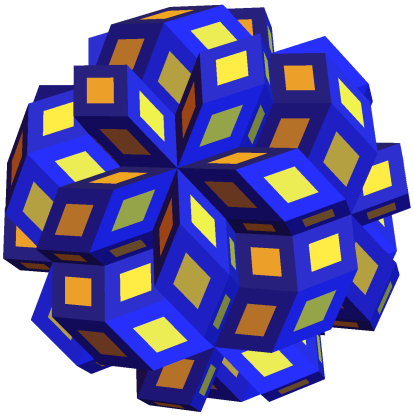
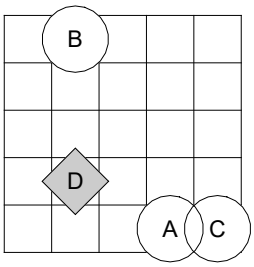


Verjetnostna logika

Naloga zahteva, da poiščemo verjetnost izjav v dani situaciji.
Vrednosti izračunamo v skladu s pravili verjetnostnega računa.
Lik je lahko trikotnik, kvadrat ali petkotnik.
Če je lik krog, pomeni, da oblika lika ni znana.
V tem primeru je verjetnos, da je lik trikotnik enaka 1/3.
Lik je lahko bel ali siv.
Če je lik pol bel in pol siv, potem njegova barva ni znana.
V tem primeru je verjetnost, da je lik bel enaka 1/2.
http://www.logika.si/sklop_logika/Trovrednostna.pdf



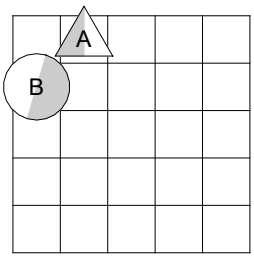
1. ¬Trikotnik (C) ∨ Petkotnik (C)
2. Siv (D) ∨ Bel (D)
3. ¬Trikotnik (B) ∧ ¬Kvadrat (C)
4. Kvadrat (A) ∨ ¬Siv (A)
5. ¬Siv (D) ∨ Bel (A)
6. Siv (A) ∧ Kvadrat (C)
7. Kvadrat (A) ∨ Bel (A)
8. Bel (D) ∨ ¬Petkotnik (C)

rešitev

$\frac{2}{3}$	1	$\frac{4}{9}$	1	1	0	1	$\frac{2}{3}$

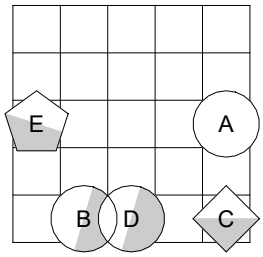
Logika d.o.o.

1.



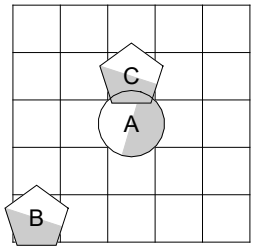
1. ¬Trikotnik (B) ∧ Kvadrat (A)
2. ¬Petkotnik (B) ∧ Trikotnik (A)
3. Petkotnik (A) ∧ Bel (B)
4. Petkotnik (A) ∧ Trikotnik (A)
5. Siv (A) ∨ ¬Petkotnik (B)
6. Kvadrat (B) ∨ Kvadrat (A)
7. ¬Kvadrat (B) ∧ Trikotnik (A)
8. Trikotnik (A) ∧ ¬Bel (A)

2.



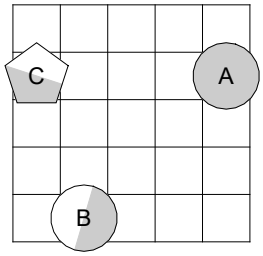
1. ¬Kvadrat (D) ∨ ¬Petkotnik (A)
2. ¬Trikotnik (E) ∧ Petkotnik (C)
3. ¬Petkotnik (E) ∨ Trikotnik (B)
4. ¬Siv (B) ∨ ¬Siv (E)
5. Siv (C) ∨ ¬Petkotnik (D)
6. Bel (A) ∧ Trikotnik (E)
7. Bel (A) ∨ ¬Siv (D)
8. ¬Trikotnik (B) ∨ ¬Bel (D)

3.



