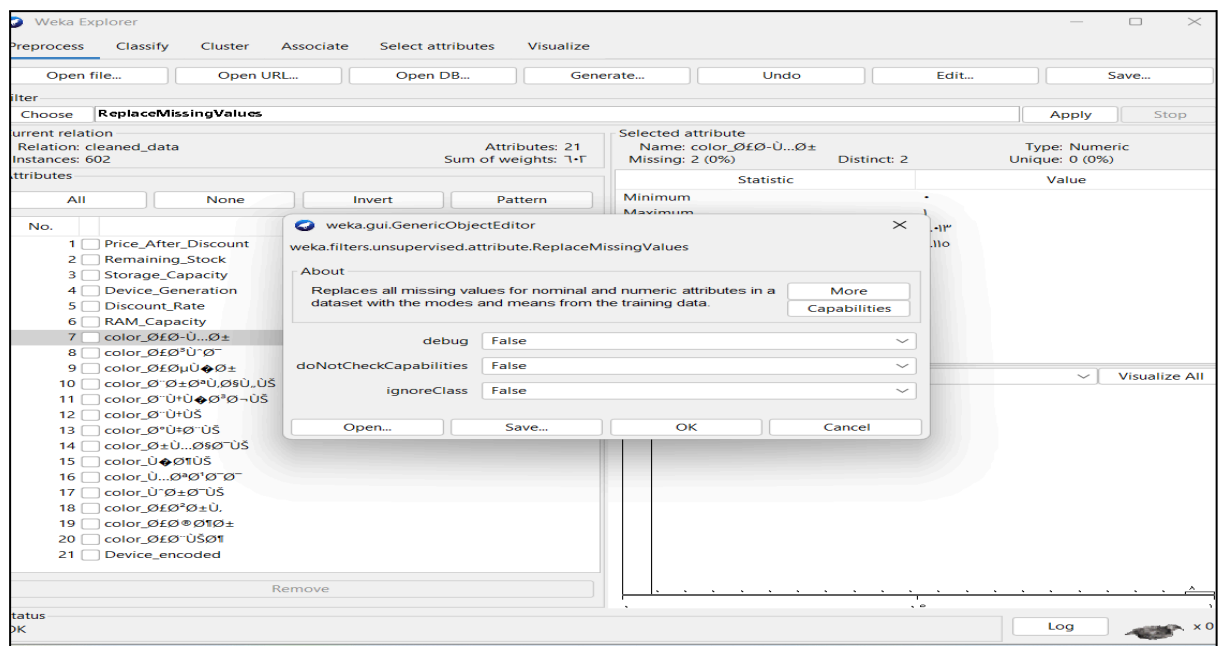
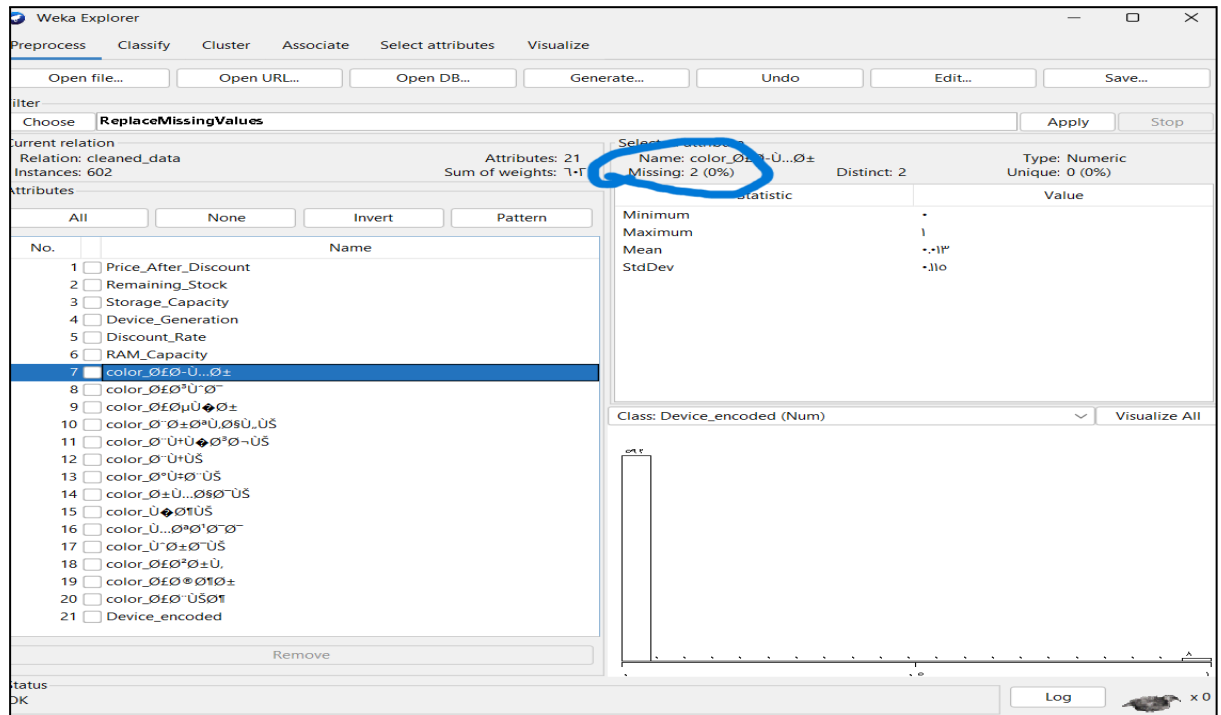
