

	X_1	
$y=0$	0	1
$y=0$	0,6	0,4
$y=1$	0,4	0,6

	X_2	
$y=0$	0	1
$y=0$	0,4	0,6
$y=1$	0	1

$$\Pr(Y=1|1,1) = ?$$

$$\Pr(Y=1|1,1) = \frac{0,5 \cdot 0,6 \cdot 1}{0,72 + 0,3} = \frac{0,3}{0,92} \approx \underline{\underline{0,3216}}^{0,71}$$

$$\Pr(Y=0|1,1) = \frac{0,5 \cdot 0,4 \cdot 0,6}{0,72 + 0,3} = \frac{0,2}{0,92} \approx \underline{\underline{0,2186}}^{0,2186}$$

i	1	2	3	4	5	6	7	8	9
y_{obs}	0	0	0	0	0	1	1	1	1
$g(x'')$	0,75	0,75	0,11	0,23	0,08	0,1	0,66	0,82	0,5

$$I(g(x'') \geq 0) = 1 \quad 0 \quad 0 \quad 0 \quad 0 \quad 0 \quad 1 \quad 1 \quad 1$$

Matrix X

	0	1
0	TN 4	FN 1
1	FP 1	TP 3

$$FPR = \frac{FP}{TN+FP} = \frac{1}{4+1} = \frac{1}{5}$$

$$FNR = \frac{FN}{FN+TP} = \frac{1}{1+3} = \frac{1}{4}$$

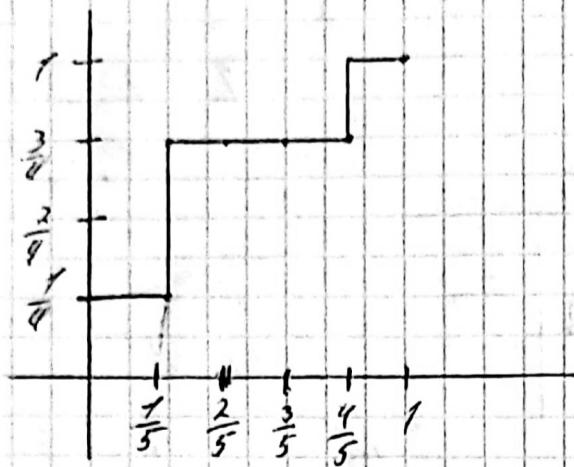
$$TNR = \frac{TN}{TN+FP} = \frac{4}{4+1} = \frac{4}{5}$$

$$TPR = \frac{TP}{FN+TP} = \frac{3}{1+3} = \frac{3}{4}$$

$$PPV = \frac{TP}{FP+TP} = \frac{3}{1+3} = \frac{3}{4} \quad ACC = \frac{TP+TN}{P+N} = \frac{7}{9} = \frac{7}{9}$$

$$err = 1 - ACC = \frac{2}{9}$$

$$F1 = \frac{2 \cdot PPV \cdot TPR}{PPV + TPR} = \frac{1 \cdot \frac{3}{4} \cdot \frac{3}{4}}{\frac{3}{4} + \frac{3}{4}} = \frac{3}{4}$$



$$AUC = \frac{1}{10} + \frac{9}{10} + \frac{1}{5} = \frac{14}{10} = 1,4 = 1,4$$