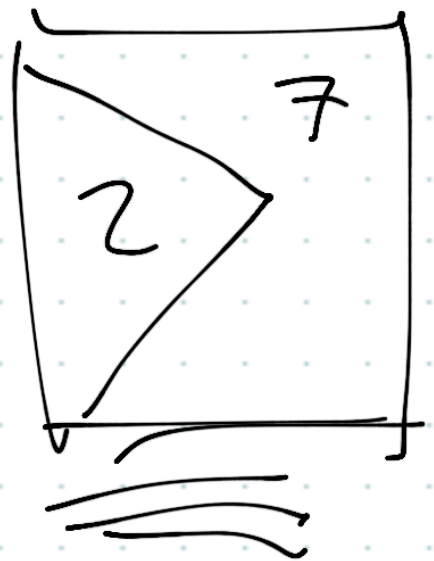
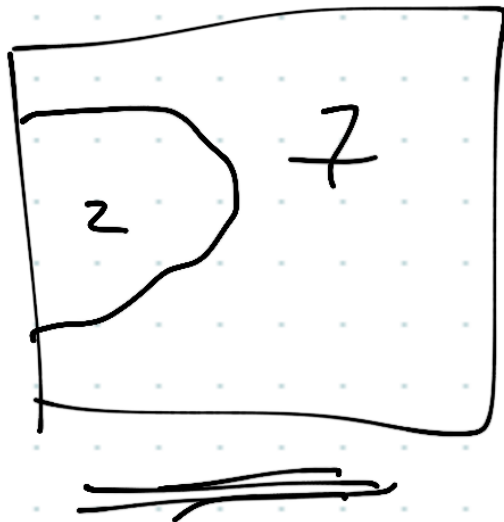







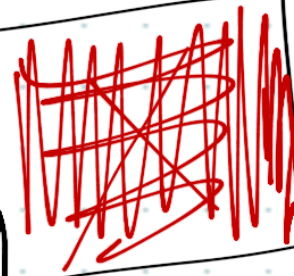



# TOPICS:

- Confusion Matrix (IL)
- QDA - class. rule.
- ROC curve ✓
- Smoothing
- CV
- 'train()' function.



		<u>Truth</u>		
		1	2	7
<u>Prediction</u>	1			
	2			
	7			

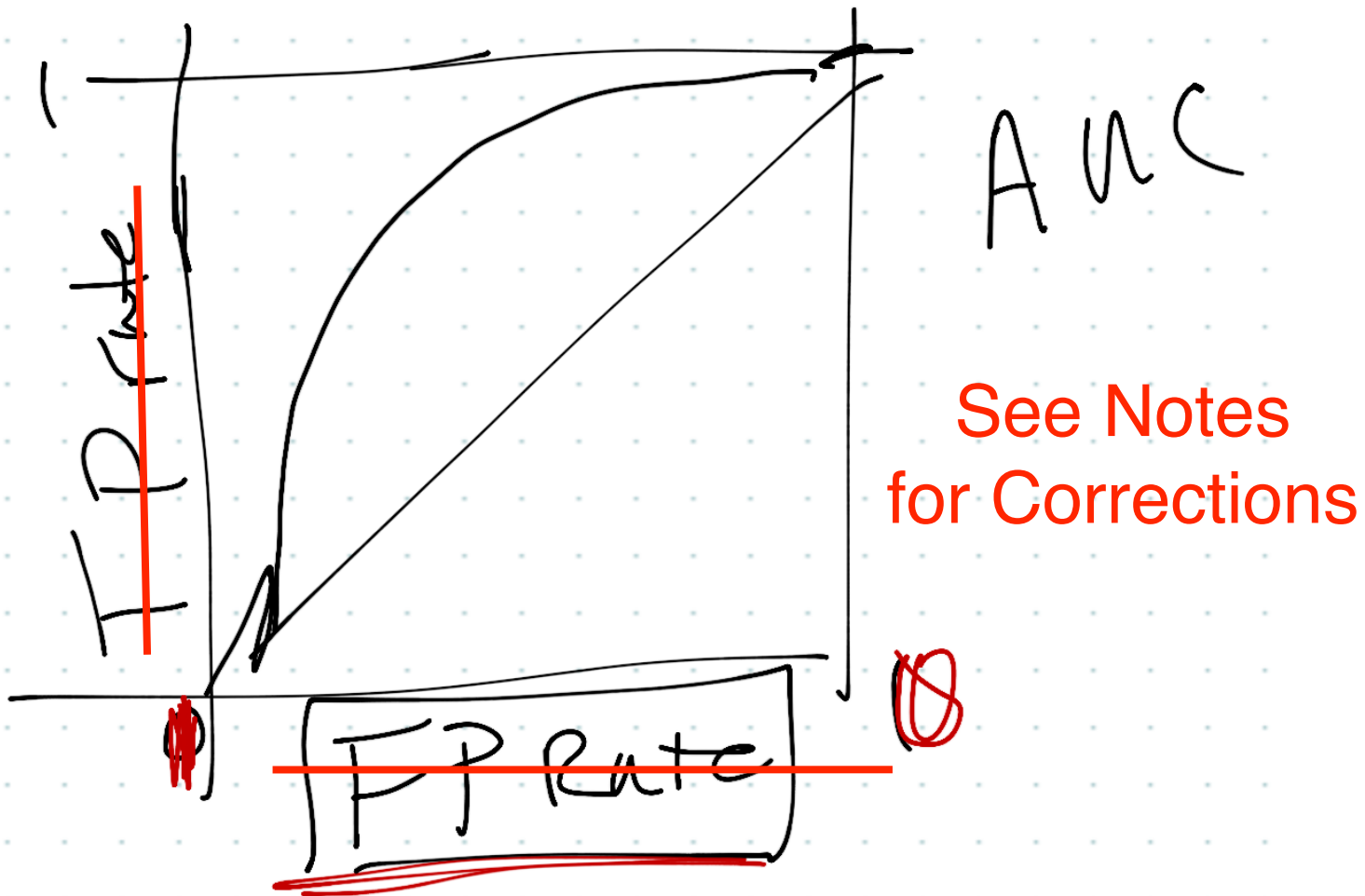
General Case.

