TP: obs. is positive & predicted positive
FN : Obs. is positive & predicated Negative
TN : obs. is Negative & predcted to Negative
FP : Obs. Negative & predicted positive.

$$\begin{array}{c} pred - poisitive - P \\ Ne \qquad - FN \end{array}$$

same : - True
: - False

x — o *

1) $Accuracy = \dfrac{TP + TN}{TP + TN + FP + FN}$

Actual

2) $Recall = \dfrac{TP}{TP + FN}$

3) $precision = \dfrac{TP}{TP + FP}$

4) $specificity = \dfrac{TN}{TN + FP}$

Predi:	Animal T	Non animal F
Animal T	15 TP	3 FP
Non animal F	1 FN	12 TN

→ ~~Animal~~ Non animal

① $Accuracy = \dfrac{TP + TN}{TP + TN + FP + FN}$

$= \dfrac{15 + 12}{15 + 12 + 3 + 1}$

$= \dfrac{27}{31} = \underline{0.8709}$

② $Recall = \dfrac{TP}{TP + FN} = \dfrac{15}{15 + 1} = \dfrac{15}{16} = \underline{0.9375}$

③ $precision = \dfrac{TP}{TP + FP} = \dfrac{15}{15 + 3} = \dfrac{15}{18} = \underline{0.833}$

④ $specificity = \dfrac{TN}{TN + FP} = \dfrac{12}{12 + 3} = \dfrac{12}{15} = \underline{0.8}$

②

	Actual class	
	cat T	Non cat F
Predicted Cal T	10 TP	3 FP
Non cat F	4 FN	11 TN

① Accuracy $= \dfrac{TP + TN}{TP + TN + FP + FN}$

$\qquad = \dfrac{10 + 11}{10 + 11 + 3 + 4} = \dfrac{21}{28} = 0.75$

② Recall $= \dfrac{TP}{TP + FN} = \dfrac{10}{10 + 4} = \dfrac{10}{14} = 0.714$

③ Precision $= \dfrac{TP}{TP + FP} = \dfrac{10}{10 + 3} = \dfrac{10}{13} = 0.769$

④ Specificity $= \dfrac{TN}{TN + FP} = \dfrac{11}{11 + 3} = \dfrac{11}{14} = \underline{0.785}$

$\times \!-\!\! o \!-\!\! \times$

4.8
0.51
0.533
0.48