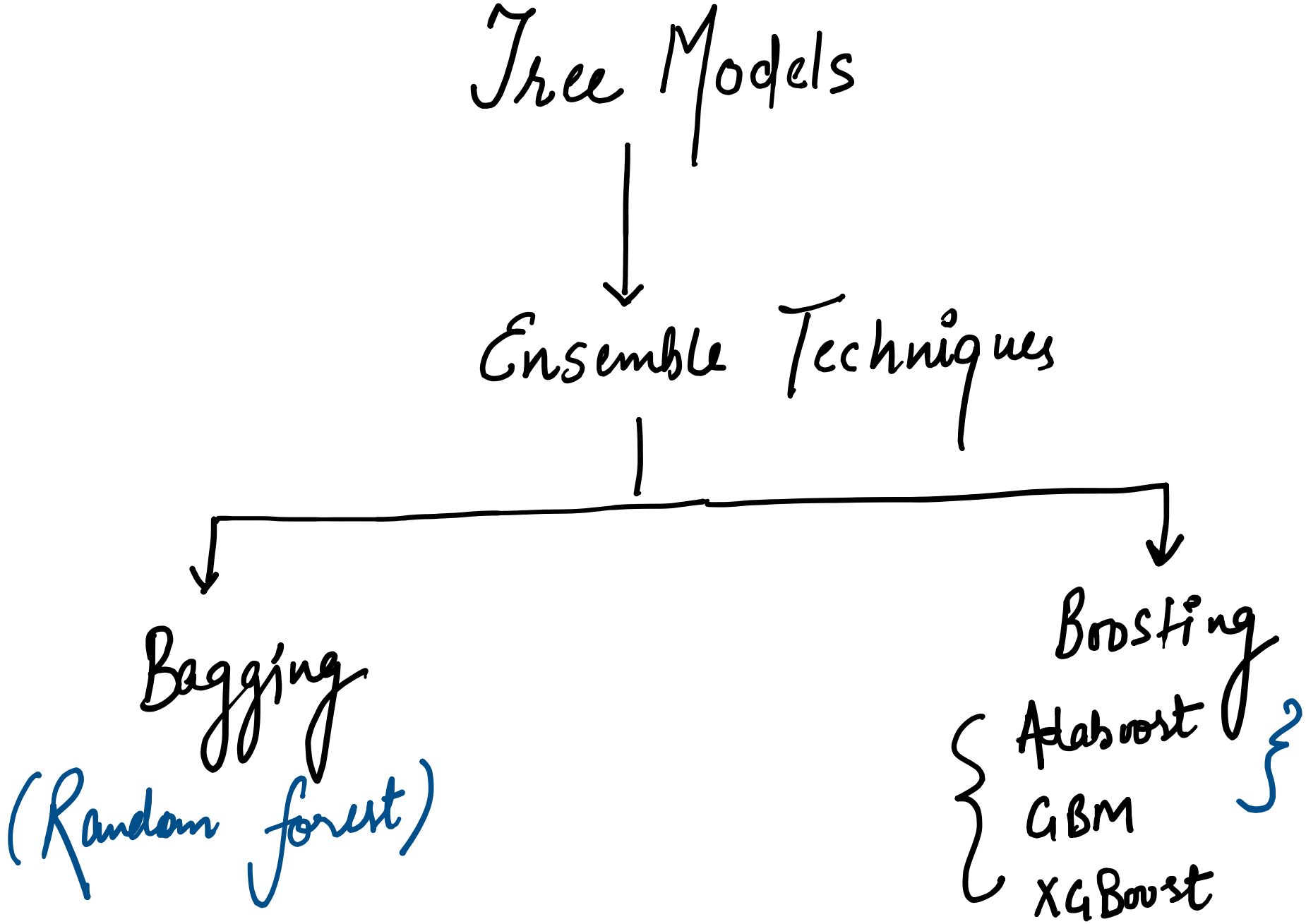
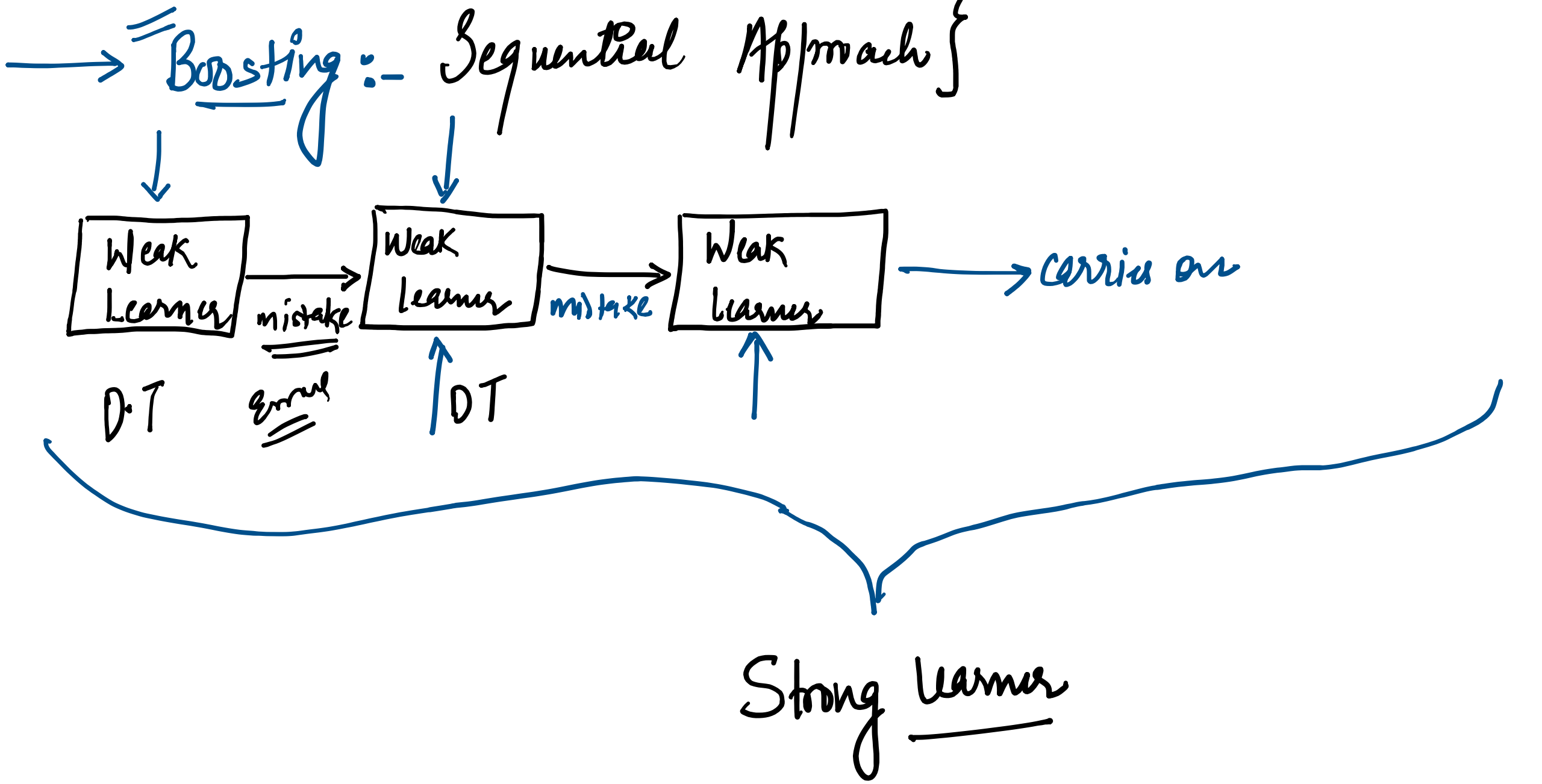
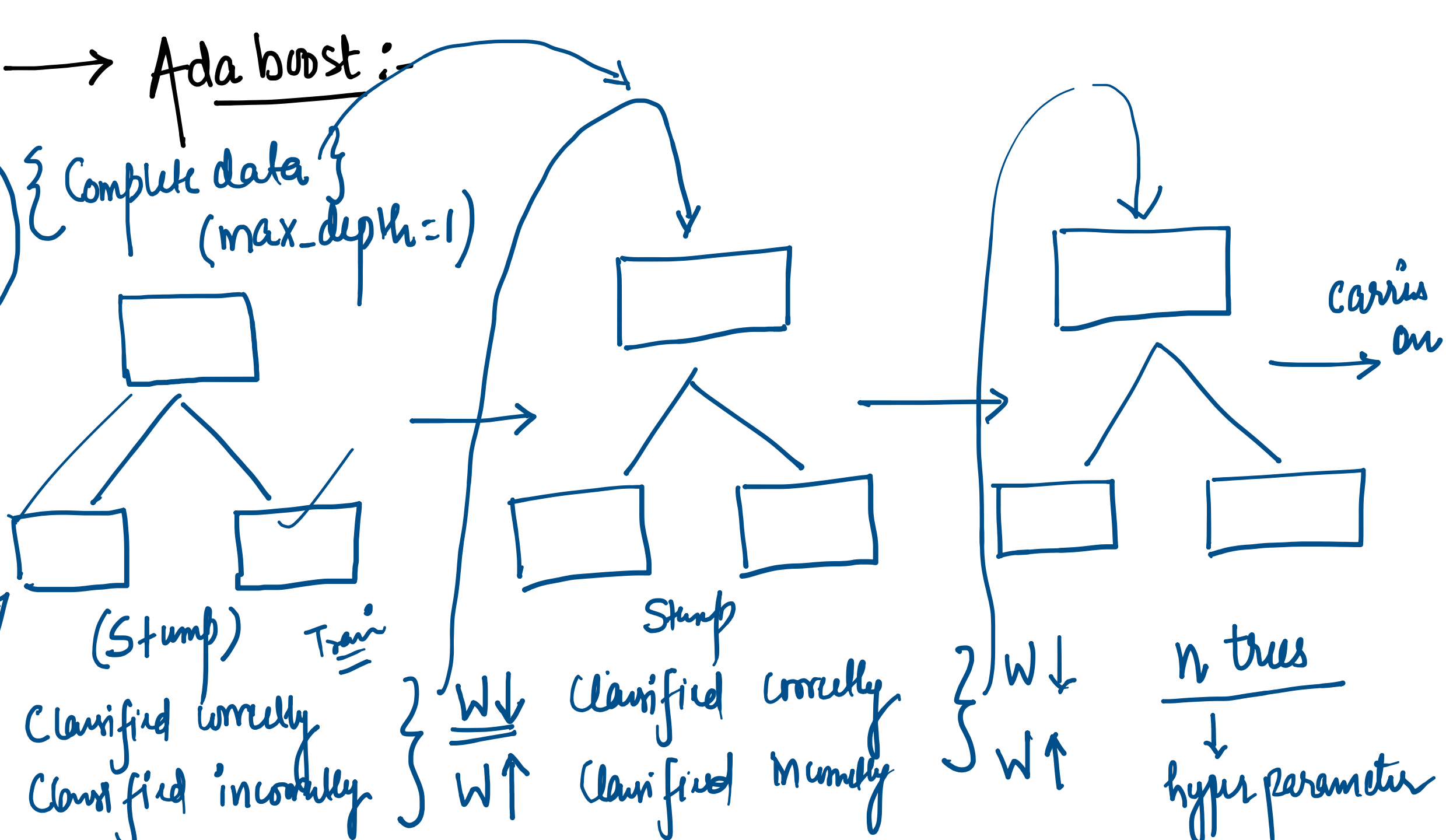
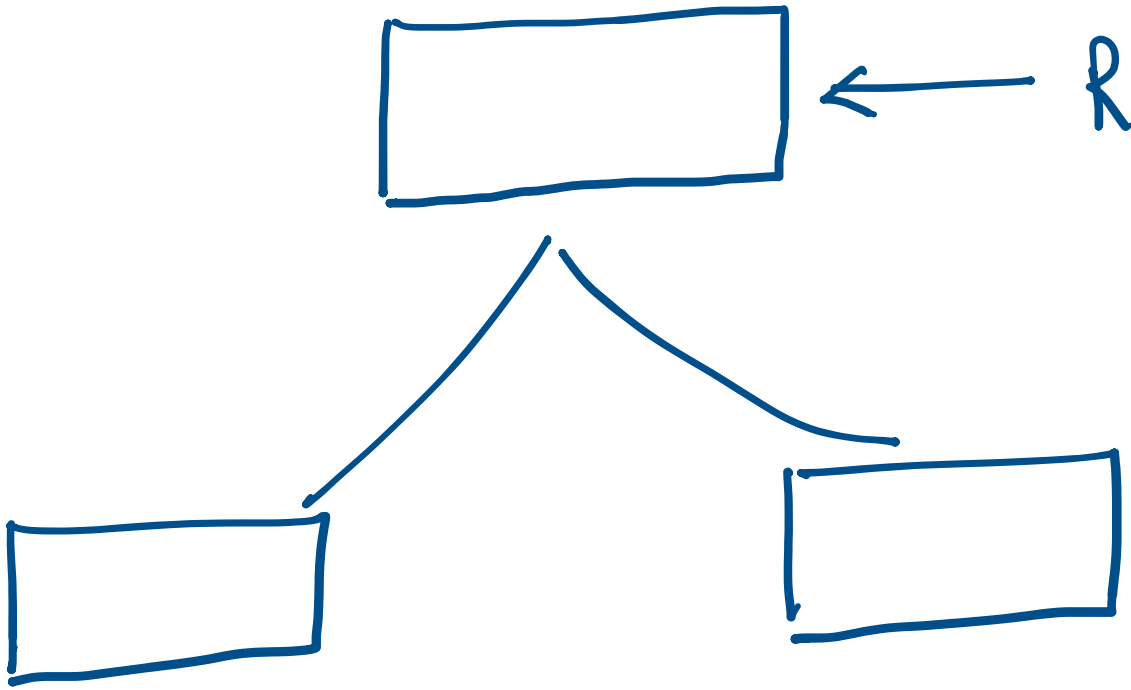