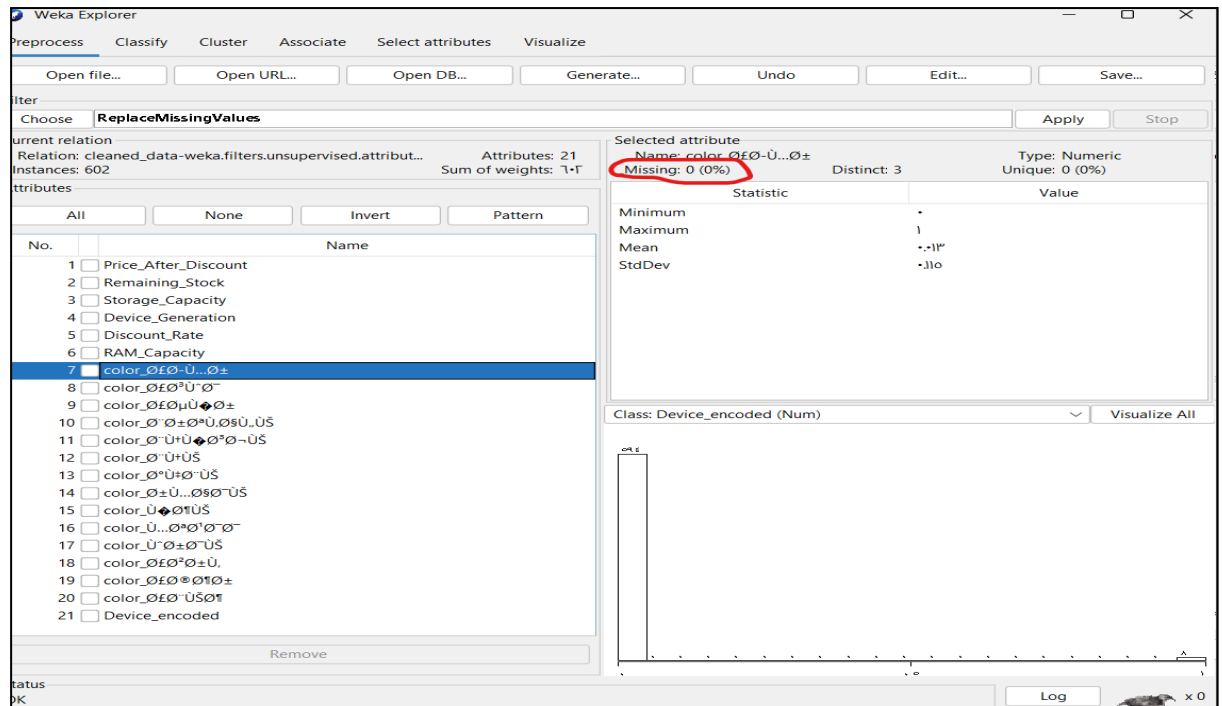


