

Нечеткие множества

Определить результат действий над нечеткими множествами.

Задача 10.1

$$\begin{aligned}A &= 0.6/a + 0.2/b + 0.6/c + 0.7/d; \\B &= 0.7/a + 0.1/b + 0.9/c + 0.2/d; \\C &= 0.6/a + 0.6/b + 0.1/c + 0.2/d; \\X &= \bar{A} \cap B, \quad Y = \text{CON}(A) \cup C \\X \cap Y &=?\end{aligned}$$

10.2

Задача 10.2

$$\begin{aligned}A &= 0.4/a + 0.6/b + 0.2/c + 0.8/d; \\B &= 0.8/a + 0.4/b + 0.7/c + 0.6/d; \\C &= 0.4/a + 0.2/b + 0.4/c + 0.6/d; \\X &= \bar{A} \cap B, \quad Y = \text{CON}(A \hat{+} C), \\X \cup Y &=?\end{aligned}$$

10.2

Задача 10.3

$$\begin{aligned}A &= 0.1/a + 0.4/b + 0.8/c + 0.3/d; \\B &= 0.3/a + 0.7/b + 0.4/c + 0.3/d; \\C &= 0.1/a + 0.8/b + 0.7/c + 0.3/d; \\X &= A \cup \bar{B}, \quad Y = \text{CON}(A \hat{+} C), \\X \cap Y &=?\end{aligned}$$

10.2

Задача 10.4

$$\begin{aligned}A &= 0.6/a + 0.6/b + 0.3/c + 0.1/d; \\B &= 0.1/a + 0.2/b + 0.7/c + 0.1/d; \\C &= 0.6/a + 0.3/b + 0.2/c + 0.1/d; \\X &= \bar{A} \cap B, \quad Y = \text{CON}(A \hat{+} C), \\X \cup Y &=?\end{aligned}$$

10.2

Задача 10.5

$$\begin{aligned}A &= 0.7/a + 0.6/b + 0.4/c + 0.6/d; \\B &= 0.6/a + 0.9/b + 0.1/c + 0.3/d; \\C &= 0.7/a + 0.4/b + 0.9/c + 0.3/d; \\X &= \bar{A} \cup B, \quad Y = \text{CON}(A \hat{+} C), \\X \cap Y &=?\end{aligned}$$

10.2

Задача 10.6

$$\begin{aligned}A &= 0.3/a + 0.7/b + 0.3/c + 0.7/d; \\B &= 0.7/a + 0.4/b + 0.6/c + 0.3/d; \\C &= 0.3/a + 0.3/b + 0.4/c + 0.3/d; \\X &= A \cup \bar{B}, \quad Y = \text{DIL}(CB), \\X \cup Y &=?\end{aligned}$$

10.2

Задача 10.7

$$\begin{aligned}A &= 0.2/a + 0.9/b + 0.4/c + 0.7/d; \\B &= 0.7/a + 0.1/b + 0.4/c + 0.3/d; \\C &= 0.2/a + 0.4/b + 0.1/c + 0.3/d; \\X &= A \cup \bar{B}, \quad Y = \text{DIL}(CB), \\X \cap Y &=?\end{aligned}$$

10.2

Задача 10.8

$$\begin{aligned}A &= 0.3/a + 0.6/b + 0.2/c + 0.8/d; \\B &= 0.8/a + 0.4/b + 0.8/c + 0.2/d; \\C &= 0.3/a + 0.2/b + 0.4/c + 0.2/d; \\X &= A \cup \bar{B}, \quad Y = \text{CON}(A \hat{+} C), \\X \cup Y &=?\end{aligned}$$

10.2

Задача 10.9

$$\begin{aligned}A &= 0.9/a + 0.2/b + 0.1/c + 0.7/d; \\B &= 0.7/a + 0.3/b + 0.4/c + 0.7/d; \\C &= 0.9/a + 0.1/b + 0.3/c + 0.7/d; \\X &= \bar{A} \cup B, \quad Y = \text{CON}(A) \cup C \\X \cup Y &=?\end{aligned}$$

10.2

Задача 10.10

$$\begin{aligned}A &= 0.1/a + 0.5/b + 0.3/c + 0.4/d; \\B &= 0.4/a + 0.4/b + 0.4/c + 0.8/d; \\C &= 0.1/a + 0.3/b + 0.4/c + 0.8/d; \\X &= A \cup \bar{B}, \quad Y = \text{CON}(A \hat{+} C), \\X \cup Y &=?\end{aligned}$$

