Naloga 5.1

# A)

X1, X2,X3.... bom zaradi lepše preglednosti risal v tabelo. 1 pomeni true 0 pa false.

Vsaka vrstica je svoja možna rešitev

(x1 ∨ x2) ∧ (x1 ∨ ¬x2) ∧ (¬x1 ∨ x2)

|  |  |
| --- | --- |
| X1 | X2 |
| 1 | 1 |

    (¬x1 ∨ x2) ∧ (x1 ∨ ¬x3) ∧ (¬x1 ∨ ¬x2) ∧ (¬x1 ∨ x3)

|  |  |  |
| --- | --- | --- |
| X1 | X2 | X3 |
| 0 | 0 | 0 |
| 1 | 1 | 1 |

    (x1 ∨ ¬x2) ∧ (¬x1 ∨ x2) ∧ (x2 ∨ ¬x3) ∧ (x3 ∨ ¬x4) ∧ (¬x3 ∨ x4) ∧ (x4 ∨ ¬x1)

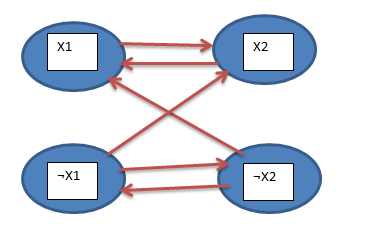
|  |  |  |  |
| --- | --- | --- | --- |
| X1 | X2 | X3 | X4 |
| 0 | 0 | 0 | 0 |
| 1 | 1 | 1 | 1 |

    (x7 ∨ ¬x6) ∧ (x6 ∨ ¬x5) ∧ (x5 ∨ ¬x4) ∧ (x4 ∨ ¬x3) ∧ (x3 ∨ ¬x2) ∧ (x2 ∨ ¬x1)

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| X1 | X2 | X3 | X4 | X5 | X6 | X7 |
| 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 0 | 0 | 0 | 0 | 0 | 0 | 1 |
| 0 | 0 | 0 | 0 | 0 | 1 | 1 |
| 0 | 0 | 0 | 0 | 1 | 1 | 1 |
| 0 | 0 | 0 | 1 | 1 | 1 | 1 |
| 0 | 0 | 1 | 1 | 1 | 1 | 1 |
| 0 | 1 | 1 | 1 | 1 | 1 | 1 |
| 1 | 1 | 1 | 1 | 1 | 1 | 1 |

## B)

(x1 ∨ x2) ∧ (x1 ∨ ¬x2) ∧ (¬x1 ∨ x2)



(¬x1 ∨ x2) ∧ (x1 ∨ ¬x3) ∧ (¬x1 ∨ ¬x2) ∧ (¬x1 ∨ x3)

X3

X2

X1

*¬*X3

*¬*X2

*¬*X1

(x1 ∨ ¬x2) ∧ (¬x1 ∨ x2) ∧ (x2 ∨ ¬x3) ∧ (x3 ∨ ¬x4) ∧ (¬x3 ∨ x4) ∧ (x4 ∨ ¬x1)

X7

(x7 ∨ ¬x6) ∧ (x6 ∨ ¬x5) ∧ (x5 ∨ ¬x4) ∧ (x4 ∨ ¬x3) ∧ (x3 ∨ ¬x2) ∧ (x2 ∨ ¬x1)

X5

X4

X3

X2

X1 

X6

*¬*X7

*¬*X6

*¬*X5

*¬*X4

*¬*X3

*¬*X2

*¬*X1

# c)

(x1 ∨ x2) ∧ (x1 ∨ ¬x2) ∧ (¬x1 ∨ x2)

(¬x1 ∨ x2) ∧ (x1 ∨ ¬x3) ∧ (¬x1 ∨ ¬x2) ∧ (¬x1 ∨ x3)

(x1 ∨ ¬x2) ∧ (¬x1 ∨ x2) ∧ (x2 ∨ ¬x3) ∧ (x3 ∨ ¬x4) ∧ (¬x3 ∨ x4) ∧ (x4 ∨ ¬x1)

