In the past, there have been a lot of research activities on various predictive algorithms, followed by its measure on accuracy and consequently its comparison. It is important to have an unbiased dataset as it will help the researchers to test their hypothesis in an able manner. Most of the raw datasets require cleaning i.e. removal or correction of corrupted data. After cleansing, pruning the cleaned data is required to make accurate predictions. The technique also reduces the risk of overfitting or under-fitting. As a part of the department’s machine learning group project, we tried to find out how much pruning techniques actually effect the performance of different predictive algorithms. To elaborate, if pruning can be applied on a cleansed dataset by removing the sub-optimal features and then checking the accuracy. If an algorithm (say A) on an unpruned dataset performs better than another algorithm (say B), will algorithm B perform better on the pruned data or vice-versa? This interest has been taken forward as we picked an uncleaned movie dataset from Kaggle, applied pruning techniques and ran algorithms on the pruned dataset.