Tree Models
Ensemble Techniques
Bagging
(Random forest)
Boosting
Adaboost
GBM
XGBoost

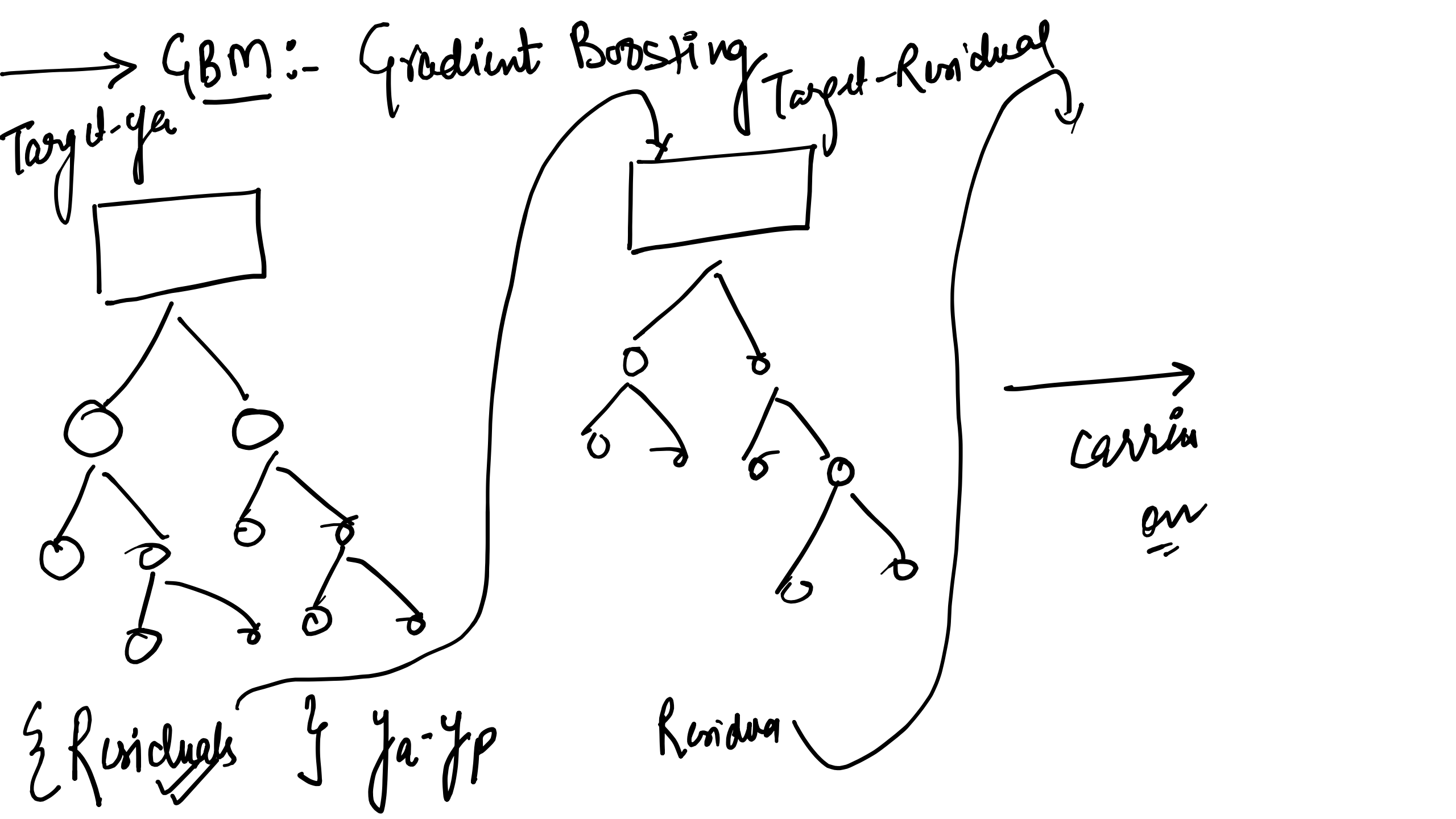

Boosting :- Sequential Approach
