

- Compare and analyze the accuracies obtained by different learners: decision stump alone, boosting with 30 rounds, your ID3 implementation.

Learner	Accuracy (%)
Decision stump learner alone	75.9176029963
Boosting with 30 rounds	78.0898876404
ID3	80.7218969273

Analysis:

Decision stump learner gives the least accuracy. Boosting with 30 rounds improves this. Since it collects 30 hypothesis and makes a strong hypothesis. But ID3 gives the best accuracy. Because it is a tree which allows more than 1 depth. For decision stump learner and boosting with 30 rounds it was not allowed.

- Compare and analyze the accuracies obtained by boosting with different numbers of rounds: 5, 10, 20, 30.

K	Accuracy(%)
5	73.0674157303
10	74.8913857678
20	76.5543071161
30	78.0898876404

As the number of weak learner (K) is increased the accuracy is improved also.