1. Text

   Description automatically generated with low confidence
2. The same as 1 seeing as it is already partitioned

* Pruning counters overfitting
* Lower variance with smaller tree
* Stopping growth of tree as soon as RSS does not decrease inhibits tree from overcoming local optima.
* Better to grow very large tree and then reduce size by selecting the best subtree
* Can’t just go through all possible subtrees and therefore cost complexity pruning is done
  + Weakest link pruning
  + Branches get pruned in nested fashion
* Bagging is an ensemble method
* It takes the bootstrapping approach and resamples from the training data with replacement
* Drawbacks:
  + Less explainable than a single decision tree
  + Computationally more taxing
  + Not helpful in cases where there is high bias
* Merits:
  + Lowers variance
  + Improves accuracy

1. The majority vote is used for all the trees created from all the differently sampled datasets. The tree is then used from a top down approach to classify the data of X into the targets observed in training data
2. Bagging section 8.2.1 p316