

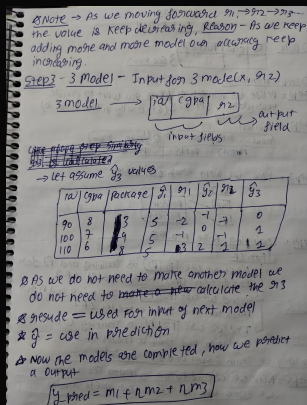
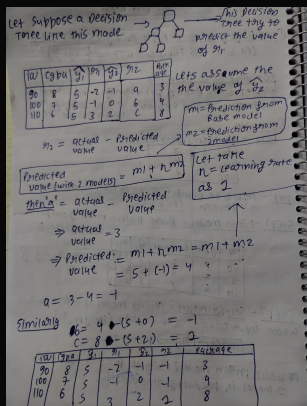
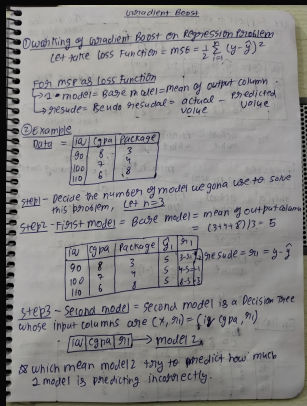
Gradient Boosting

Basics

video ↗
Sequential stage wise addition

Gradient boosting uses the Gradient (loss) of model as a input to the its next model and it goes on.

Regression core intuition



from sklearn.ensemble import
GradientBoostingRegressor

Regression code

gb_reg =
GradientBoostingRegressor(n_estimators=100, learning_rate=0.1, max_depth=3, random_state=42)

gb_reg.fit(X_train, y_train)

Adaboost vs gradient boost

Adaboost

here we use decision stumps which have max depth of 1

we assign a different weight to each model

gradient boost

here we use decision trees which have max depth in between (8-32)

we assign a single learning rate for each model

Classification

video ↗

loss function

log loss