

Ensemble method \Rightarrow group of algo, combination of algo

Lnreq
luggreq
SVM
DT
RF

- ① Bagging \leftarrow Random forest-
- ② Boosting \leftarrow Adaboost, GB, XGB
- ③ Stacking

- Bagging

Parallelly we creating
multiple model

- ① Bootstrap \rightarrow Random Sample
with Replacement
- ② Aggregation \rightarrow Voting

Boosting

Sequentially we creating
model

Stacking

In 2 stage

- { ① Base model
- ② meta model

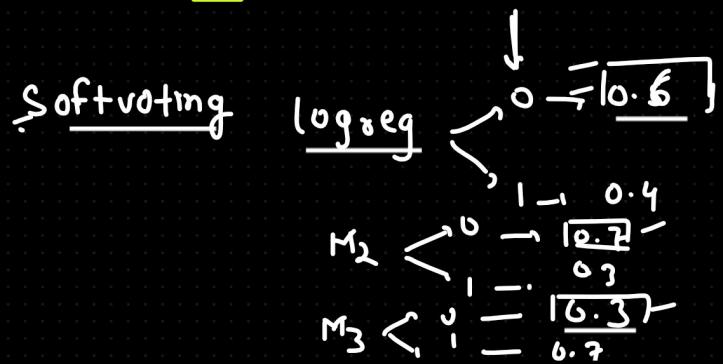
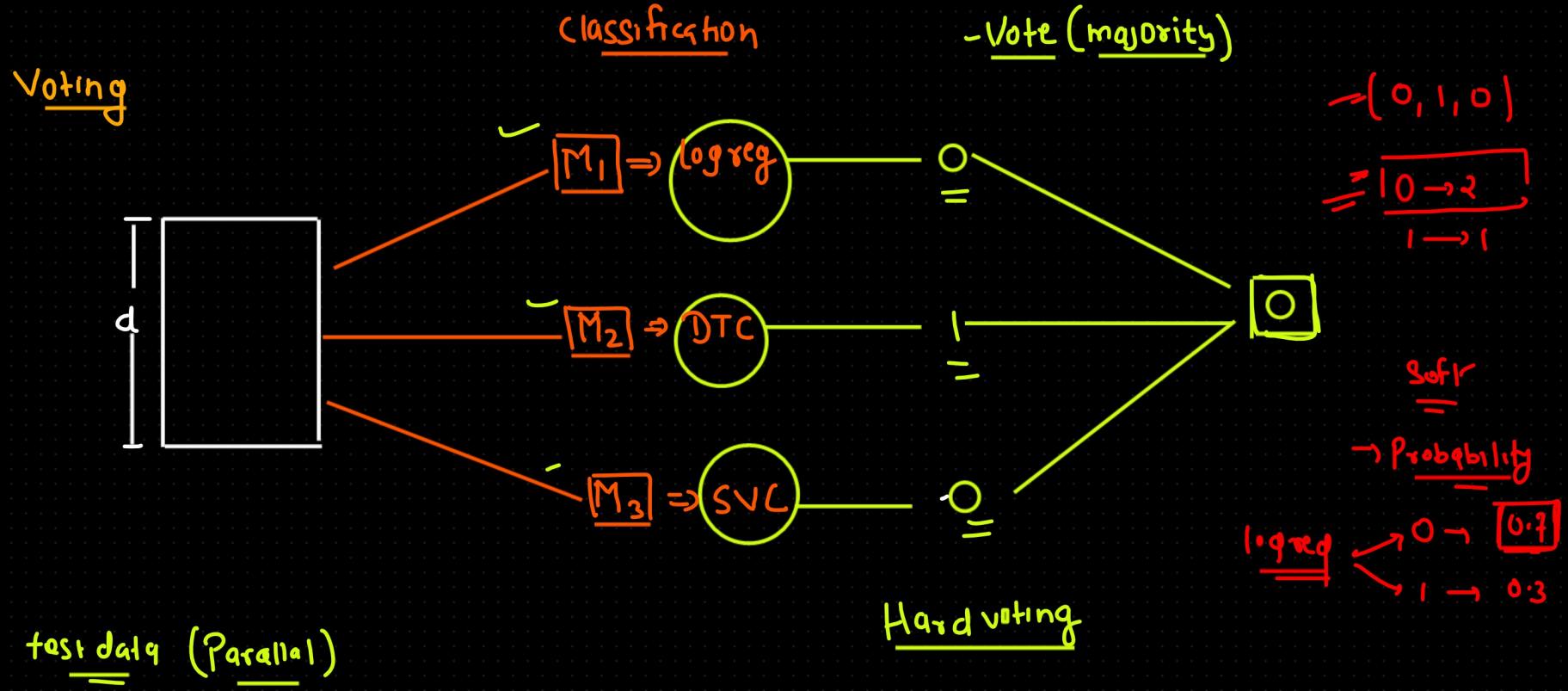
Bagging \Rightarrow homogenous SVM, LR, LQ, DT