Weak Learner
mistake
Weak learner
mistake
Weak learner
carries on
DT
error
DT
Strong learner

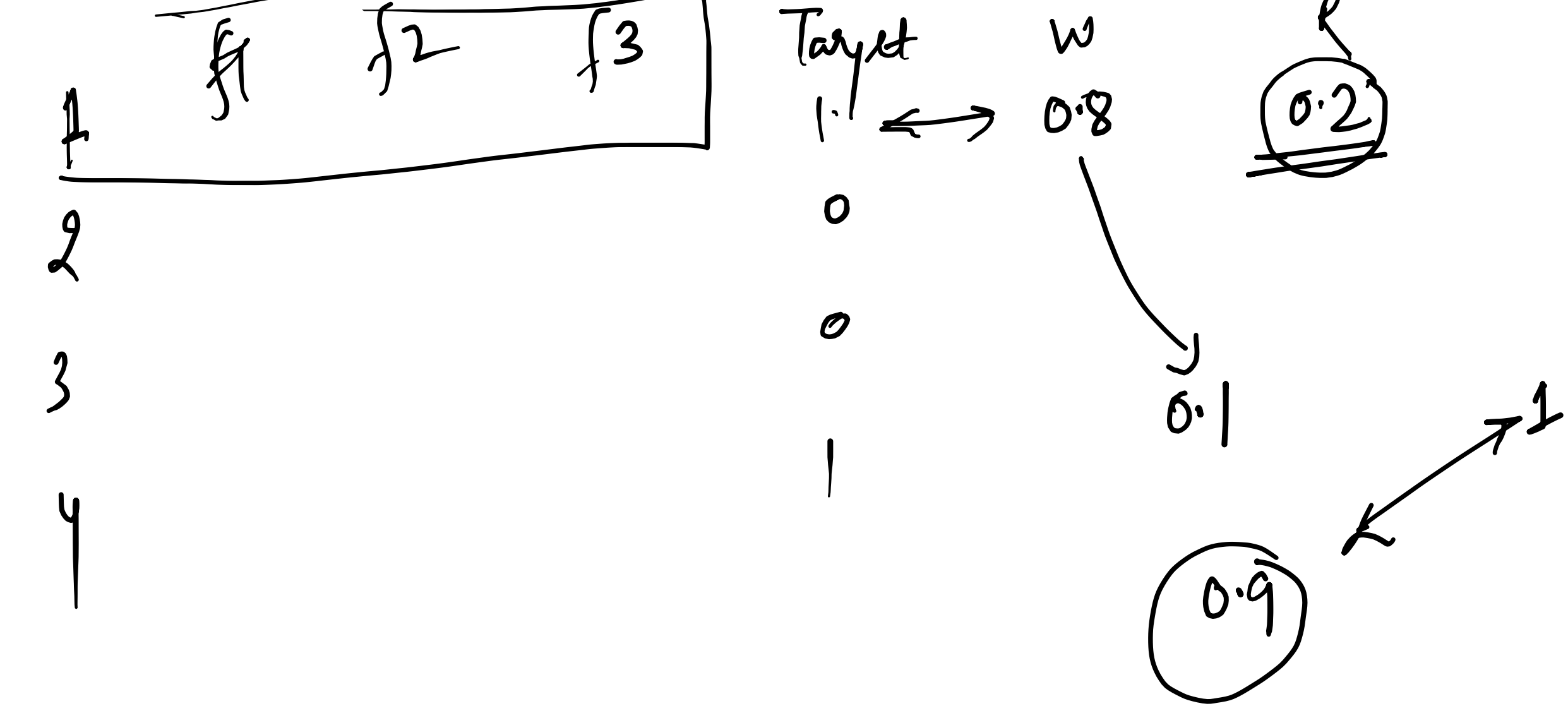
→ Ada boost :-

