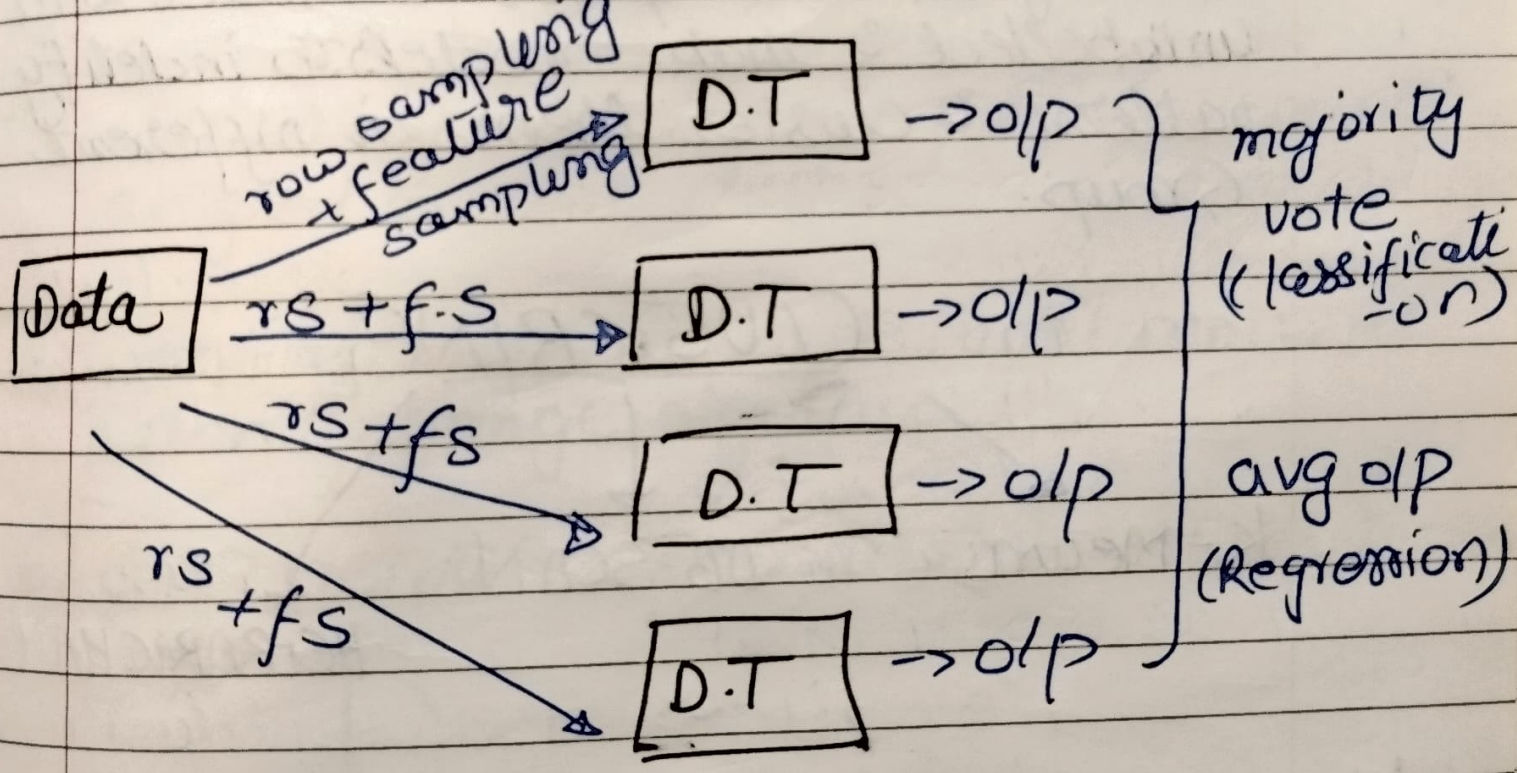
RANDOM FOREST

<> Row Sampling + Feature Sampling



---> We provide every decision tree with different & different features

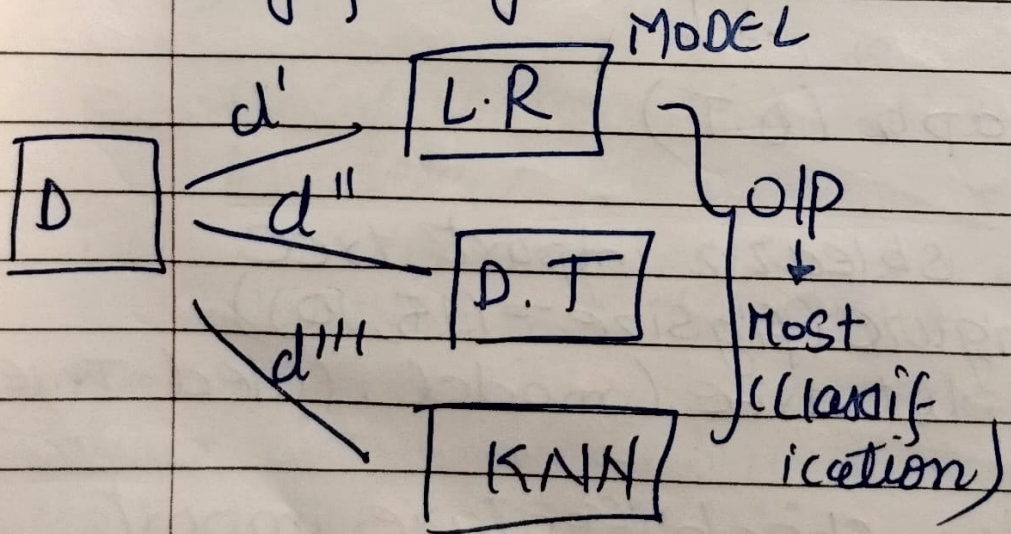
★ Random forest reduces overfitting problem in D.T.

★ Normalization not Required

