

de. $|B| \geq 3$, at. $\Rightarrow 0 \neq 1$; $\exists x \in B \setminus \{0, 1\}$.

P_p abs că $B \rightarrow \text{lat.}$.

$B \rightarrow \text{alg. bool.}$
 $x \in B$ } x are complementul \bar{x} în B } $\Rightarrow x \leq \bar{x}$ sau $\bar{x} \leq x$

$$\Rightarrow \begin{cases} x \vee \bar{x} = 1 \\ x \wedge \bar{x} = 0 \end{cases}$$

$$\text{de. } \begin{cases} x \leq \bar{x} \Rightarrow x = x \wedge \bar{x} = 0 \Rightarrow x = 0 \quad \text{de} \\ \bar{x} \leq x \Rightarrow x = x \vee \bar{x} = 1 \Rightarrow x = 1 \quad \text{de} \end{cases}$$

$\Rightarrow B$ nu e lat. (nu e total ordonat)

Amintim:

Lema: $(L, \vee, \wedge, \leq) \rightarrow \text{latice; } a, b, x, y \in (mult.)$

$$\text{At.: } \bullet \text{ de } a \leq b \Rightarrow \begin{cases} a \vee x \leq b \vee x \\ a \wedge x \leq b \wedge x \end{cases}$$

$$(a \wedge x) \wedge (b \wedge x) = (a \wedge b) \wedge (x \wedge x)$$

$$\bullet \text{ de. } \begin{cases} a \leq b \\ x \leq y \end{cases} \Rightarrow \begin{cases} a \vee x \leq b \vee y \\ a \wedge x \leq b \wedge y \end{cases}$$

Exerc: $(B, \vee, \wedge, \leq, \bar{}, 0, 1) \rightarrow \text{alg. bool.}$ At: $(\forall x, y, z \in B)$ au

loc urm. echiv:

(1) $x = y \Leftrightarrow \bar{x} = \bar{y}$

(2) $x \leq y \Leftrightarrow \bar{y} \leq \bar{x}$

(3) $x \leq y \Leftrightarrow x \wedge \bar{y} = 0 \Leftrightarrow \bar{x} \vee y = 1$

(4) $x \leq y \Leftrightarrow x \rightarrow y = 1$

(5) $x = y \Leftrightarrow x \leftrightarrow y = 1$

(6) Legea de rezoluție: $x \wedge y \leq z \Leftrightarrow x \leq y \rightarrow z$

P.E.Z:

(1) $x = y \Rightarrow \bar{x} = \bar{y} \Rightarrow \bar{\bar{x}} = \bar{\bar{y}} \Leftrightarrow x = y$