Boosting \Rightarrow homogenous DT

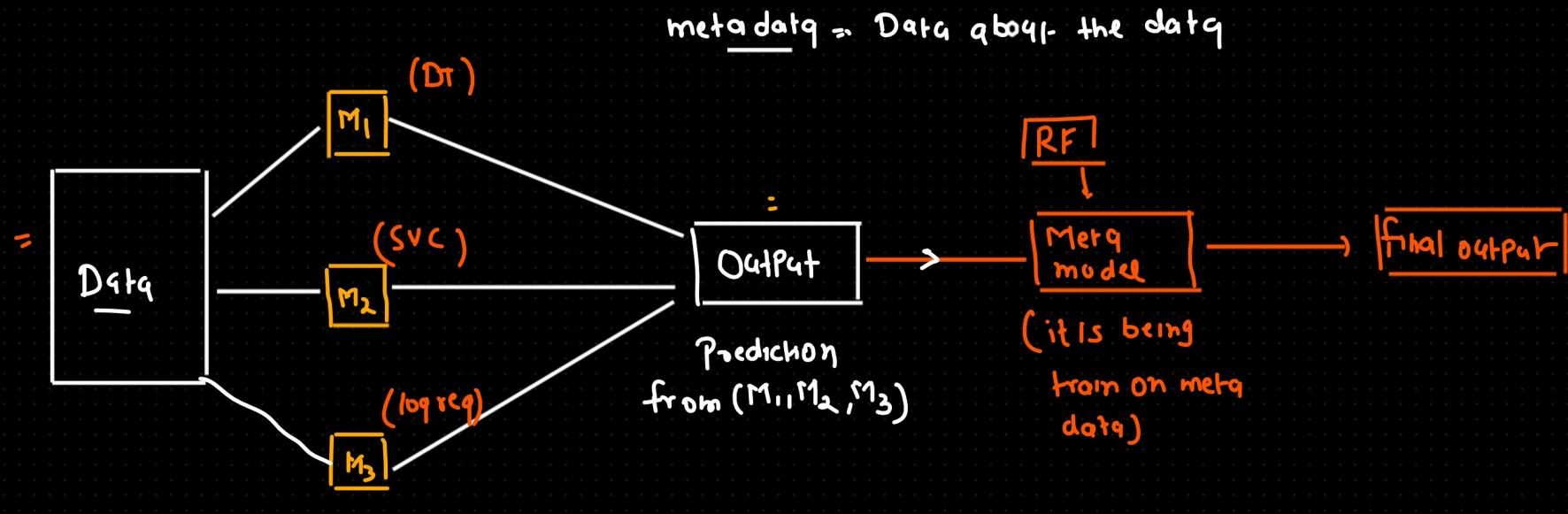
RF

Regression \rightarrow average value

heterogeneous \Rightarrow Stacking



- ① Base level
- ② meta level