Truth  
- +

predict - +	TN	FN
	FP	TP
	N	

$$\frac{TN + TP}{N} = \text{accuracy.}$$

ROC



- False Positive Rate  
=  $1 - \text{Specificity}$
  - True Positive Rate  
= Sensitivity.
-

$$\bullet \text{ FP Rate} = \frac{\text{FP}}{\text{FP} + \text{TP}}$$

$$\bullet \text{ Specificity} = \frac{\text{TN}}{\text{FP} + \text{TN}}$$

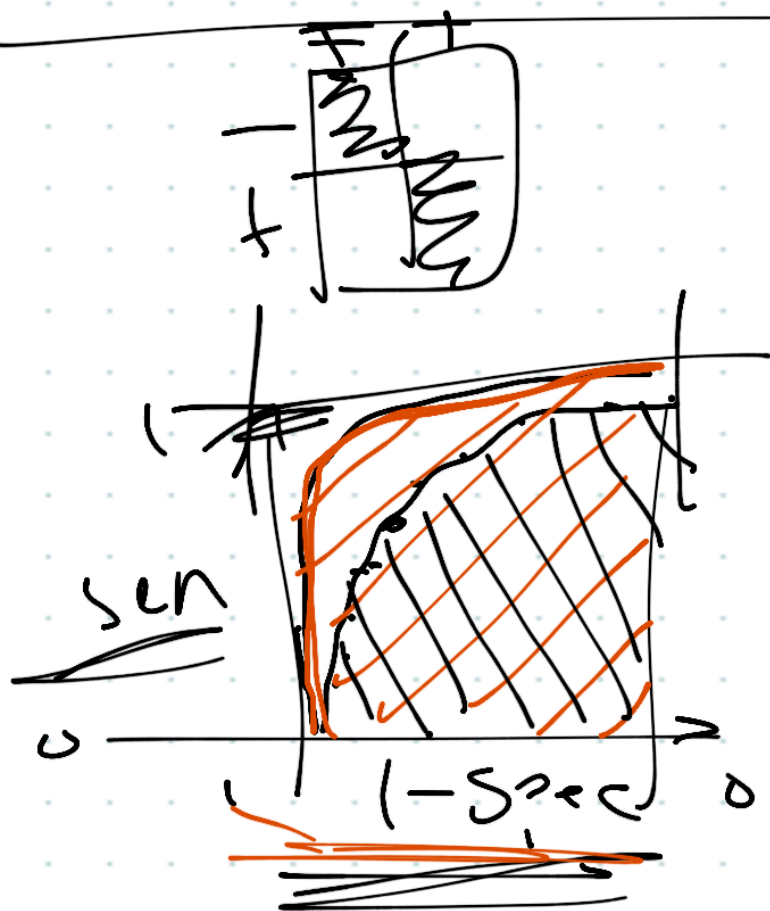
Relative

truth  $y \in \{0, 1\}$

pred  $\hat{y} \in (0, 1)$

ex.  $\hat{y} = 0.3$

Cut off rule:  $\hat{y} < \underline{0.5}$



AUC