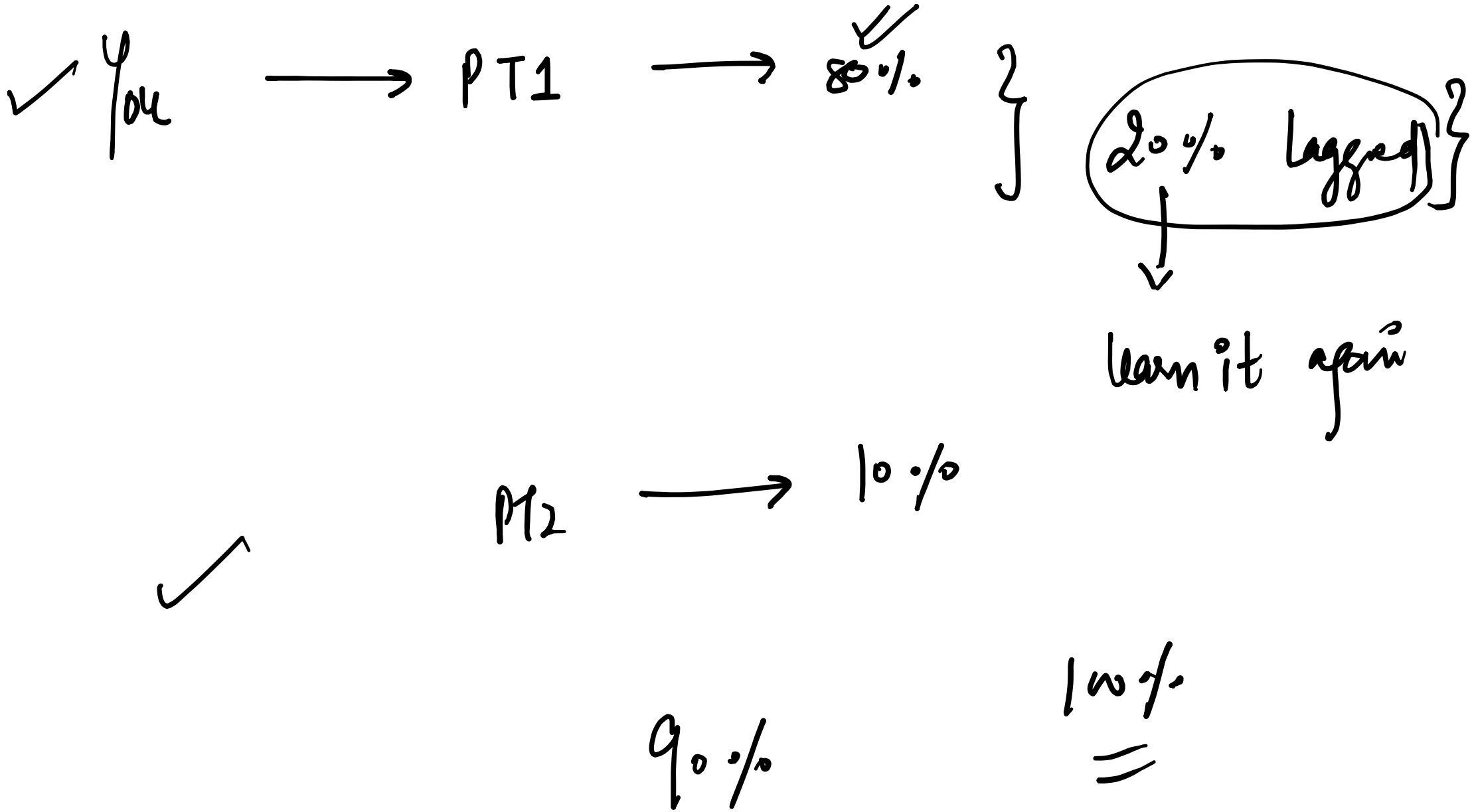

Complete data
(max_depth=1)
(Stump)
Train
Stump
carries on
Classified correctly
Classified incorrectly
W↓
W↑
Classified correctly
Classified incorrectly
W↓
W↑
n trees
hyper parameter



Decision Stump (D.T with max depth 1)


GBM:- Gradient Boosting
Target-ya
Target-Residual
Carrin on
Residuals
ya-yp
Residua


f1
f2
f3
1
2
3
4
Target
w
1
0.8
0.2
0
0
0.1
1
1
0.9


You
PT1
80%
20% lagged
learn it again
PT2
10%
90%
100%