## WEKA Tasks

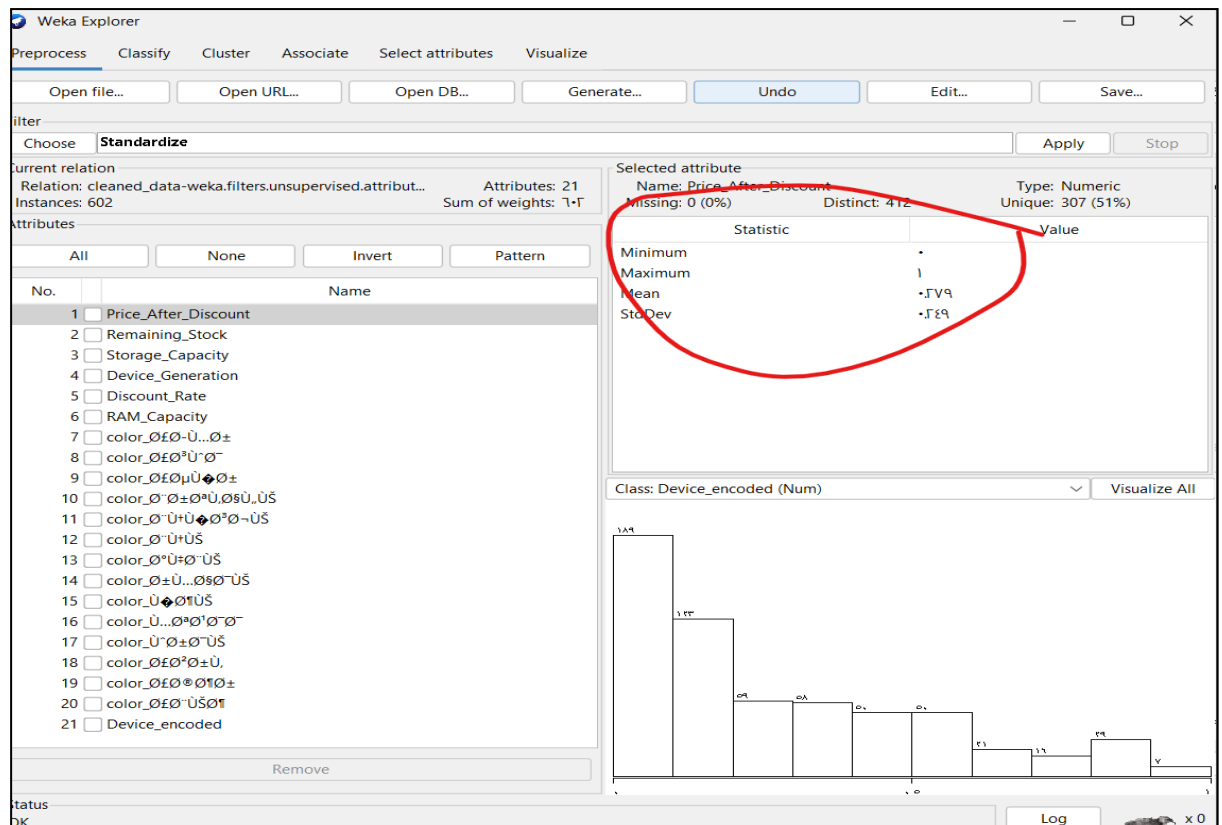
### 7. Preprocessing with WEKA Filters

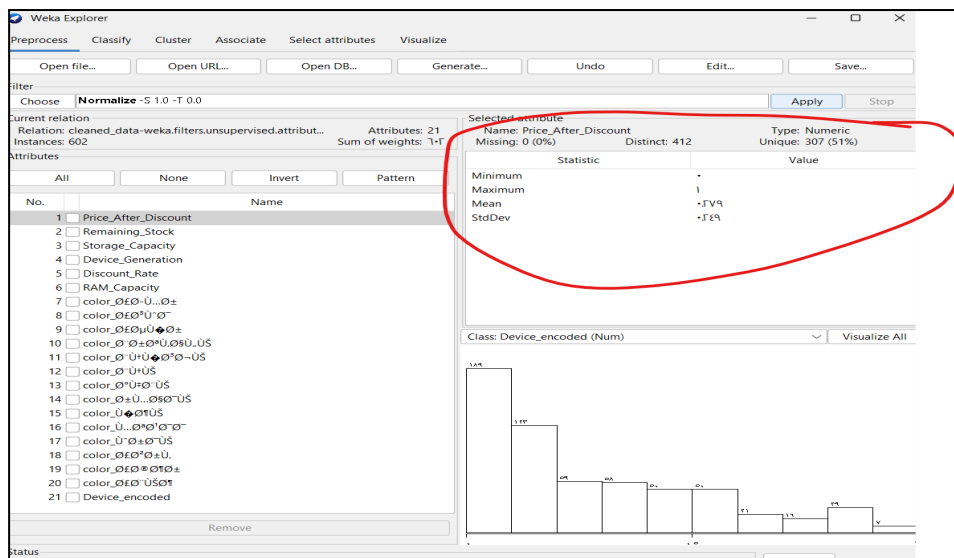
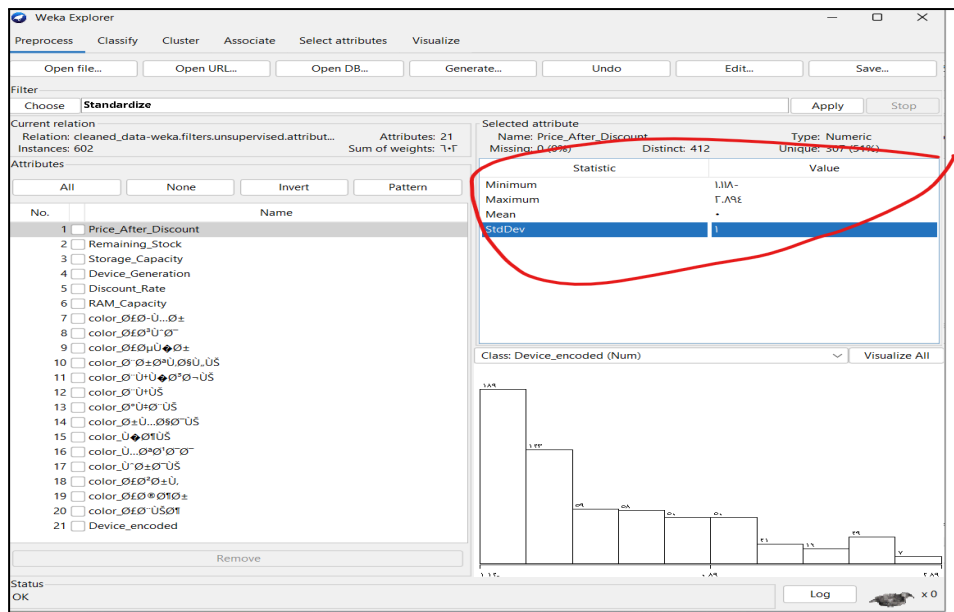