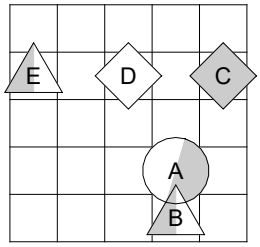
1. Siv (B) ∧ ¬Siv (A)
2. ¬Kvadrat (C) ∨ Kvadrat (C)
3. ¬Kvadrat (A) ∨ Bel (B)
4. ¬Kvadrat (B) ∨ ¬Trikotnik (B)
5. ¬Trikotnik (A) ∨ Bel (A)
6. ¬Petkotnik (C) ∨ ¬Kvadrat (C)
7. ¬Siv (C) ∧ ¬Petkotnik (C)
8. Petkotnik (A) ∧ Trikotnik (A)

4.



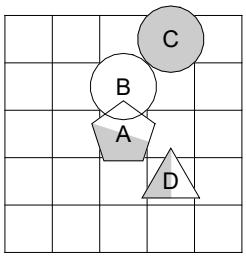
1. Siv (A) ∧ Kvadrat (A)
2. Petkotnik (A) ∨ Bel (B)
3. Kvadrat (C) ∧ Siv (C)
4. ¬Trikotnik (C) ∨ Bel (A)
5. ¬Petkotnik (B) ∧ Trikotnik (A)
6. Petkotnik (C) ∧ ¬Siv (A)
7. ¬Trikotnik (B) ∨ Trikotnik (C)
8. Siv (A) ∨ ¬Bel (A)

5.



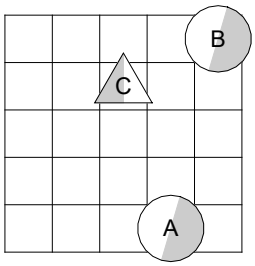
1. Bel (D) ∧ Siv (C)
2. ¬Petkotnik (E) ∨ ¬Trikotnik (A)
3. ¬Petkotnik (C) ∧ ¬Bel (B)
4. ¬Siv (D) ∨ Trikotnik (C)
5. Petkotnik (B) ∨ Trikotnik (B)
6. Bel (D) ∧ ¬Petkotnik (B)
7. Kvadrat (E) ∧ ¬Kvadrat (D)
8. ¬Siv (A) ∧ ¬Kvadrat (A)

6.



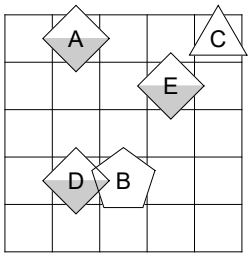
1. ¬Kvadrat (A) ∧ ¬Bel (D)
2. ¬Siv (A) ∨ Trikotnik (D)
3. Siv (B) ∨ ¬Kvadrat (D)
4. Petkotnik (B) ∨ Siv (A)
5. ¬Kvadrat (C) ∧ ¬Petkotnik (B)
6. ¬Kvadrat (B) ∨ ¬Siv (B)
7. ¬Bel (C) ∨ ¬Bel (A)
8. ¬Petkotnik (A) ∧ ¬Siv (B)

7.



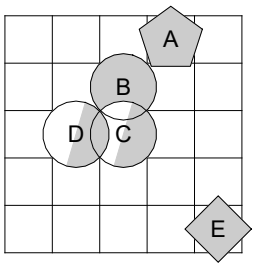
1. Kvadrat (C) ∧ Kvadrat (A)
2. ¬Kvadrat (B) ∧ Bel (A)
3. ¬Petkotnik (C) ∧ Kvadrat (B)
4. ¬Bel (C) ∨ ¬Bel (C)
5. ¬Siv (B) ∨ ¬Siv (A)
6. Siv (B) ∧ Bel (C)
7. ¬Petkotnik (A) ∨ ¬Trikotnik (A)
8. ¬Kvadrat (C) ∧ Petkotnik (C)

8.



