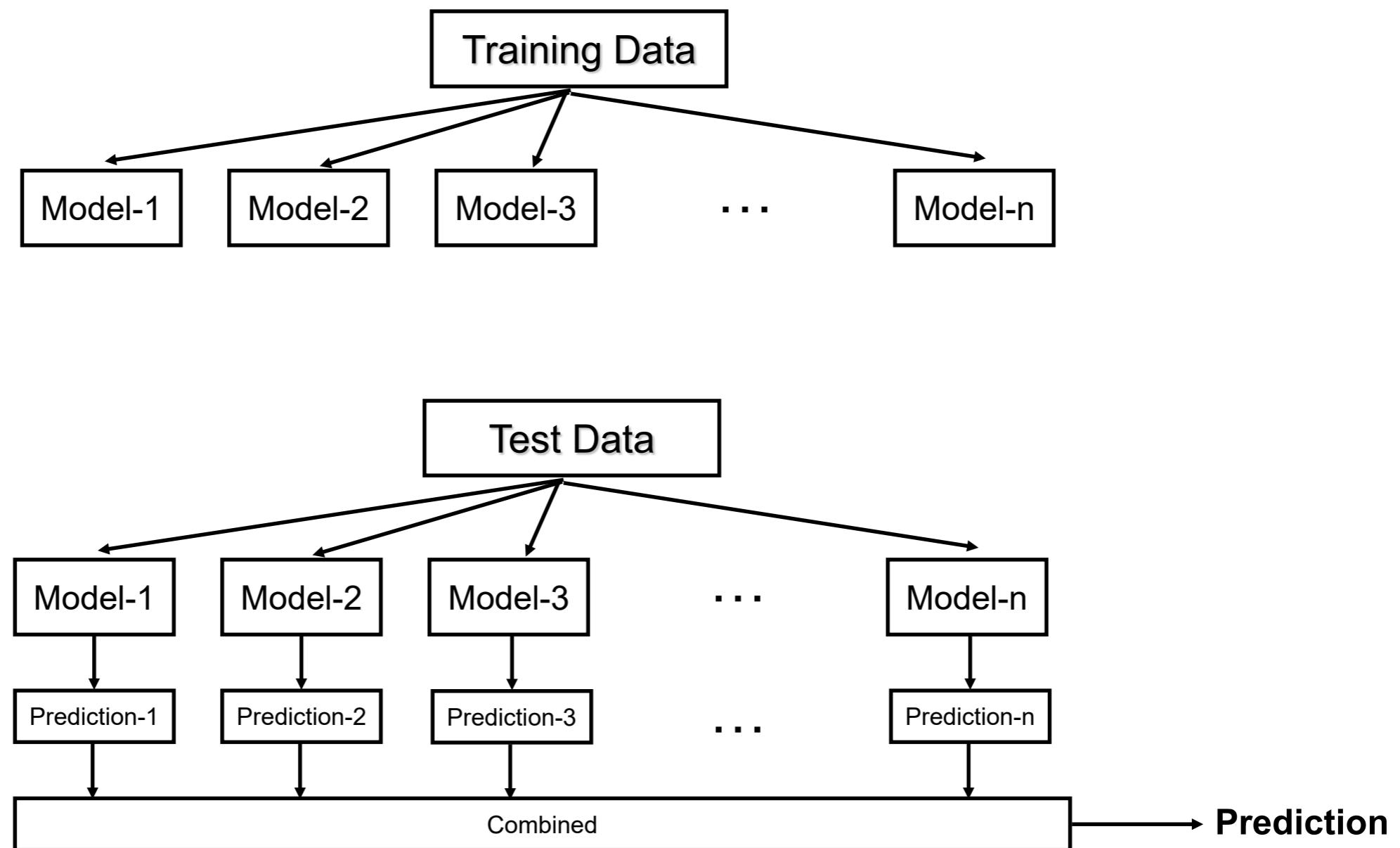
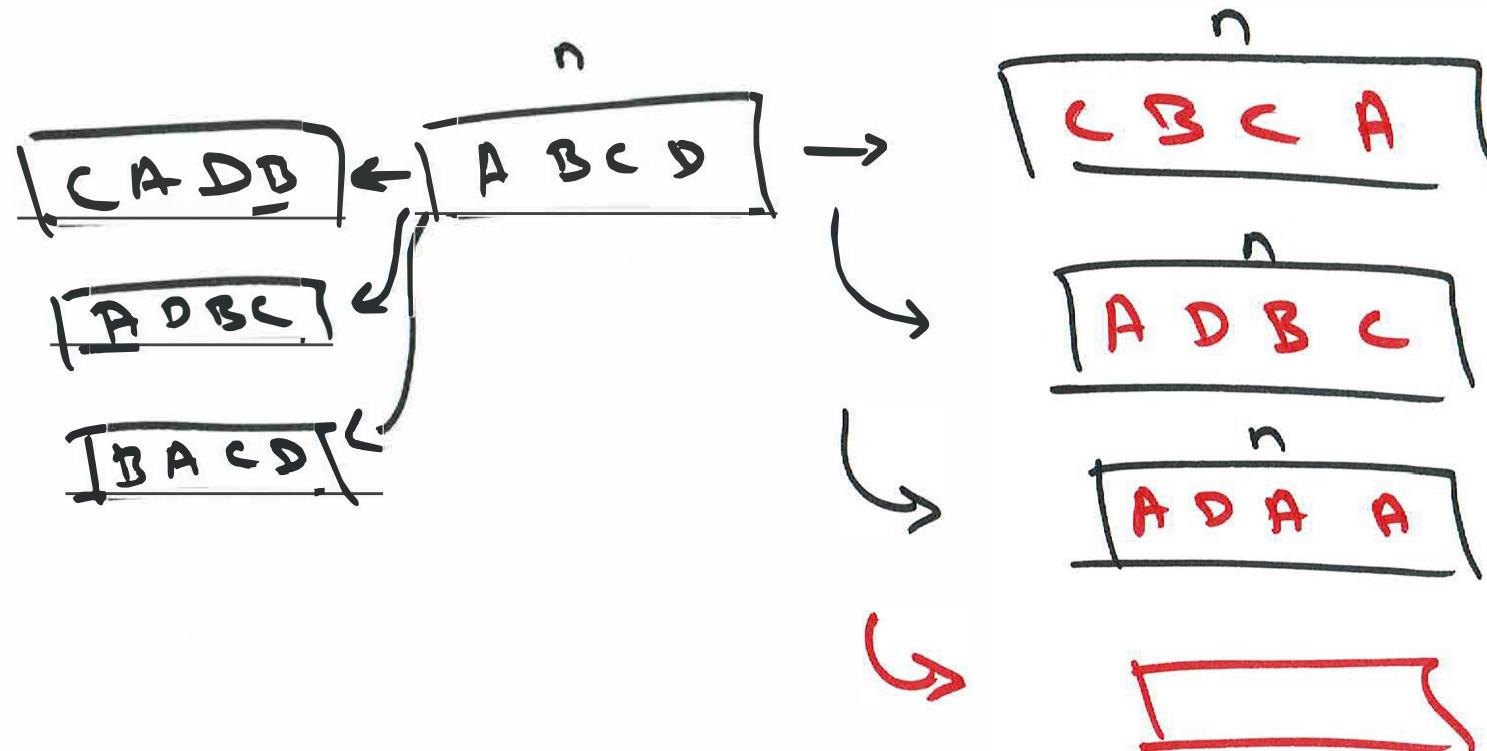
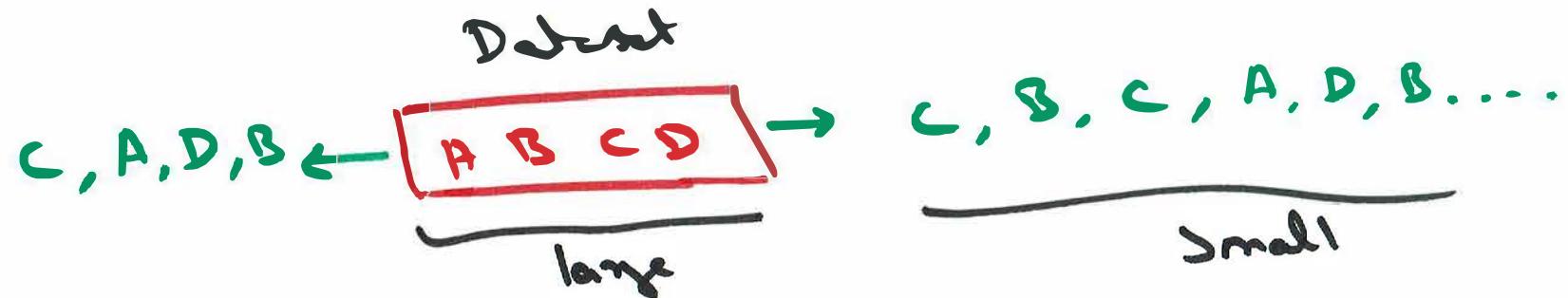


