CSE 6363 - MACHINE LEARNING

ASSIGNMENT 3 REPORT

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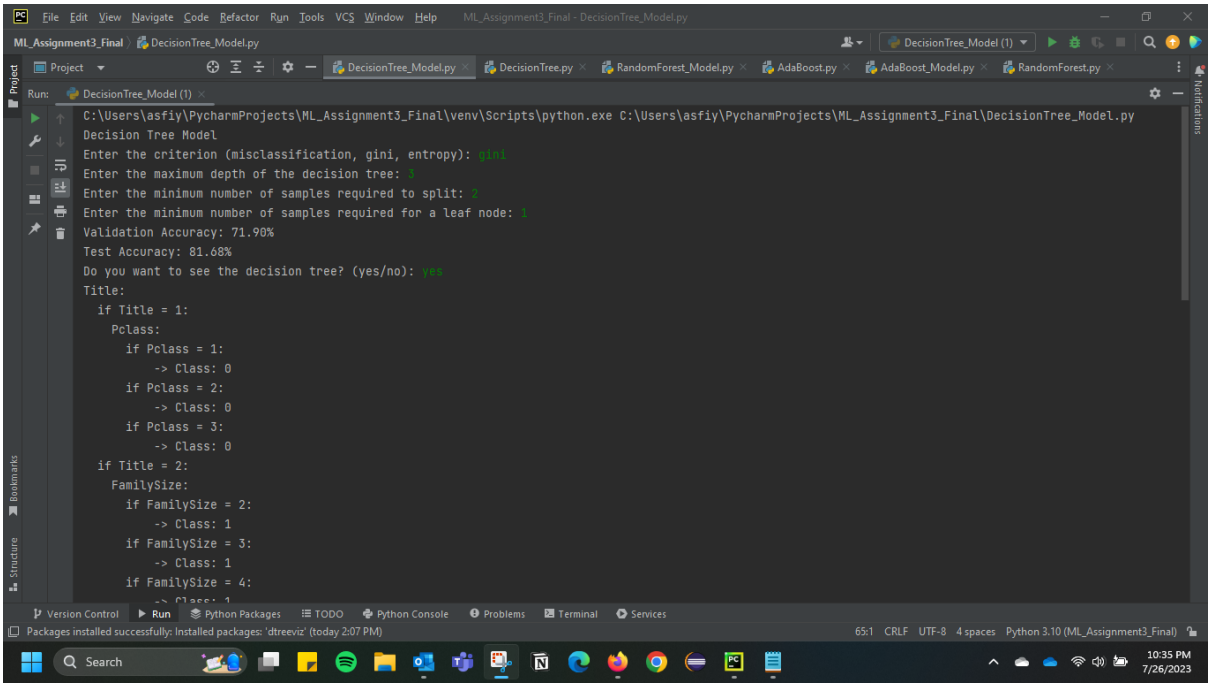
DECISION TREE

Implemented decision tree model for the titanic dataset with criteria misclassification, entropy and gini. The validation and test accuracy scores are as follows:
Other parameters are kept constant for comparison but can be changed during run-time.
Other parameters were kept as max_depth=5, min_sample_split=3, min_samples_leaf=1.

Criteria	Validation Accuracy	Test Accuracy
misclassification	71.43%	80.92%
gini	76.67%	79.01%
entropy	72.38%	80.92%

SAMPLE OUTPUT

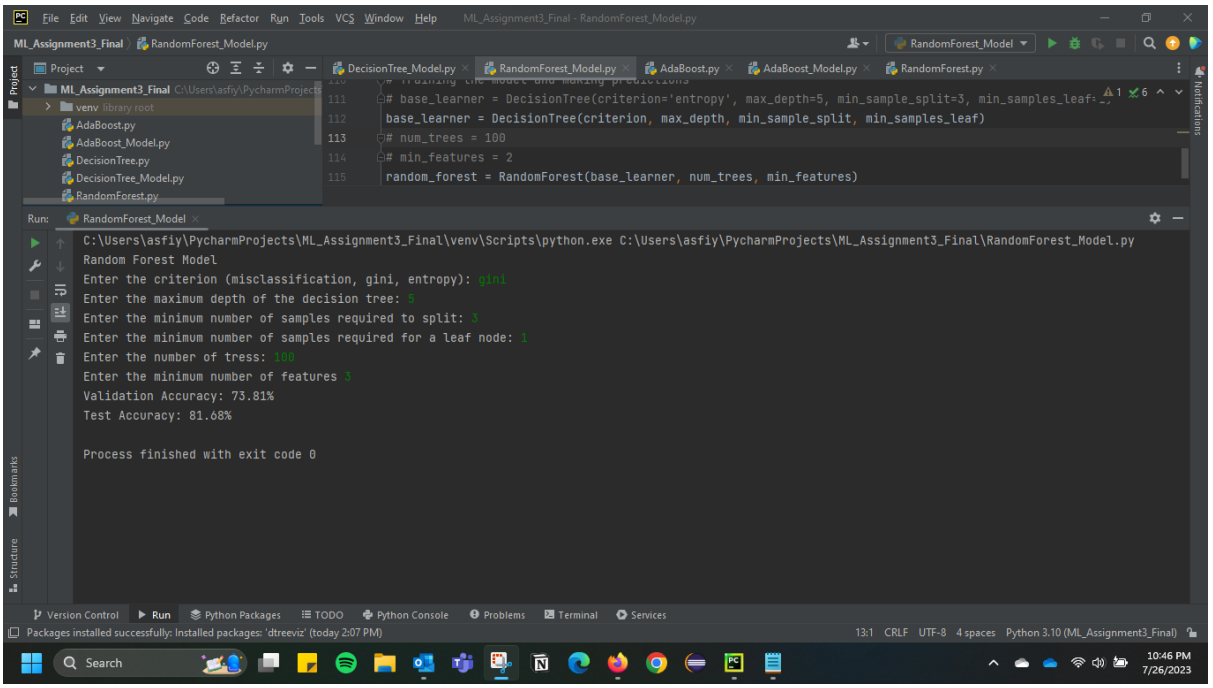


RANDOM FOREST

Random forest is implemented using decision tree as the base learner.
The accuracy scores are as follows:

Criteria	Validation Accuracy	Test Accuracy
misclassification	72.86%	80.92%
gini	75.71%	80.15%
entropy	73.81%	81.68%

SAMPLE OUTPUT



ADABOOST

Adaboost is implemented using decision tree as the base learner.
The accuracy scores are as follows:

Criteria	Validation Accuracy	Test Accuracy
misclassification	72.86%	78.63%
gini	75.24%	80.92%
entropy	75.24%	80.53%

SAMPLE OUTPUT