ENSEMBLE TECHNIQUE

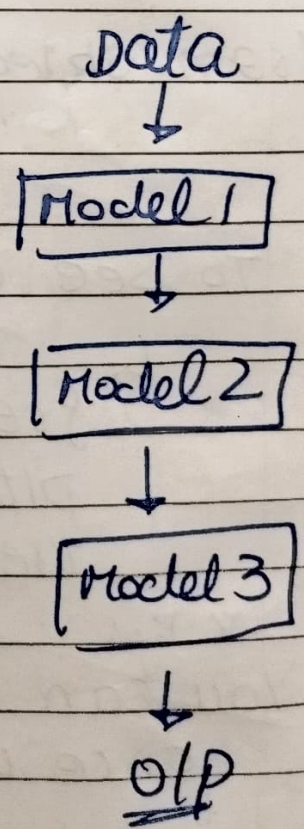
BAGGING

In Bagging, sample (different) of data is fed to different model and the output is taken as most occuring o/p for classification & average for regression



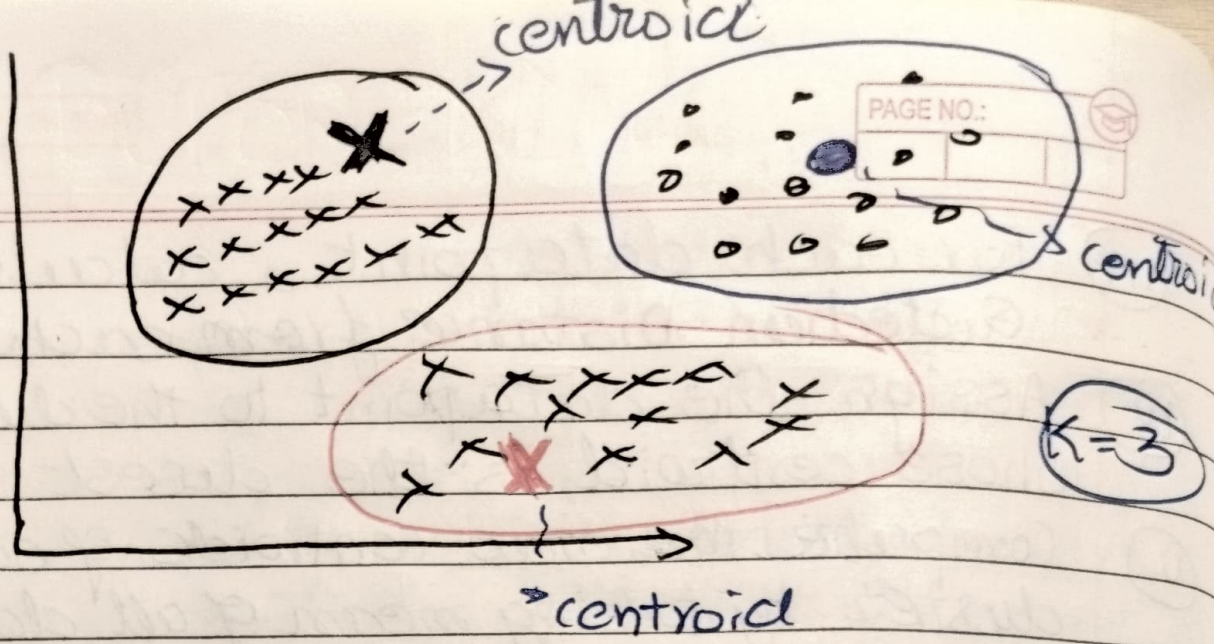
BOOSTING (SEQUENTIAL)