- Missing value handling (e.g., ReplaceMissingValues).



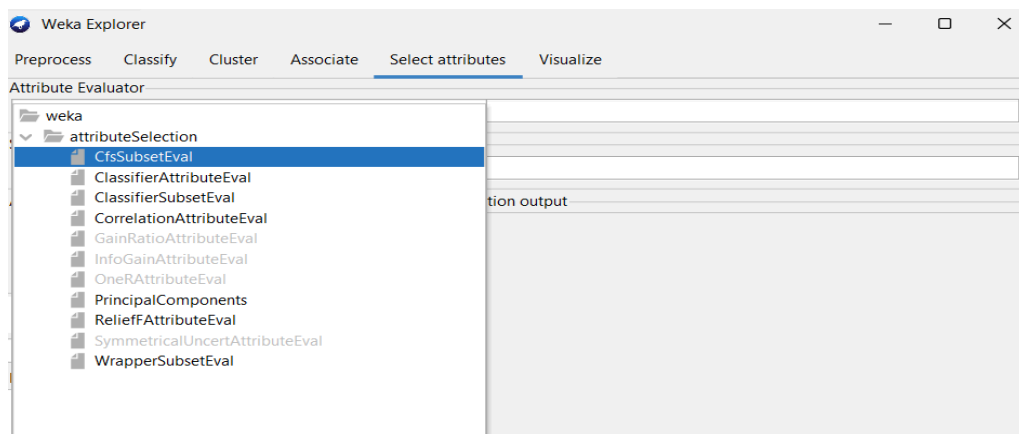


- Normalization/Standardization (e.g., Normalize, Standardize).





