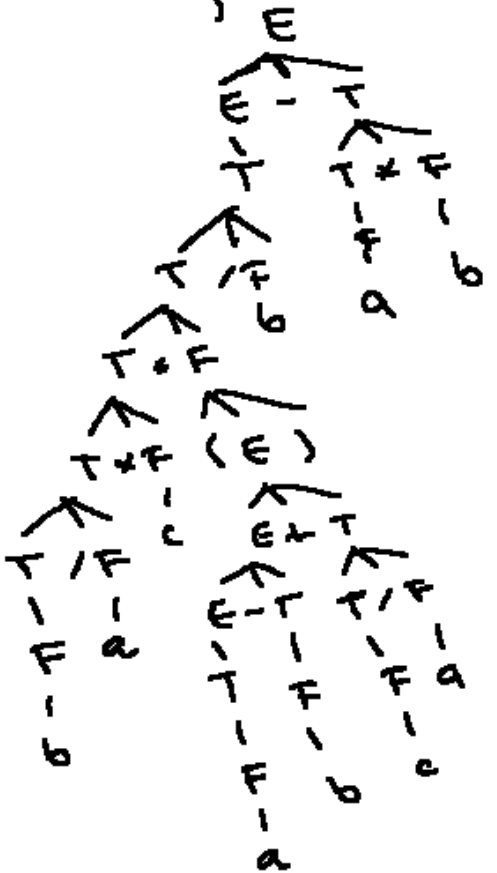
G $\begin{cases} E \to E+T \mid E-T \mid T \\ T \to T*F \mid T/F \mid F \\ F \to (E) \mid a \mid b \mid c \end{cases}$ $G' \approx G$ G' fără sb. stâng recursive

$\begin{cases} E \to T \mid TY \\ Y \to +T \mid -T \mid +TY \mid -TY \\ T \to F \mid FZ \\ Z \to *F \mid /F \mid *FZ \mid /FZ \\ F \to (E) \mid a \mid b \mid c \end{cases}$

$p = \overline{b}/\overline{a} * c * (a-b+c/a)/b - \overline{a} * b$

(alg repulile lui E ptr a obține semnele între termeni de la dreapta la stânga. Idem, alg repulile lui T ptr a obține semnele între factori de la dreapta la stânga)



$$G\begin{cases} E \to E+T \mid E-T \mid T \\ T \to T*F \mid T/F \mid F \\ F \to (E) \mid a \mid b \mid c \end{cases}$$

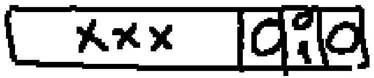
$b/a*c*(a-b+c/a)/b-a*b$

$ba/c*ab-ca/+*b/ab*-$

$p = \overline{b}/\overline{a}*\overline{c}*\overline{(a-b+c/a)}/\overline{b}-\overline{a}*\overline{b}$

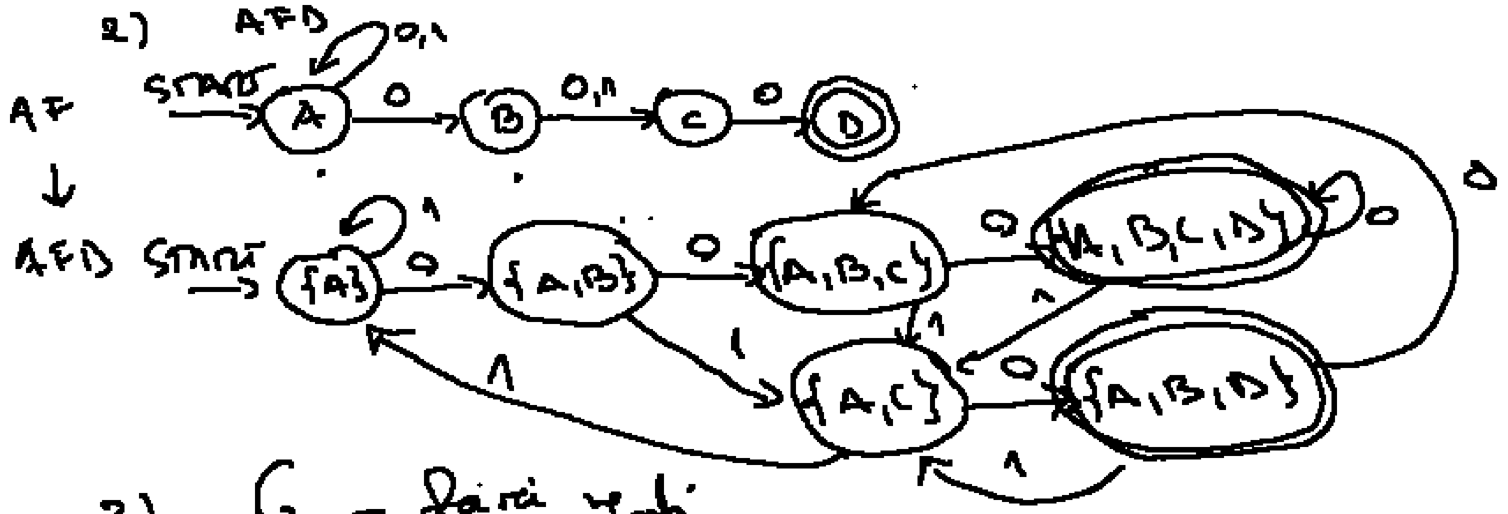
L = { w ∈ {0,1}* | w conține 0 în antepenultima poziție și w e nr. par }

1)



$(0|1)^*0(0|1)0 \overset{not}{=} L$

2)



3) G - fără reguli de ștergere

Tip 3 - citesc regulile de pe AF

$$\begin{cases} A \to 0A \mid 1A \mid 0B \\ B \to 0C \mid 1C \\ C \to 0D \mid 0 \end{cases}$$