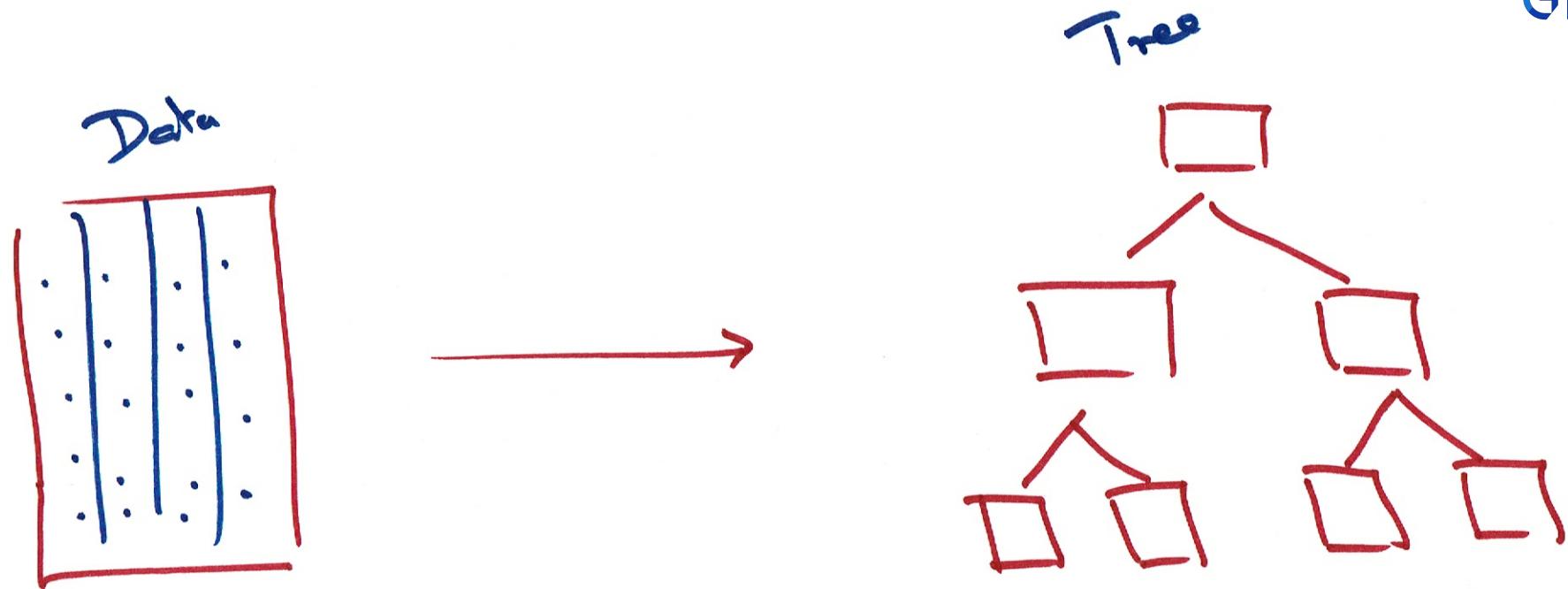
Ensemble Learning

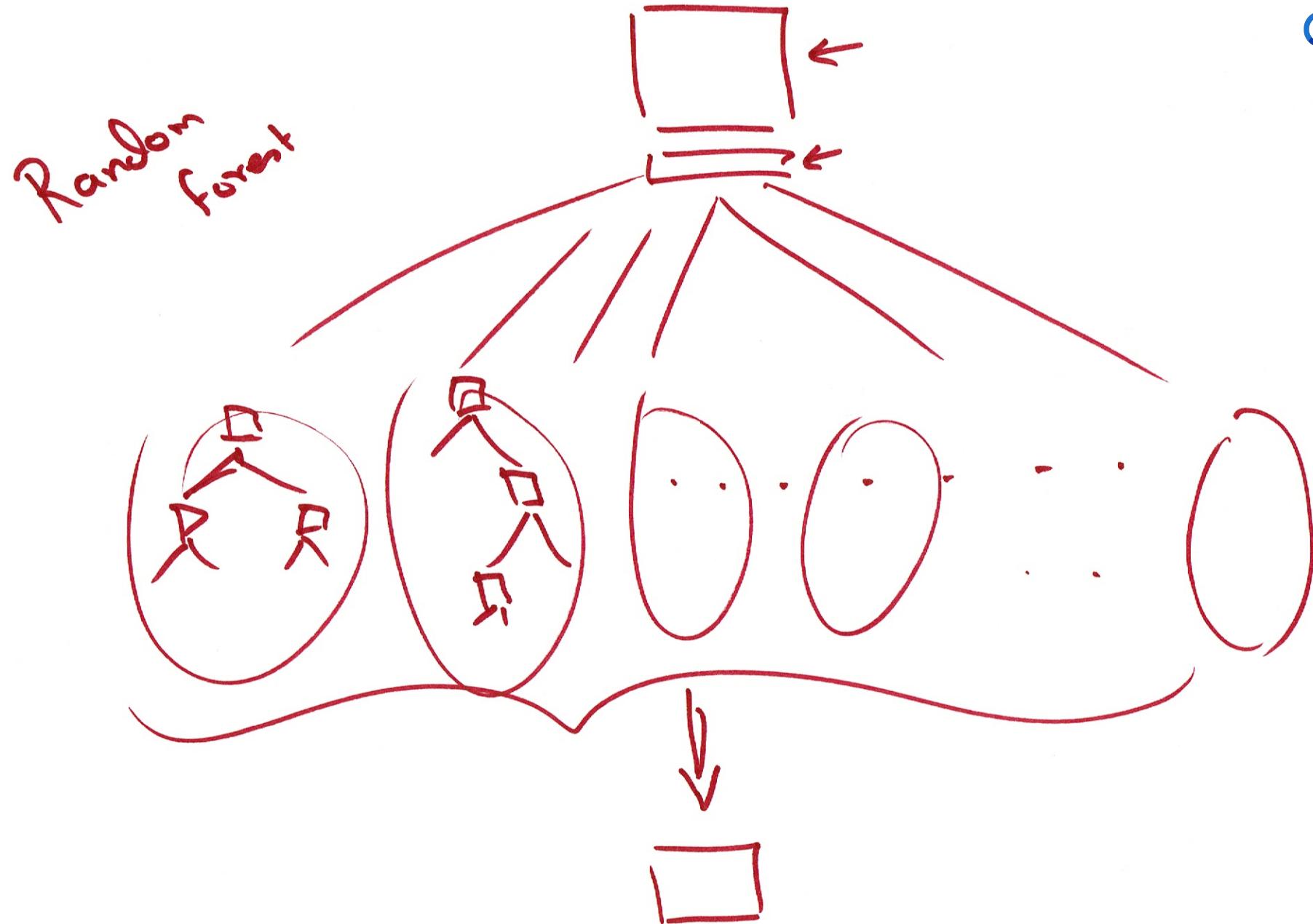