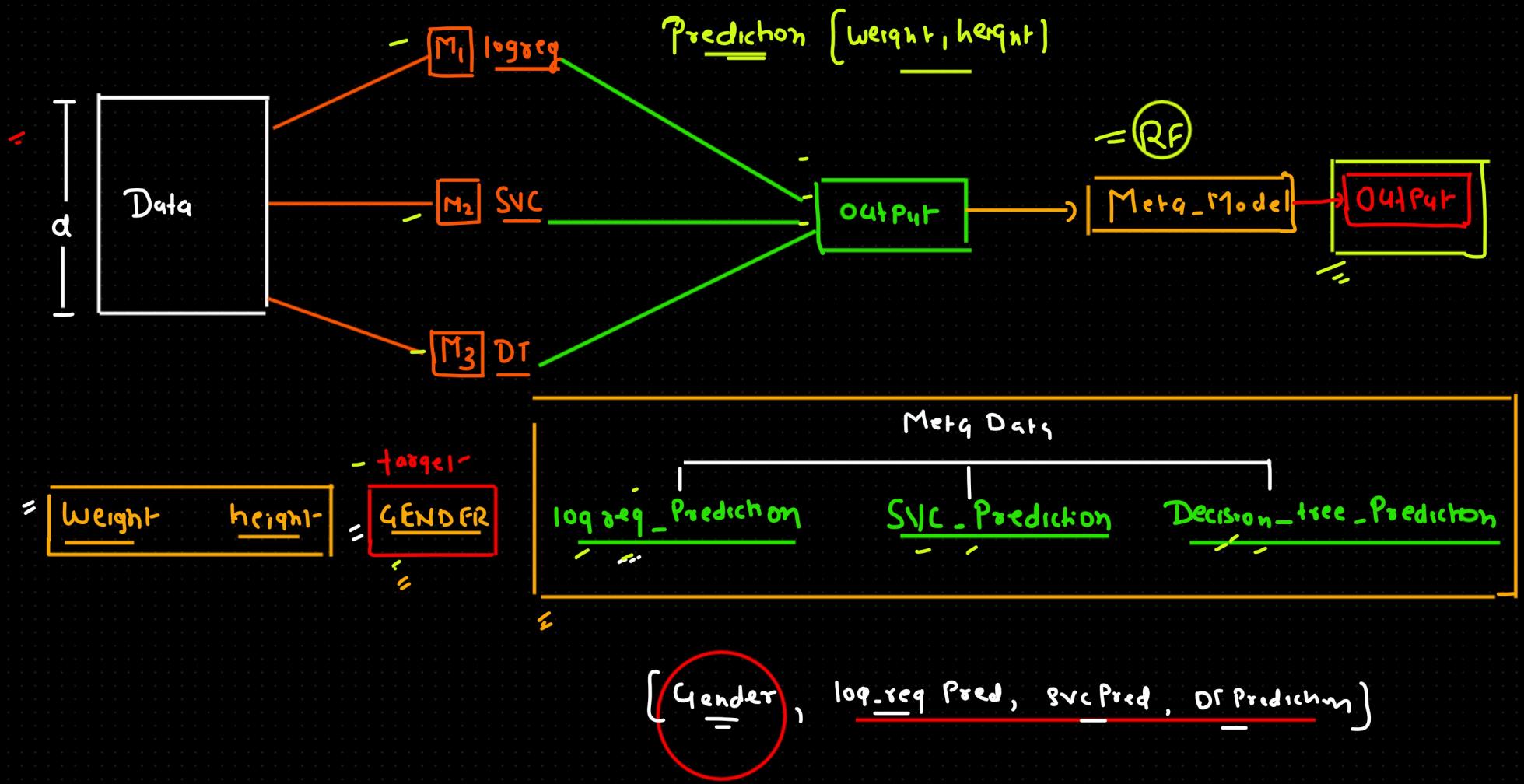


- Base estimator

- metaestimator

Base_estimator

Meta-estimator



Weight - height Gender

10	150	M → 0
20	160	F → 1
30	170	M
40	180	F
50	190	M

