Задание (42)

i	1	2	3	4	5	6	7	8	9
$y^{(i)}$	0	0	0	0	0	1	1	1	1
$g(x^{(i)})$	0,75	0,15	0,11	0,23	0,09	0,10	0,66	0,82	0,5
$f(x)=I(g(x)\geq 0{,}5)$	1	0	0	0	0	0	1	1	1

Conf. matrix

Predict. class \ True class	1	0
1	3 (TP)	1 (FP)
0	1 (FN)	4 (TN)

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

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

$$TNR = \frac{TN}{N} = \frac{4}{5}$$

$$TPR = 1 - FNR = \frac{3}{4}$$

$$PPV = \frac{TP}{FP+TP} = \frac{3}{4}$$

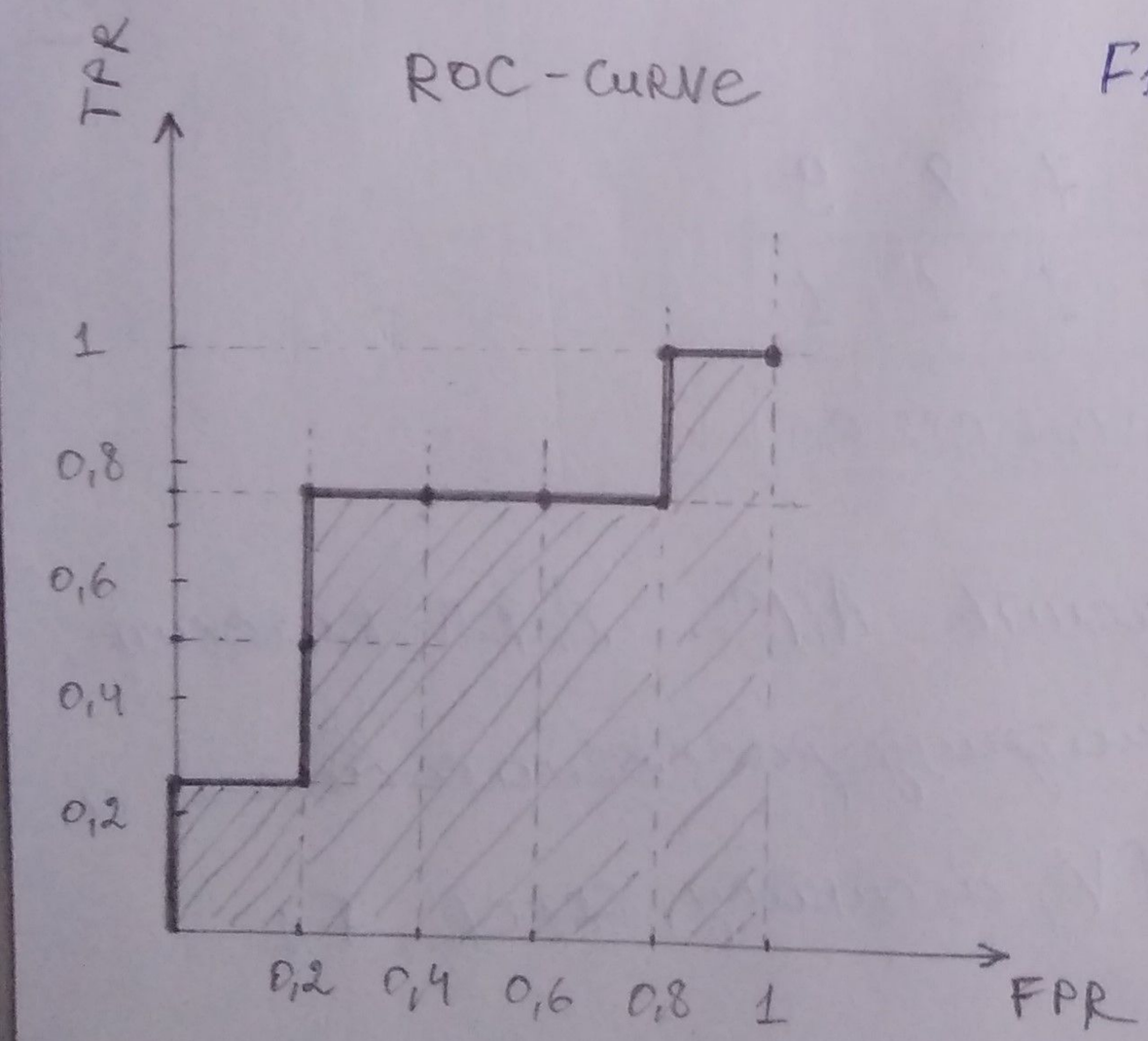
$$accuracy = \frac{TP+TN}{P+N} = \frac{7}{9}$$

$$ERROR = 1 - acc = \frac{2}{9}$$

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

$$(=) \frac{3}{8_2} \cdot \frac{4}{6_2} = \frac{3}{4}$$

ROC-CURVE



AUC - площадь под ROC-кривой

$$AUC = 0{,}2 \cdot 0{,}25 + 0{,}6 \cdot 0{,}75 + 0{,}2 (=)$$

$$(=) 0{,}05 + 0{,}45 + 0{,}2 = 0{,}7$$