10.2

Задача 10.11

$$\begin{aligned}A &= 0.3/a + 0.2/b + 0.9/c + 0.7/d; \\B &= 0.7/a + 0.7/b + 0.3/c + 0.9/d; \\C &= 0.3/a + 0.9/b + 0.7/c + 0.9/d; \\X &= A \cup \bar{B}, \quad Y = \text{CON}(A) \cup C \\X \cap Y &=?\end{aligned}$$

10.2

Задача 10.12

$$\begin{aligned}A &= 0.8/a + 0.4/b + 0.7/c + 0.9/d; \\B &= 0.9/a + 0.6/b + 0.5/c + 0.4/d; \\C &= 0.8/a + 0.7/b + 0.6/c + 0.4/d; \\X &= \bar{A} \cup B, \quad Y = \text{CON}(A \hat{+} C), \\X \cap Y &=?\end{aligned}$$

10.2

Задача 10.13

$$A = 0.9/a + 0.7/b + 0.3/c + 0.1/d;$$

$$B = 0.1/a + 0.1/b + 0.8/c + 0.4/d;$$

$$C = 0.9/a + 0.3/b + 0.1/c + 0.4/d;$$

$$X = \bar{A} \cup B, \quad Y = \text{DIL}(CB),$$

$$X \cup Y = ?$$

10.2

Задача 10.15

$$A = 0.4/a + 0.9/b + 0.3/c + 0.9/d;$$

$$B = 0.9/a + 0.5/b + 0.2/c + 0.2/d;$$

$$C = 0.4/a + 0.3/b + 0.5/c + 0.2/d;$$

$$X = \bar{A} \cap B, \quad Y = \text{DIL}(CB),$$

$$X \cup Y = ?$$

10.2

Задача 10.17

$$A = 0.5/a + 0.1/b + 0.4/c + 0.4/d;$$

$$B = 0.4/a + 0.3/b + 0.3/c + 0.1/d;$$

$$C = 0.5/a + 0.4/b + 0.3/c + 0.1/d;$$

$$X = \bar{A} \cap B, \quad Y = \text{CON}(A) \cup C$$

$$X \cap Y = ?$$

10.2

Задача 10.19

$$A = 0.7/a + 0.2/b + 0.1/c + 0.5/d;$$

$$B = 0.5/a + 0.9/b + 0.6/c + 0.2/d;$$

$$C = 0.7/a + 0.1/b + 0.9/c + 0.2/d;$$

$$X = \bar{A} \cup B, \quad Y = \text{CON}(A) \cup C$$

$$X \cup Y = ?$$

10.2

Задача 10.21

$$A = 0.4/a + 0.7/b + 0.3/c + 0.9/d;$$

$$B = 0.9/a + 0.7/b + 0.3/c + 0.5/d;$$

$$C = 0.4/a + 0.3/b + 0.7/c + 0.5/d;$$

$$X = \bar{A} \cap B, \quad Y = \text{DIL}(CB),$$

$$X \cup Y = ?$$

10.2

Задача 10.23

$$A = 0.5/a + 0.9/b + 0.4/c + 0.8/d;$$

$$B = 0.8/a + 0.9/b + 0.5/c + 0.6/d;$$

$$C = 0.5/a + 0.4/b + 0.9/c + 0.6/d;$$

$$X = \bar{A} \cap B, \quad Y = \text{DIL}(CB),$$

$$X \cap Y = ?$$

10.2

Задача 10.14

$$A = 0.9/a + 0.1/b + 0.9/c + 0.9/d;$$

$$B = 0.9/a + 0.6/b + 0.8/c + 0.6/d;$$

$$C = 0.9/a + 0.9/b + 0.6/c + 0.6/d;$$

$$X = \bar{A} \cup B, \quad Y = \text{CON}(A) \cup C$$

$$\bar{X} \cap Y = ?$$

10.2

Задача 10.16

$$A = 0.2/a + 0.4/b + 0.7/c + 0.6/d;$$

$$B = 0.6/a + 0.2/b + 0.1/c + 0.6/d;$$

$$C = 0.2/a + 0.7/b + 0.2/c + 0.6/d;$$

$$X = A \cup \bar{B}, \quad Y = \text{CON}(A \hat{+} C),$$

$$\bar{X} \cap Y = ?$$

10.2

Задача 10.18

$$A = 0.4/a + 0.9/b + 0.1/c + 0.7/d;$$

$$B = 0.7/a + 0.2/b + 0.3/c + 0.5/d;$$

$$C = 0.4/a + 0.1/b + 0.2/c + 0.5/d;$$