Ensemble Methods

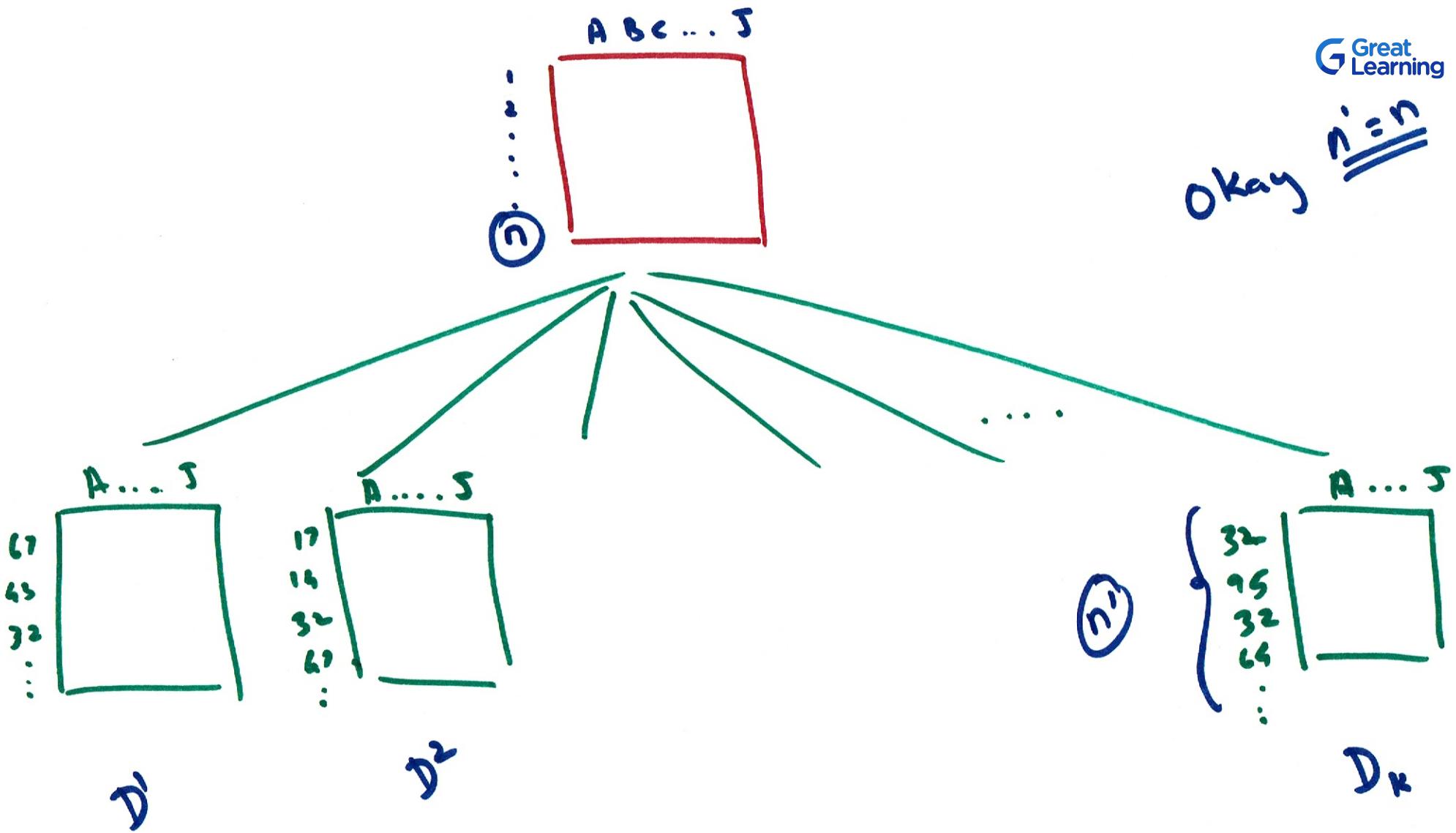
- Ensembles are machine learning methods for combining predictions from multiple separate models.
- The central motivation is rooted under the belief that a committee of experts working together can perform better than a single expert.