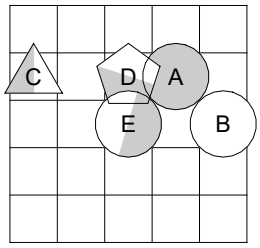
1. ¬Petkotnik (A) ∨ ¬Bel (D)
2. Bel (A) ∧ ¬Trikotnik (A)
3. ¬Kvadrat (D) ∨ ¬Bel (E)
4. ¬Bel (B) ∨ Trikotnik (B)
5. ¬Trikotnik (B) ∧ Kvadrat (C)
6. Petkotnik (B) ∧ Petkotnik (B)
7. ¬Kvadrat (A) ∨ ¬Bel (C)
8. ¬Kvadrat (E) ∧ ¬Petkotnik (E)

9.



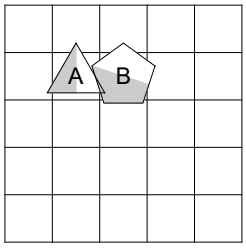
1. ¬Bel (D) ∧ Bel (C)
2. Trikotnik (D) ∧ ¬Bel (B)
3. Petkotnik (D) ∧ ¬Bel (C)
4. Kvadrat (E) ∧ ¬Trikotnik (B)
5. Bel (B) ∨ Petkotnik (B)
6. Kvadrat (E) ∨ Petkotnik (A)
7. ¬Trikotnik (D) ∧ ¬Trikotnik (E)
8. Bel (B) ∧ ¬Kvadrat (A)

10.



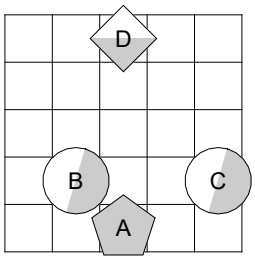
1. Bel (B) ∧ Siv (E)
2. Siv (C) ∨ Siv (B)
3. Kvadrat (D) ∨ ¬Siv (D)
4. Kvadrat (D) ∧ ¬Siv (C)
5. Trikotnik (C) ∧ Kvadrat (C)
6. Kvadrat (E) ∧ Petkotnik (B)
7. Petkotnik (E) ∨ Siv (E)
8. ¬Bel (E) ∨ Petkotnik (E)

11.



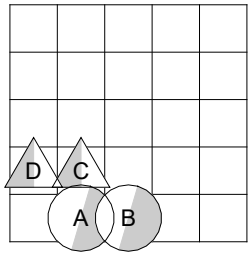
1. Petkotnik (A) ∧ Trikotnik (B)
2. Trikotnik (B) ∧ ¬Trikotnik (A)
3. ¬Trikotnik (B) ∧ Petkotnik (A)
4. Bel (B) ∧ ¬Bel (A)
5. ¬Petkotnik (A) ∧ ¬Petkotnik (B)
6. Trikotnik (B) ∨ Siv (B)
7. ¬Kvadrat (A) ∨ ¬Siv (B)
8. ¬Kvadrat (A) ∨ ¬Siv (B)

12.



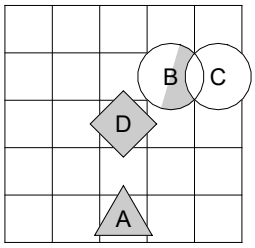
1. Bel (B) ∧ ¬Bel (A)
2. Siv (D) ∧ Siv (B)
3. ¬Petkotnik (C) ∧ Bel (B)
4. Petkotnik (B) ∧ ¬Petkotnik (D)
5. Siv (D) ∨ Trikotnik (C)
6. Bel (C) ∧ ¬Bel (A)
7. Kvadrat (D) ∧ ¬Siv (B)
8. ¬Bel (A) ∧ Kvadrat (A)

13.



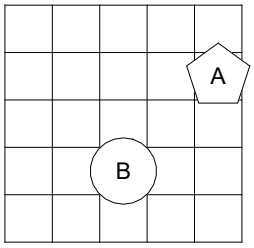
1. ¬Trikotnik (C) ∨ Bel (B)
2. Petkotnik (D) ∧ ¬Petkotnik (D)
3. ¬Siv (C) ∨ Kvadrat (B)
4. ¬Siv (C) ∧ ¬Kvadrat (C)
5. ¬Trikotnik (C) ∨ ¬Trikotnik (B)
6. Kvadrat (B) ∨ ¬Siv (D)
7. ¬Trikotnik (C) ∧ Bel (A)
8. Trikotnik (C) ∨ ¬Siv (B)

14.



