

Modele matematice – L1:

a)

$\text{insert}(l_1 l_2 \dots l_n, \text{elem}, \text{index}) = \{ \emptyset, \text{daca } l \text{ este vida}$

$l_1 \oplus \text{insert}(l_2 \dots l_n, \text{elem}, \text{index} + 1), \text{faca index-ul este impar}$

$(l_1, \text{elem}) \oplus \text{insert}(l_1 l_2 \dots l_n, \text{elem}, \text{index} + 1), \text{altfel}$

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b)

$\text{invers_aux}(l_1 l_2 \dots l_n, \text{rez}) = \{ \text{rez}, \text{daca } l \text{ este vida}$

$l_1 \oplus \text{invers_aux}(l_2 \dots l_n, \text{rez}), \text{altfel}$

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$\text{invers}(l_1 l_2 \dots l_n) = \text{invers_aux}(l_1 l_2 \dots l_n, \emptyset)$

c)

$\text{cmmdc}(a, b) = \{ a, \text{daca } b = 0$

$\text{cmmdc}(b, a \% b), \text{altfel}$

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$\text{cmmdc_list}(l_1 l_2 \dots l_n) = \{ 0, \text{daca lista este vida}$

$l_1, \text{daca } n = 1$

$\text{cmmdc}(l_1, \text{cmmdc_list}(l_2 \dots l_n)), \text{altfel}$

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d)

$\text{numar_aparitii}(l_1 l_2 \dots l_n, \text{elem}) = \{ 0, \text{daca } l \text{ este vida}$

$\text{numar_aparitii}(l_2 \dots l_n, \text{elem}), \text{daca } l_1 \neq \text{elem},$

$1 + \text{numar_aparitii}(l_2 \dots l_n, \text{elem}), \text{daca } l_1 = \text{elem}$

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