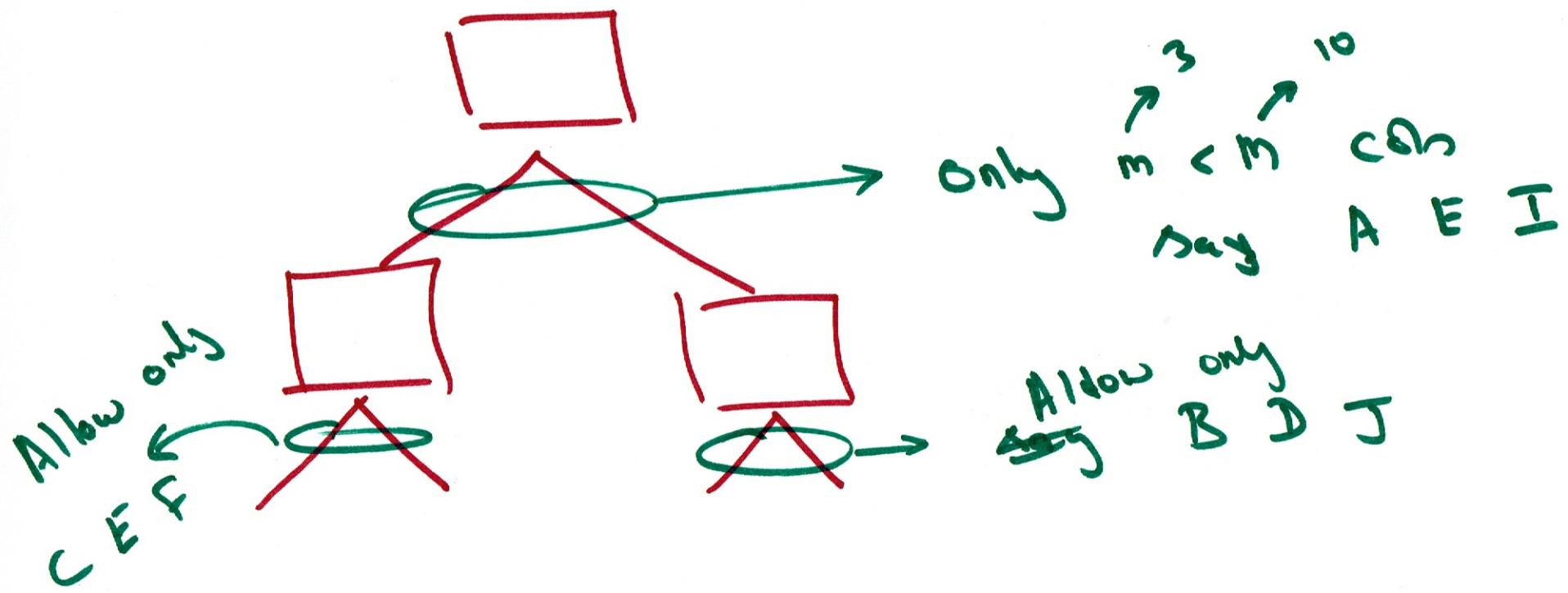
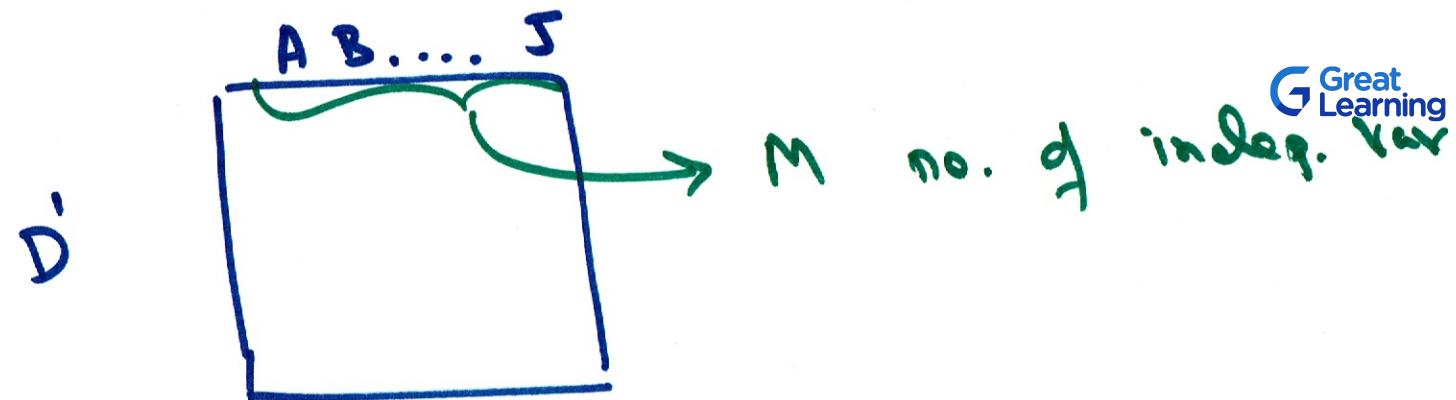












Random forests

- Random Sampling with replacement
- For each subset build a decision tree. However, only use m randomly pick independent variables for each node's branching possibilities.
 - Do not prune
- While predicting:
 - Use each tree to make individual predictions
 - Combine predictions using voting:
 - Means for regression
 - Modes for classification

Say $M = 10 \Rightarrow A \text{ B C D . D O } \textcircled{3}$