Sequential Combination of Model



⇒ BAGGING ⇒ RANDOM FOREST

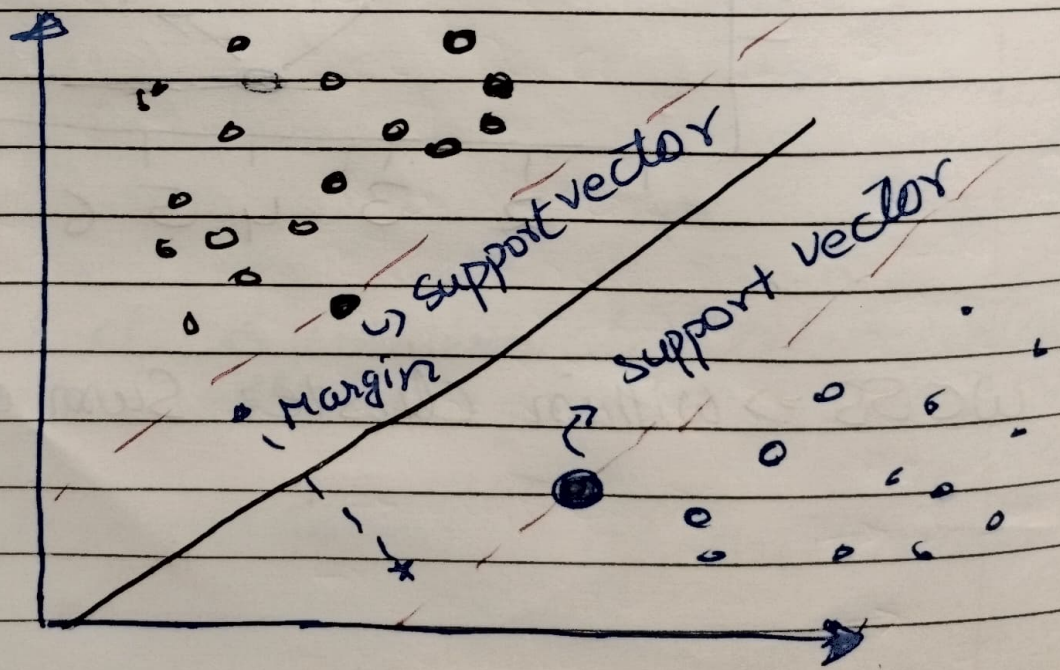
⇒ BOOSTING ⇒ AdaBoost, XGBoost, Neural Network



SVM (Classification & Regression)

↳ Uses HyperPlane for Detection (Classifying)

↳ Loss function => Hinge Loss (Classification)
=> Epsilon-Insensitive (Regression) loss



---> SVM can separate Linearly seperable data

★ We can separate Non-Linear data using Kernel Trick

KERNEL TRICK
↳ Kernel map the data into higher Dimension (like 2D → 3D) where the data become linear seperable

Kernel Type
↳ (i) Linear
(ii) Polynomical
(iii) RBF.