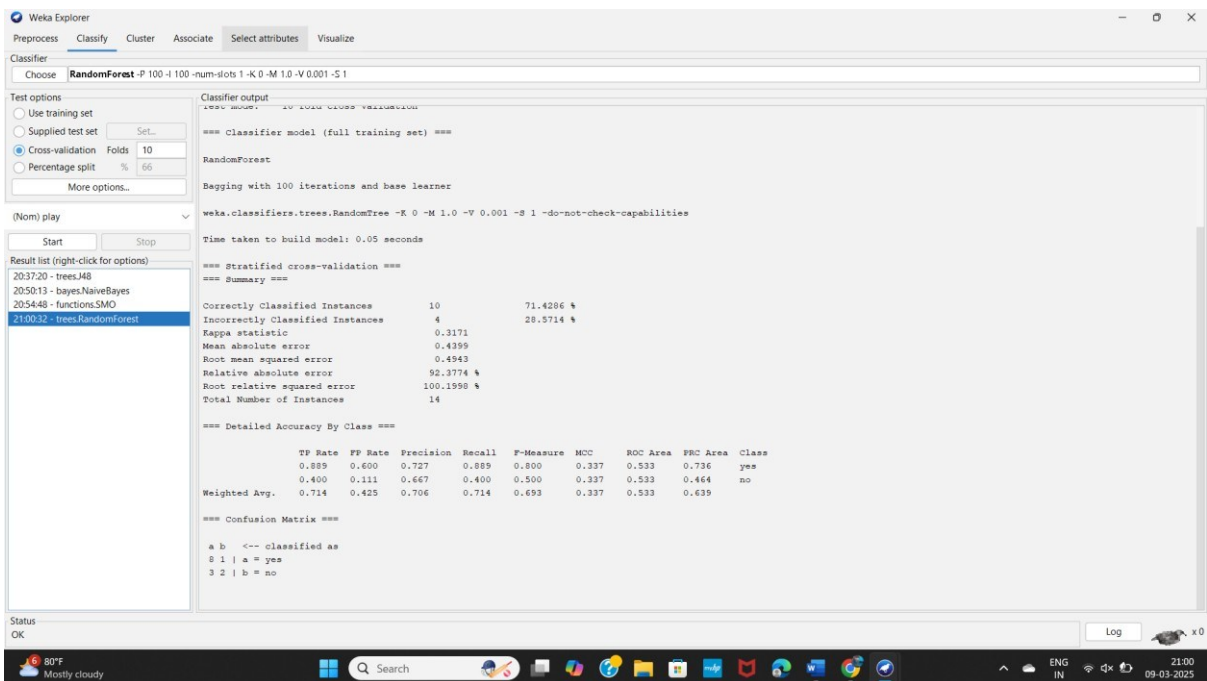
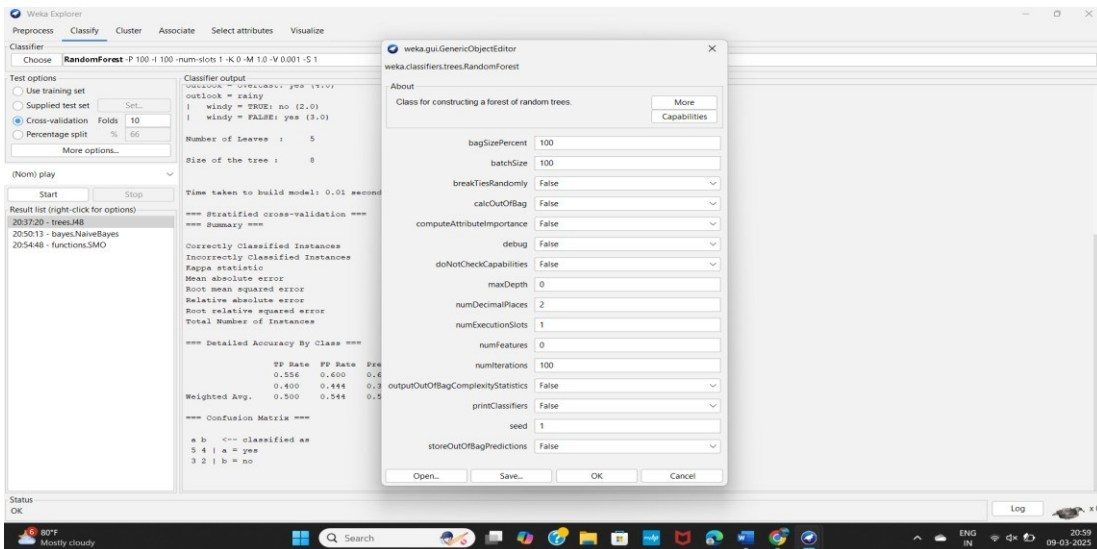
=== Confusion Matrix ===

a b <-- classified as

7 2 | a = yes

3 2 | b = no

4. Random Forest:



=== Detailed Accuracy By Class ===

	TP Rate	FP Rate	Precision	Recall	F-Measure	MCC	ROC Area	PRC Area	
	0.889	0.600	0.727	0.889	0.800	0.337	0.533	0.736	yes
	0.400	0.111	0.667	0.400	0.500	0.337	0.533	0.464	no
Weighted Avg.	0.714	0.425	0.706	0.714	0.693	0.337	0.533	0.639	

=== Confusion Matrix ===

a b <-- classified as

8 1 | a = yes

3 2 | b = no

RESULT:

Thus, the comparison of the confusion matrix for all the methods and techniques is performed. Out of the comparing matrix with all the techniques there is a change in instances. The above graphs will show the variations of values in the parameters.