$$X = \bar{A} \cap B, \quad Y = \text{DIL}(CB),$$

$$X \cup Y = ?$$

10.2

Задача 10.20

$$A = 0.3/a + 0.4/b + 0.6/c + 0.6/d;$$

$$B = 0.6/a + 0.4/b + 0.4/c + 0.3/d;$$

$$C = 0.3/a + 0.6/b + 0.4/c + 0.3/d;$$

$$X = A \cup \bar{B}, \quad Y = \text{CON}(A \hat{+} C),$$

$$X \cap Y = ?$$

10.2

Задача 10.22

$$A = 0.2/a + 0.3/b + 0.9/c + 0.2/d;$$

$$B = 0.2/a + 0.4/b + 0.1/c + 0.2/d;$$

$$C = 0.2/a + 0.9/b + 0.4/c + 0.2/d;$$

$$X = A \cup \bar{B}, \quad Y = \text{CON}(A) \cup C$$

$$\bar{X} \cap Y = ?$$

10.2

Задача 10.24

$$A = 0.2/a + 0.8/b + 0.6/c + 0.4/d;$$

$$B = 0.4/a + 0.4/b + 0.1/c + 0.5/d;$$

$$C = 0.2/a + 0.6/b + 0.4/c + 0.5/d;$$

$$X = A \cup \bar{B}, \quad Y = \text{DIL}(CB),$$

$$X \cap Y = ?$$

10.2

Задача 10.25

$$A = 0.5/a + 0.4/b + 0.8/c + 0.6/d;$$

$$B = 0.6/a + 0.5/b + 0.8/c + 0.5/d;$$

$$C = 0.5/a + 0.8/b + 0.5/c + 0.5/d;$$

$$X = \bar{A} \cap B, \quad Y = \text{CON}(A \hat{+} C),$$

$$\bar{X} \cap Y = ?$$

10.2

Задача 10.27

$$A = 0.1/a + 0.3/b + 0.1/c + 0.5/d;$$

$$B = 0.5/a + 0.9/b + 0.6/c + 0.2/d;$$

$$C = 0.1/a + 0.1/b + 0.9/c + 0.2/d;$$

$$X = A \cup \bar{B}, \quad Y = \text{CON}(A) \cup C$$

$$X \cup Y = ?$$

10.2

Задача 10.29

$$A = 0.4/a + 0.3/b + 0.5/c + 0.7/d;$$

$$B = 0.7/a + 0.8/b + 0.4/c + 0.4/d;$$

$$C = 0.4/a + 0.5/b + 0.8/c + 0.4/d;$$

$$X = \bar{A} \cap B, \quad Y = \text{CON}(A) \cup C$$

$$X \cap Y = ?$$

10.2

Задача 10.31

$$A = 0.8/a + 0.7/b + 0.8/c + 0.8/d;$$

$$B = 0.8/a + 0.8/b + 0.5/c + 0.6/d;$$

$$C = 0.8/a + 0.8/b + 0.8/c + 0.6/d;$$

$$X = \bar{A} \cup B, \quad Y = \text{DIL}(CB),$$

$$\bar{X} \cap Y = ?$$

10.2

Задача 10.26

$$A = 0.9/a + 0.7/b + 0.8/c + 0.2/d;$$

$$B = 0.2/a + 0.4/b + 0.5/c + 0.1/d;$$

$$C = 0.9/a + 0.8/b + 0.4/c + 0.1/d;$$

$$X = \bar{A} \cup B, \quad Y = \text{DIL}(CB),$$

$$\bar{X} \cap Y = ?$$

10.2

Задача 10.28

$$A = 0.9/a + 0.8/b + 0.5/c + 0.8/d;$$

$$B = 0.8/a + 0.1/b + 0.9/c + 0.4/d;$$

$$C = 0.9/a + 0.5/b + 0.1/c + 0.4/d;$$

$$X = \bar{A} \cup B, \quad Y = \text{DIL}(CB),$$

$$X \cap Y = ?$$

10.2

Задача 10.30

$$A = 0.5/a + 0.2/b + 0.6/c + 0.8/d;$$

$$B = 0.8/a + 0.5/b + 0.1/c + 0.7/d;$$

$$C = 0.5/a + 0.6/b + 0.5/c + 0.7/d;$$

$$X = \bar{A} \cap B, \quad Y = \text{CON}(A) \cup C$$

$$X \cap Y = ?$$

10.2

Задача 10.32

$$A = 0.1/a + 0.6/b + 0.4/c + 0.9/d;$$

$$B = 0.9/a + 0.5/b + 0.6/c + 0.8/d;$$