$L_2 = \{ (01)^n 0^{n-2} \mid n \geq 2 \}$

1) G in f.n. Chomsky

$(01)^n 0^{n-2} = 0101 (01)^{n-2} 0^{n-2}$, $n \geq 2$

$$\begin{cases} S \to 0101X & \in \mathcal{L}_2 \\ X \to 01X0 \mid \lambda \end{cases}$$

3) Elim "$A \to B$"

4) Semiform

$$\begin{cases} S \to X_0 Z_1 \mid X_0 T_{2,1} \\ Z_1 \to X_1 Z_2 \\ Z_2 \to X_0 Z_3 \\ Z_3 \to X_1 X \\ T_{1,1} \to X T_{1,2} \\ T_{1,2} \to X_0 X_1 \end{cases}$$

$$\begin{cases} X \to X_0 S_{1,1} \mid X_0 \ddot{0}_1 \\ S_{1,1} \to X_1 S_{1,2} \\ S_{1,2} \to X X_0 \\ \ddot{0}_1 \to X_1 X_0 \\ X_0 \to 0 \\ X_1 \to 1 \end{cases}$$

2) "A mic"

$$\begin{cases} S \to X_0 X X_0 X_1 X \mid X_0 X_1 X X_1 \\ X \to X_0 X_1 X X_0 \mid X_0 X_1 X_0 \\ X_0 \to 0 \\ X_1 \to 1 \end{cases}$$

4) Eliminare λ

$$\begin{cases} S \to 0101X \mid 0101 \\ X \to 01X0 \mid 0101 \end{cases}$$

$L_2 = \{(01)^n 0^{n-2} \mid n \geq 2\}$

1) G in f.n. Chomsky

$(01)^n 0^{n-2} = 0101\,(01)^{n-2}\, 0^{n-2}$, $n \geq 2$

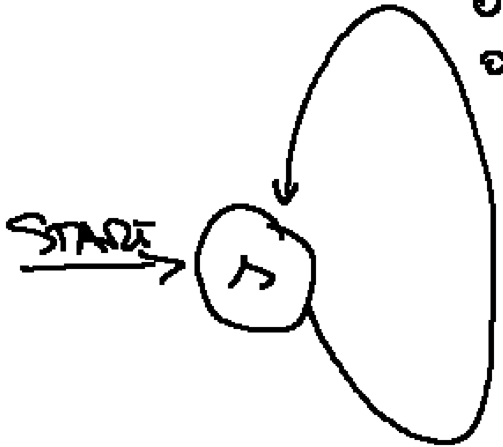
$\begin{cases} S \to 0101X \\ X \to 01X0 \mid \lambda \end{cases}$ $\in \mathcal{G}_2$

1) Elim λ

$\begin{cases} S \to 0101X \mid 0101 \\ X \to 01X0 \mid 010 \end{cases}$

f.n. Greibach

$\begin{cases} S \to 0X_1X_0X_1X \mid 0X_1X_0X_1 & (1),(2) \\ X_0 \to 0 & (3) \\ X_1 \to 1 & (4) \\ X \to 0X_1XX_0 \mid 0X_1X_0 & (5),(6) \end{cases}$



$0, S / X_1X_0X_1X$ 1

$0, S / X_1X_0X_1$ 2

$0, X_0 / \lambda$ 3

$1, X_1 / \lambda$ 4

$0, X / X_1XX_0$ 5

$0, X / X_1X_0$ 6

$p = 0101010$ $|p| = 7 \geq 5$

$(s, 0101010, S) \overset{1}{\vdash} (s, 101010, X_1X_0X_1X) \overset{4}{\vdash} (s, 01010, X_0X_1X) \overset{3}{\vdash} (s, 1010, X_1X) \overset{4}{\vdash} (s, 010, X) \overset{6}{\vdash} (s, 10, X_1X_0) \overset{4}{\vdash} (s, 0, X_0) \overset{3}{\vdash} (s, \lambda, \lambda)$

$L_2 = \{(01)^n 0^{n-2} \mid n \geq 2\}$

$(01)^n 0^{n-2} = 0101(01)^{n-2} 0^{n-2}$, $n \geq 2$

PORNIRE – citesc 0101 și apoi pornim ca la rec. $a^n b^n$.

$f(s_0, 0, z_0) = (s_1, z_0)$

$f(s_1, 1, z_0) = (s_2, z_0)$

$f(s_2, 0, z_0) = (s_3, z_0)$

$f(s_3, 1, z_0) = (s_4, z_0)$ tratăm cazul n=2 separat

$f(s_4, 0, z_0) = (s_5, Az_0)$

$f(s_5, 1, A) = (s_4, A)$

UMPLERE

$f(s_4, 0, A) = (s_5, AA)$

$f(s_5, 1, A) = (s_4, A)$

GASIRE MIJLOC

$f(s_4, 0, A) = (s_6, \lambda)$

Golire

$f(s_6, 0, A) = (s_6, \lambda)$

Recunoaștere

$f(s_6, \lambda, z_0) = (s_{50}, \lambda)$

$f(s_4, \lambda, z_0) = (s_{100}, \lambda)$ rec n=2

$L_2 = \{ (01)^n 0^{n-2} \mid n \geq 2 \}$

$p = (01)^3 0 \quad |p| = 7$

$(n_0, 0101010, z_0) \vdash (n_1, 101010, z_0) \vdash (n_2, 01010, z_0) \vdash (n_3, 1010, z_0) \vdash (n_4, 010, z_0)$

$\vdash (n_5, 10, A z_0) \vdash (n_4, 0, A z_0) \vdash (n_6, \lambda, z_0) \vdash (n_{50}, \lambda, \lambda)$