→ Stacking

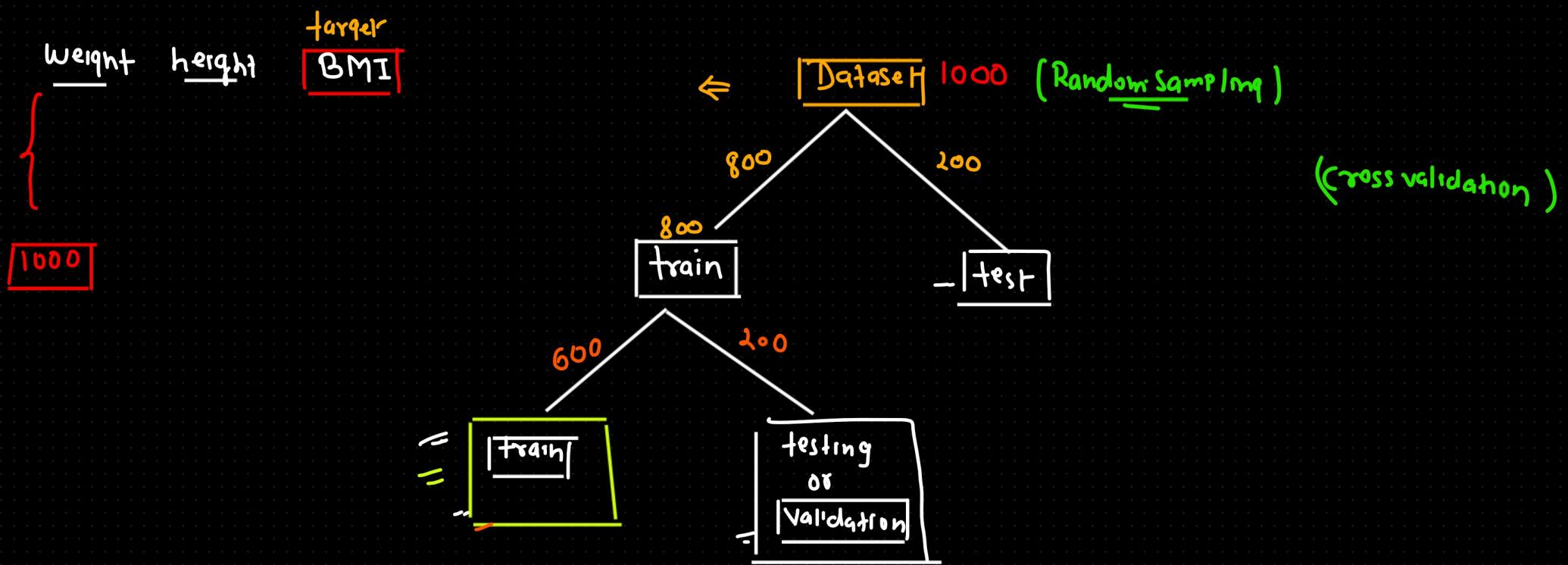
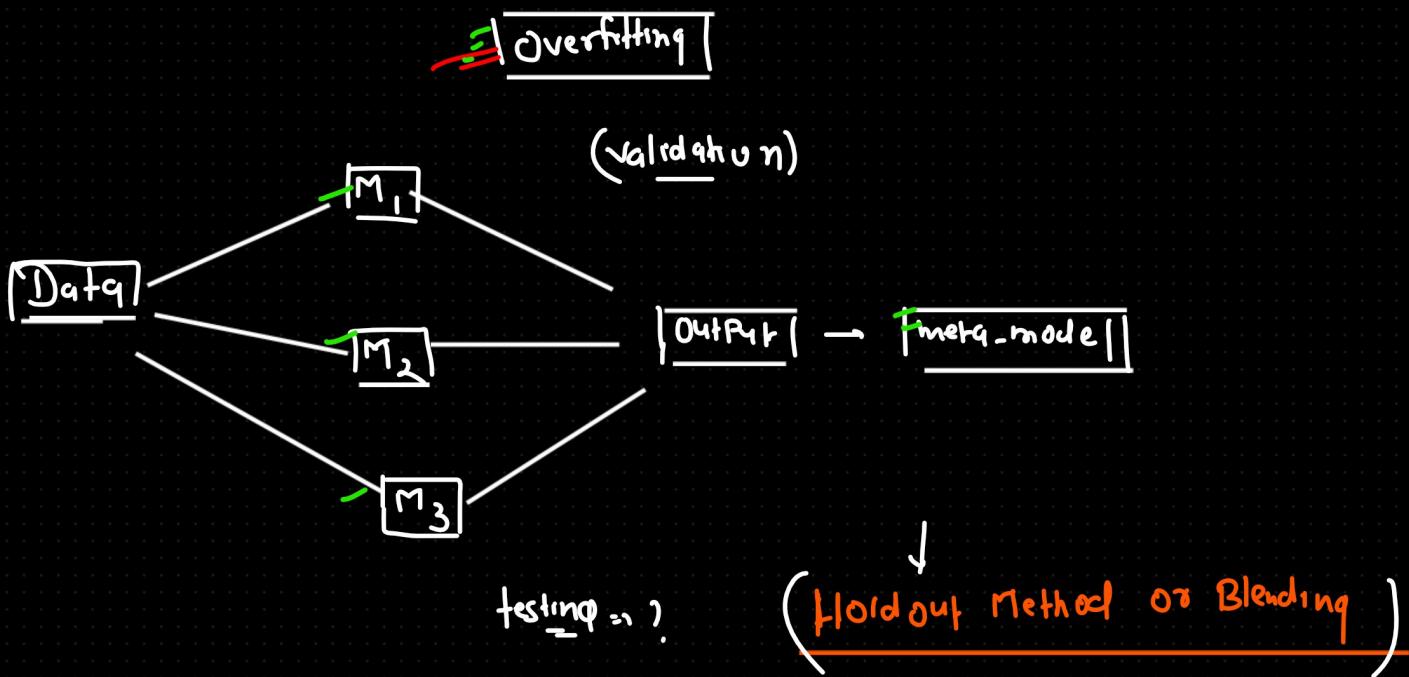
	<u>log req_Pred</u>	<u>Svm_Pred</u>	<u>DT</u>	
0	0	0	0	0
0	0	0	1	1
1	1	1	1	1
0	0	0	0	0
1	1	0	1	1

