Proprietati de inchidere ale limbajelor regulare

- Teorema:

Daca L_1, L_2 sunt limbaje regulare peste alfabetul Σ

atunci: $L_1 \cup L_2$, $L_1 \cap L_2$, $L_1 L_2$, L_1^*, complement(L_1)
sunt limbaje regulare

$L_1 \cup L_2$, $L_1 L_2$, L_1^*

echiv. AF si mult/expr. regulare

Proprietati de inchidere ale limbajelor regulare

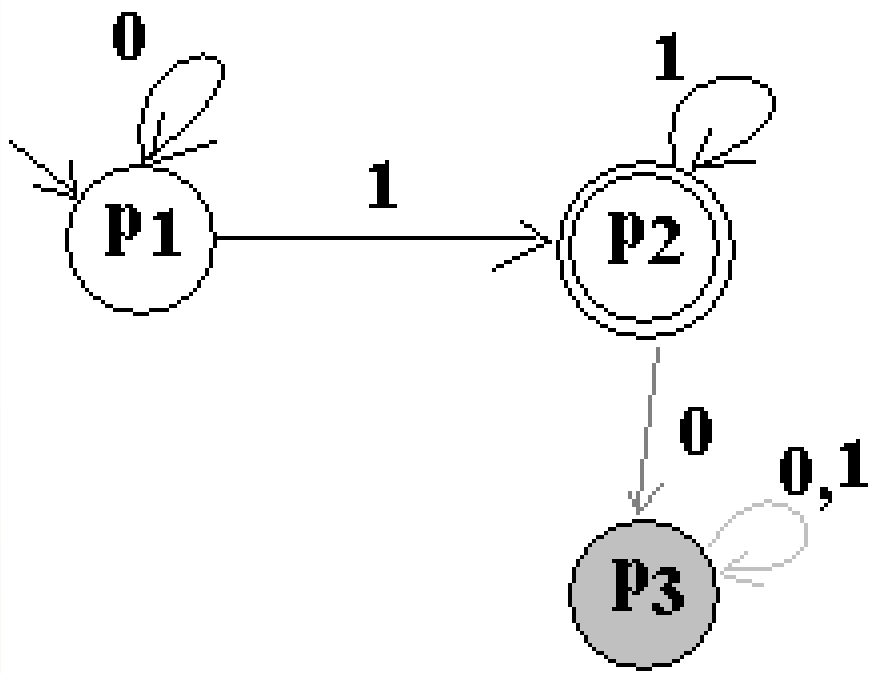
$L_1 \cap L_2$

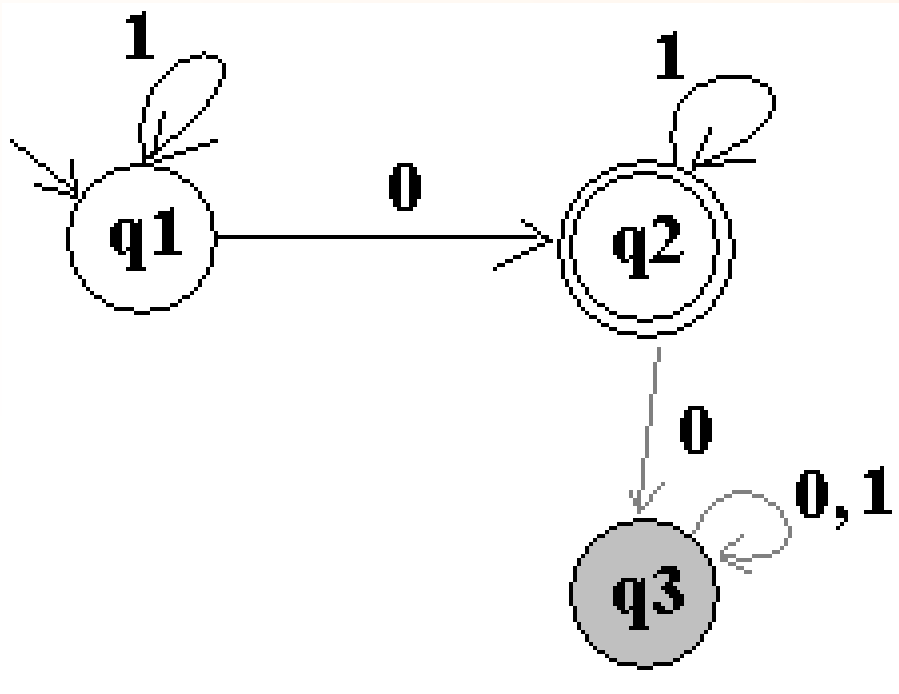
- $M_1 = (Q_1, \Sigma, \delta_1, q_{01}, F_1)$
- $M_2 = (Q_2, \Sigma, \delta_2, q_{02}, F_2)$
- ? $M = (Q, \Sigma, \delta, q_0, F)$

PP. ca aut. M_1 si M_2 sint deterministe, complet definite !

(alg. de constr. !!)

- $\delta((q_1,q_2),a) = (\delta_1(q_1,a),\delta_2(q_2,a))$
- $M = (Q_1 x Q_2, \Sigma , \delta, (q_{01},q_{02}), F_1 x F_2)$


0
1
1
p1
p2
0
0,1
p3


1
1
q1
0
q2
0
0,1
q3

Proprietati de inchidere ale limbajelor regulare

complement(L_1)

- $M_1 = (Q_1, \Sigma, \delta_1, q_{01}, F_1)$
- ? $M = (Q, \Sigma, \delta, q_0, F)$

PP. ca aut. M_1 este determinist complet definit !

(alg. de constr.)

- $M_1 = (Q_1, \Sigma, \delta_1, q_{01}, Q_1\text{-}F_1)$