∀ cuvânt de lungime n care conține un nr impar de 0 ∉ L(A)

- prin inducție matematică

I. $n=0$ $\delta(s_0, 0) = s_2 \notin T$

II. Pp. ∀ cuv de lung n cu nr impar de 0 ∉ L(A)

   Dem. că ∀ cuv de lung $n+1$ cu nr impar de 0 ∉ L(A)

     Deci nr va avea 1 pe ultima poziție.

     Știm că $\delta(\text{cuv}, ..)$ va ajunge într-una din stările s_1, s_2, s_3

$$\delta(s_1, 1) = s_0$$
$$\delta(s_2, 1) = s_3$$
$$\delta(s_3, 1) = s_2$$

Seminar 4   31.10.2001

nr par de n

1. $A = \{1\}$, $L = \{ (11)^{[n]} \mid n \geq 0 \}$

   $A = (S, \delta, s_0, T)$ a.î. $L = L(A)$

2. $A = \{1\}$, $L = \{ 1^{[6K]} \cdot 1 \mid K \geq 0 \}$ (un 1, șapte de 1, treizprezece de 1 ș.a.m.d.)

3. $A = \{a, b\}$, $L = \{ u b b a b \mid u \in A^* \}$

4. $A = \{a, b\}$, $L = \{ u a a b b b \mid u \in A^* \}$

5. $A = \{a, b, c\}$, $x \in A^*$, $\overline{x}$ $x = a_1 a_2 \ldots a_n$, $\overline{x} = a_n a_{n-1} \ldots a_1$
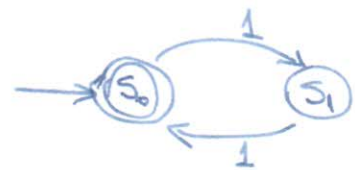
   $L = \{ x \in A^* \mid x = \overline{x}, \ l(x) \leq 6 \}$

6. $A = \{a, b\}$, $L = \{ x \in A^* \mid x = x_1 x_2 \ldots x_n, n \geq 3, x_{n-2} = b \}$

$$L(A) = \{ a \in A^* \mid \delta(s_0, a) \in T \}$$

1. $L = \{ e, 11, 1111, \ldots \}$

   $\delta(s_0, e) \in T \Rightarrow s_0 \in T$

   $\delta(s_0, 11) \in T \quad ; \delta(\delta(s_0, 1), 1) = \delta(s_1, 1) = s_0 \in T$
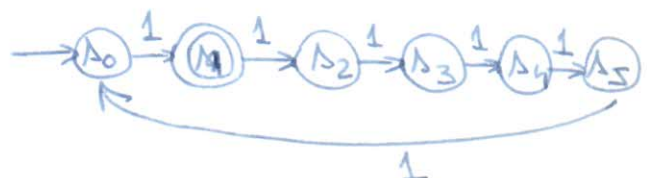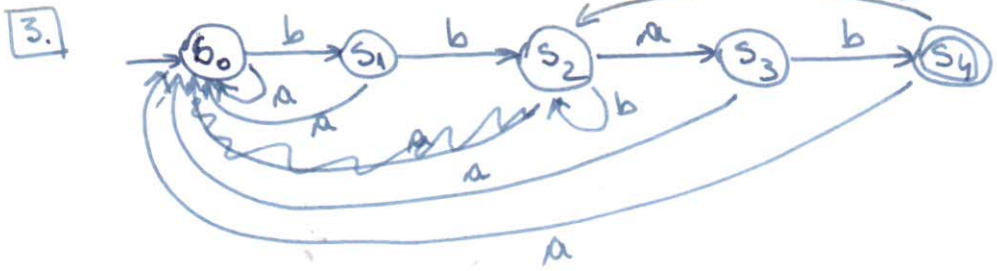
$S = \{ s_0, s_1 \}$
$T = \{ s_0 \}$

$$\delta(s_0, 1) = s_1$$
$$\delta(s_1, 1) = s_0$$

2. $L = \{ 1, 1111111, 111111111111, \ldots \}$

   $\delta(s_0, 1) \in T$
     $= s_1$

   $S = \{ s_0, s_1, s_2, s_3, s_4, s_5 \}$ $T = \{ s_1 \}$
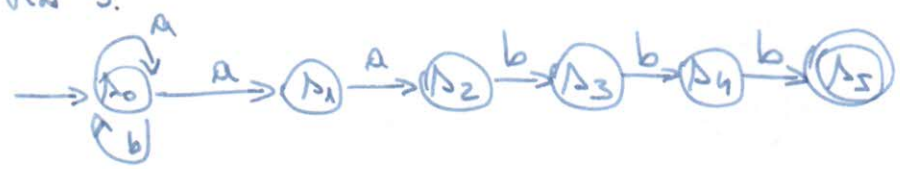
3.