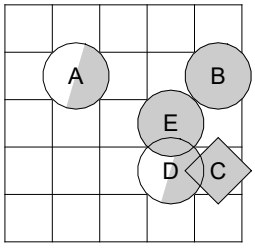
1. Kvadrat (C) ∧ Bel (B)
2. ¬Trikotnik (A) ∨ Petkotnik (C)
3. ¬Siv (C) ∨ ¬Siv (A)
4. Siv (A) ∨ ¬Kvadrat (D)
5. Kvadrat (D) ∨ ¬Trikotnik (D)
6. Siv (D) ∨ ¬Siv (B)
7. ¬Bel (B) ∨ Trikotnik (D)
8. ¬Kvadrat (A) ∧ Bel (B)

15.



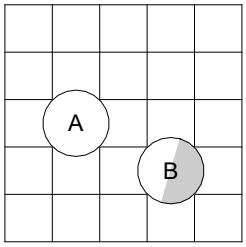
1. Petkotnik (A) ∨ ¬Kvadrat (B)
2. Petkotnik (A) ∧ ¬Siv (A)
3. Siv (A) ∧ ¬Kvadrat (A)
4. ¬Siv (A) ∨ Bel (B)
5. ¬Kvadrat (A) ∧ ¬Trikotnik (B)
6. ¬Siv (B) ∨ ¬Kvadrat (A)
7. Trikotnik (A) ∨ Kvadrat (A)
8. ¬Trikotnik (A) ∧ Bel (A)

16.



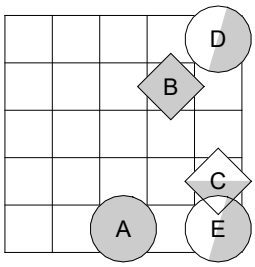
1. Bel (C) ∨ Kvadrat (B)
2. Bel (A) ∨ ¬Petkotnik (B)
3. Petkotnik (D) ∧ ¬Trikotnik (C)
4. Trikotnik (E) ∧ Bel (B)
5. Petkotnik (B) ∨ ¬Bel (A)
6. ¬Bel (E) ∧ Petkotnik (C)
7. ¬Siv (B) ∧ ¬Trikotnik (D)
8. ¬Siv (C) ∧ ¬Trikotnik (A)

17.



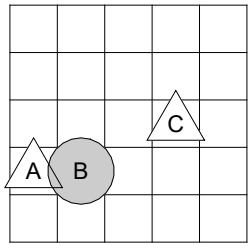
1. ¬Bel (A) ∨ Trikotnik (A)
2. Kvadrat (B) ∧ ¬Siv (A)
3. Trikotnik (B) ∨ ¬Petkotnik (A)
4. Siv (B) ∧ Siv (A)
5. Kvadrat (A) ∧ Trikotnik (B)
6. ¬Bel (B) ∨ Bel (B)
7. ¬Bel (A) ∨ Trikotnik (B)
8. ¬Petkotnik (B) ∨ ¬Petkotnik (A)

18.



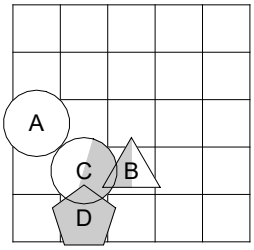
1. Kvadrat (A) ∧ ¬Bel (A)
2. ¬Kvadrat (E) ∨ ¬Kvadrat (D)
3. ¬Trikotnik (E) ∧ Kvadrat (B)
4. Siv (D) ∨ ¬Kvadrat (D)
5. Bel (A) ∨ ¬Petkotnik (D)
6. ¬Kvadrat (E) ∧ Bel (C)
7. ¬Kvadrat (A) ∧ Bel (A)
8. ¬Bel (E) ∧ ¬Siv (D)

19.



