(07) Precision, Recall And Confusion Matrix:

Confusion Matrix

n=165	Predicted: No	Predicted: YES	
Actual: No	TN = 50	FP = 10	60
Actual: YES	FN = 5	TP = 100	105
	55	110	

- Actual No (-ve) = TN (True Negative) + FP (False positive)

  60 = 50 + 10

- Actual Yes (+ve) = FN (False Negative) + TP (True positive)

  105 = 5 + 100

- Accuracy = $\frac{TP + TN}{\text{Total examples}}$

  = $\frac{100 + 50}{165}$ = $\frac{150}{165}$

- Precision: $\frac{TP}{TP + FP} = \frac{100}{110}$

  = % of examples really true

- Recall = $\frac{TP}{TP + FN} = \frac{100}{105}$

- F-measure: 0 – 1 (Range)

  = Harmonic Mean of Precision & Recall

  $= \frac{2 * TP}{2 * TP + FP + FN}$

- Diagonal value higher ⇒ prediction more accurate (TN + TP)