a. f. det.

a.f. nedet.

δ	s_0	s_1	s_2	s_3	s_4
a	$\{s_0\}$	ϕ	$\{s_3\}$	ϕ	ϕ
b	$\{s_0, s_1\}$	$\{s_2\}$	ϕ	$\{s_4\}$	ϕ

4. Vezi 3.

5.

6.
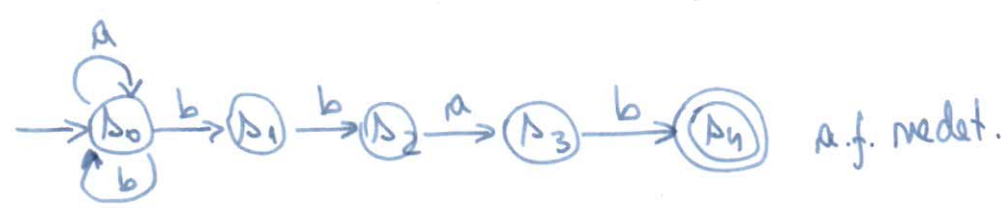
Seminar 5

1. Să se constr. automatul finit determinist sau nedeterminist care rec. ~~alfabetul~~ limbajul dat:

alfabet: $A = \{a, b\}$ $L(A) = \{x \in A^* \mid x = u\,bab, \; x = u\,aaba, \; u \in A^*\}$

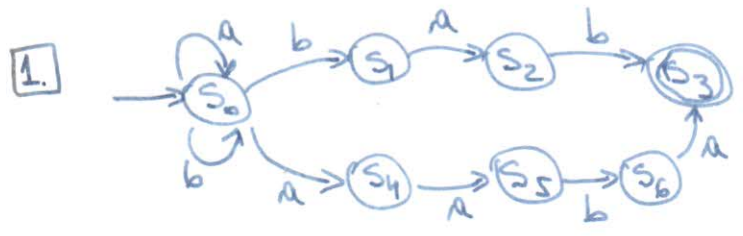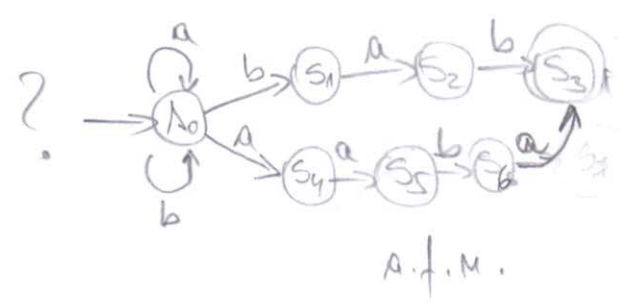2. $L(A) = \{a^{[n_1]} b^{[m_1]} \ldots a^{[m_K]} b^{[m_K]} \mid n_i, m_i > 0\}$

3. Se dă automatul nedeterminist și se cere cel determinist echivalent cu el:

$$A_N = (\{s, A, B\}, \delta, s, \{A\})$$

$A = \{0, 1\}$

δ	S	A	B
0	$\{B\}$	ϕ	$\{A, B\}$
1	ϕ	ϕ	$\{s\}$

$A - a.f.d. = ?$ a.î. $L(A) = L(A_N)$.

A.f.M.

1.

δ	s_0	s_1	s_2	s_3	s_4	s_5	s_6
a	$\{s_0, s_4\}$	$\{s_2\}$	ϕ	ϕ	$\{s_5\}$	ϕ	$\{s_3\}$
b	$\{s_0, s_1\}$	ϕ	$\{s_3\}$	ϕ	ϕ	$\{s_6\}$	ϕ

2.