1. ¬Trikotnik (B) ∨ ¬Bel (B)
2. ¬Bel (C) ∧ Petkotnik (A)
3. ¬Kvadrat (C) ∧ ¬Trikotnik (B)
4. Kvadrat (A) ∨ Trikotnik (B)
5. Bel (C) ∨ ¬Trikotnik (A)
6. ¬Kvadrat (A) ∨ Siv (A)
7. Siv (C) ∧ ¬Petkotnik (C)
8. Trikotnik (A) ∨ ¬Siv (B)

20.



1. Trikotnik (C) ∧ ¬Petkotnik (B)
2. Bel (D) ∨ ¬Siv (C)
3. Bel (A) ∧ Bel (C)
4. Petkotnik (B) ∧ Bel (B)
5. ¬Trikotnik (C) ∧ Petkotnik (A)
6. Kvadrat (A) ∧ ¬Trikotnik (C)
7. ¬Siv (C) ∧ ¬Kvadrat (D)
8. Kvadrat (D) ∨ ¬Bel (A)

1.

0	$\frac{2}{3}$	0	0	$\frac{5}{6}$	$\frac{1}{3}$	$\frac{2}{3}$	$\frac{1}{2}$

2.

$\frac{8}{9}$	0	$\frac{1}{3}$	$\frac{3}{4}$	$\frac{5}{6}$	0	1	$\frac{5}{6}$

3.

$\frac{1}{4}$	1	$\frac{5}{6}$	1	$\frac{5}{6}$	1	0	0

4.

$\frac{1}{3}$	$\frac{2}{3}$	0	1	$\frac{2}{9}$	0	$\frac{2}{3}$	1

5.

1	1	$\frac{1}{2}$	1	1	1	0	$\frac{1}{3}$

6.

$\frac{1}{2}$	1	1	$\frac{2}{3}$	$\frac{4}{9}$	1	1	0

7.

0	$\frac{1}{3}$	$\frac{1}{3}$	$\frac{1}{2}$	$\frac{3}{4}$	$\frac{1}{4}$	1	0

8.

1	$\frac{1}{2}$	$\frac{1}{2}$	0	0	1	0	0

9.

$\frac{1}{4}$	$\frac{1}{3}$	$\frac{1}{6}$	$\frac{2}{3}$	$\frac{1}{3}$	1	$\frac{2}{3}$	0

10.

$\frac{1}{2}$	$\frac{1}{2}$	$\frac{1}{2}$	0	0	$\frac{1}{9}$	$\frac{2}{3}$	$\frac{2}{3}$

11.

0	0	0	$\frac{1}{4}$	0	$\frac{1}{2}$	1	1

12.

$\frac{1}{2}$	$\frac{1}{4}$	$\frac{1}{3}$	$\frac{1}{3}$	$\frac{2}{3}$	$\frac{1}{2}$	$\frac{1}{2}$	0

13.

$\frac{1}{2}$	0	$\frac{2}{3}$	$\frac{1}{2}$	$\frac{2}{3}$	$\frac{2}{3}$	0	1

14.

$\frac{1}{6}$	$\frac{1}{3}$	1	1	1	1	$\frac{1}{2}$	$\frac{1}{2}$

15.

1	1	0	1	$\frac{2}{3}$	1	0	1

16.

$\frac{1}{3}$	$\frac{5}{6}$	$\frac{1}{3}$	0	$\frac{2}{3}$	0	0	0

17.

$\frac{1}{3}$	$\frac{1}{3}$	$\frac{7}{9}$	0	$\frac{1}{9}$	1	$\frac{1}{3}$	$\frac{8}{9}$

18.

$\frac{1}{3}$	$\frac{8}{9}$	$\frac{2}{3}$	$\frac{5}{6}$	$\frac{2}{3}$	$\frac{1}{3}$	0	$\frac{1}{4}$

19.

1	0	$\frac{2}{3}$	$\frac{1}{3}$	1	1	0	1

20.

$\frac{1}{3}$	$\frac{1}{2}$	$\frac{1}{2}$	0	$\frac{2}{9}$	$\frac{2}{9}$	$\frac{1}{2}$	0

Referenca : Probability Logic Test from the Wolfram Demonstrations Project
http : // demonstrations.wolfram.com / ProbabilityLogicTest / Contributed by : Izidor Hafner