- Feature selection (e.g., CorrelationAttributeEval).



## 8. Model Training & Hyperparameter Tuning

## ● J48 (Decision Tree)

The screenshot shows the Weka Explorer interface with the 'Classify' tab selected. The 'Attribute Evaluator' is set to 'CorrelationAttributeEval' and the 'Search Method' is 'Ranker -T -1.7976931348623157E308 -N -1'. The 'Attribute Selection Mode' is 'Use full training set'. The 'Attribute Selection Output' shows the results of the attribute selection process, including a list of ranked attributes and the selected attributes: 5, 6, 9, 15, 14, 3, 12, 13, 10, 4, 10, 11, 19, 16, 8, 2, 20, 7, 17, 1 : 20.

The screenshot shows the Weka Explorer interface with the 'Classify' tab selected. The 'Classifier' is set to 'J48'. The 'Result list (right-click for options)' shows the results of the classification process, including a list of attributes and the selected attributes: 5, 6, 9, 15, 14, 3, 12, 13, 10, 4, 10, 11, 19, 16, 8, 2, 20, 7, 17, 1 : 20.

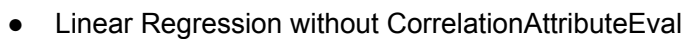
## ● Naive Bayes

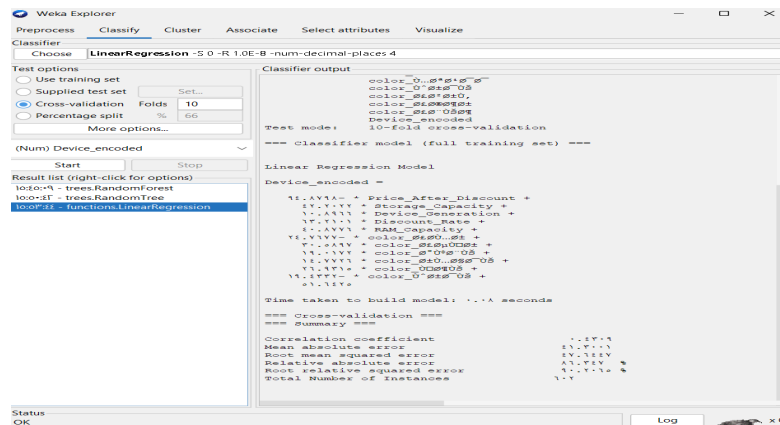
The screenshot shows the Weka Explorer interface with the 'Classify' tab selected. The 'Classifier' is set to 'NaiveBayes'. The 'Result list (right-click for options)' shows the results of the classification process, including a list of attributes and the selected attributes: 5, 6, 9, 15, 14, 3, 12, 13, 10, 4, 10, 11, 19, 16, 8, 2, 20, 7, 17, 1 : 20.

## ● Random Forest

The screenshot shows the Weka Explorer interface with the 'Classify' tab selected. The 'Classifier' is set to 'RandomForest'. The 'Test options' are set to 'Use training set', 'Supplied test set', 'Folds: 10', 'Percentage split: % 66'. The 'Result list (right-click for options)' shows the results of the classification process, including a list of attributes and the selected attributes: 5, 6, 9, 15, 14, 3, 12, 13, 10, 4, 10, 11, 19, 16, 8, 2, 20, 7, 17, 1 : 20.

## ● SMO (SVM)





## 9. Results Conclusion

- Which preprocessing method worked best?  
Random Forest is the best method that have the low absolute error
- Did WEKA or Python yield better model performance?  
If we look at the Linear Regression model in the weka and in python  
Which the a absolute error = 41.3 , mean square error=47.6 in weka  
But in python a absolute error = 825.62 , mean square error=9.96  
so weka is better than Python