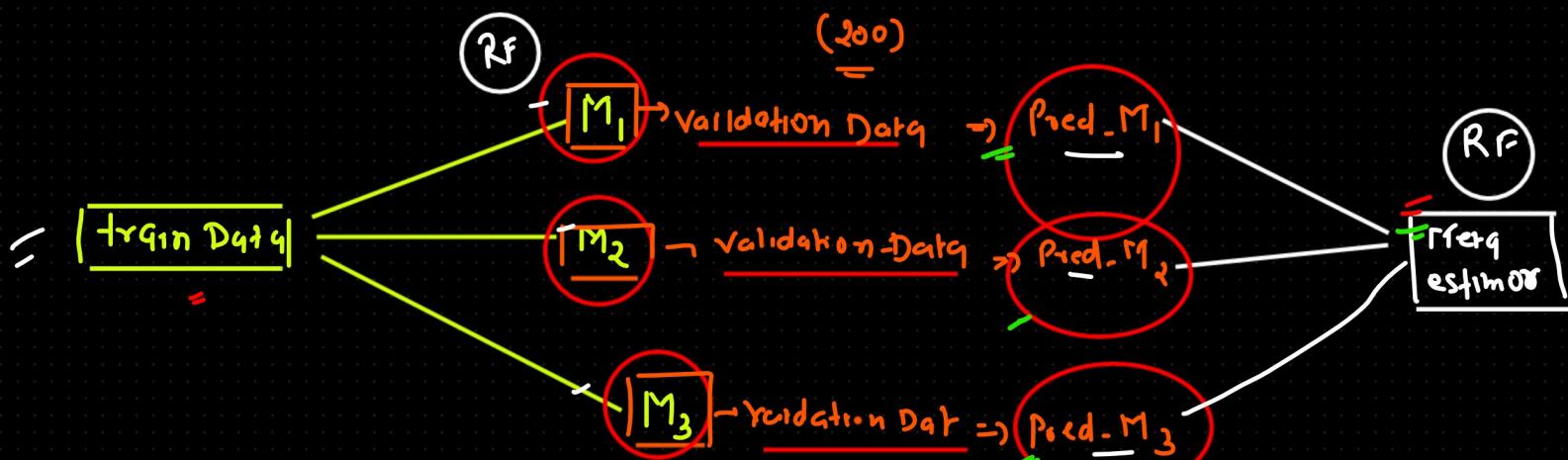
⇒ meta data

Log req_Pred . Svm_Pred DT Gender

0	0	0	m
0	0	1	F
1	1	1	m
0	0	0	F
1	0	1	m

Ridge, SVM, ...
⇒ meta model





- 1 less chance of overfitting
- 2 less chance of Data leakage