$$C = 0.1/a + 0.4/b + 0.5/c + 0.8/d;$$

$$X = A \cup \bar{B}, \quad Y = \text{CON}(A \hat{+} C),$$

$$X \cap Y = ?$$

10.2

Нечеткие множества

	X				Y				
1	0.4	0.1	0.4	0.2	0.6	0.6	0.36	0.49	$0.40/a+0.10/b+0.36/c+0.20/d$
2	0.6	0.4	0.7	0.2	0.41	0.46	0.27	0.85	$0.60/a+0.46/b+0.70/c+0.85/d$
3	0.7	0.4	0.8	0.7	0.04	0.77	0.88	0.26	$0.04/a+0.60/b+0.20/c+0.26/d$
4	0.1	0.2	0.7	0.1	0.7	0.52	0.2	0.04	$0.71/a+0.52/b+0.70/c+0.10/d$
5	0.6	0.9	0.6	0.4	0.83	0.58	0.88	0.52	$0.60/a+0.58/b+0.60/c+0.40/d$
6	0.3	0.7	0.4	0.7	0.46	0.35	0.49	0.3	$0.46/a+0.70/b+0.49/c+0.70/d$
7	0.3	0.9	0.6	0.7	0.37	0.2	0.2	0.3	$0.30/a+0.20/b+0.20/c+0.30/d$
8	0.3	0.6	0.2	0.8	0.26	0.46	0.27	0.7	$0.30/a+0.60/b+0.27/c+0.80/d$
9	0.7	0.8	0.9	0.7	0.9	0.1	0.3	0.7	$0.90/a+0.80/b+0.90/c+0.70/d$
10	0.6	0.6	0.6	0.4	0.04	0.42	0.34	0.77	$0.60/a+0.60/b+0.60/c+0.77/d$
11	0.3	0.3	0.9	0.7	0.3	0.9	0.81	0.9	$0.30/a+0.70/b+0.10/c+0.30/d$
12	0.9	0.6	0.5	0.4	0.92	0.67	0.77	0.88	$0.10/a+0.40/b+0.50/c+0.60/d$
13	0.1	0.3	0.8	0.9	0.3	0.17	0.28	0.4	$0.30/a+0.30/b+0.80/c+0.90/d$
14	0.9	0.9	0.8	0.6	0.9	0.9	0.81	0.81	$0.10/a+0.10/b+0.20/c+0.40/d$
15	0.6	0.1	0.2	0.1	0.6	0.39	0.32	0.2	$0.60/a+0.39/b+0.32/c+0.20/d$
16	0.4	0.8	0.9	0.6	0.13	0.67	0.58	0.7	$0.13/a+0.20/b+0.10/c+0.40/d$
17	0.4	0.3	0.3	0.1	0.5	0.4	0.3	0.16	$0.40/a+0.30/b+0.30/c+0.10/d$
18	0.6	0.1	0.3	0.3	0.53	0.14	0.24	0.5	$0.60/a+0.14/b+0.30/c+0.50/d$
19	0.5	0.9	0.9	0.5	0.7	0.1	0.9	0.25	$0.70/a+0.90/b+0.90/c+0.50/d$
20	0.4	0.6	0.6	0.7	0.26	0.58	0.58	0.52	$0.26/a+0.58/b+0.58/c+0.52/d$
21	0.6	0.3	0.3	0.1	0.6	0.46	0.46	0.5	$0.60/a+0.46/b+0.46/c+0.50/d$
22	0.8	0.6	0.9	0.8	0.2	0.9	0.81	0.2	$0.20/a+0.40/b+0.10/c+0.20/d$
23	0.5	0.1	0.5	0.2	0.63	0.6	0.67	0.6	$0.50/a+0.10/b+0.50/c+0.20/d$
24	0.6	0.8	0.9	0.5	0.28	0.49	0.2	0.5	$0.28/a+0.49/b+0.20/c+0.50/d$
25	0.5	0.5	0.2	0.4	0.56	0.77	0.81	0.64	$0.50/a+0.50/b+0.80/c+0.60/d$
26	0.2	0.4	0.5	0.8	0.42	0.57	0.45	0.1	$0.42/a+0.57/b+0.45/c+0.10/d$
27	0.5	0.3	0.4	0.8	0.1	0.1	0.9	0.25	$0.50/a+0.30/b+0.90/c+0.80/d$
28	0.8	0.2	0.9	0.4	0.85	0.22	0.3	0.4	$0.80/a+0.20/b+0.30/c+0.40/d$
29	0.6	0.7	0.4	0.3	0.4	0.5	0.8	0.49	$0.40/a+0.50/b+0.40/c+0.30/d$
30	0.5	0.5	0.1	0.2	0.5	0.6	0.5	0.7	$0.50/a+0.50/b+0.10/c+0.20/d$
31	0.8	0.8	0.5	0.6	0.8	0.8	0.63	0.6	$0.20/a+0.20/b+0.50/c+0.40/d$
32	0.1	0.6	0.4	0.9	0.04	0.58	0.49	0.96	$0.04/a+0.58/b+0.40/c+0.90/d$