

- DFA
- REGOLARI DFA/NFA

AUTOMA DFA

$$A = (Q, \Sigma, \delta, Q_0, F)$$

- Q \rightarrow INS. FINI DI STATI
- Σ \rightarrow ALFABETO DI SIMBOLI
- δ \rightarrow FUNZ. DI TRANSIZIONI
- Q_0 \rightarrow STATO INIZIALE
- F \rightarrow INS. DI STATI FINALI



LING. ACCETTATO =
A UDOA CON O1 COME
SOTTO: STRNGA

- $P = \{q_1, q_2, q_3\}$

- $Z = \{q_1\}$

→ TABELLA
DI

TRANSIZIONI

	0	1
q_1	p_1	q_2
q_2	q_3	p_2
q_3	q_1	q_2

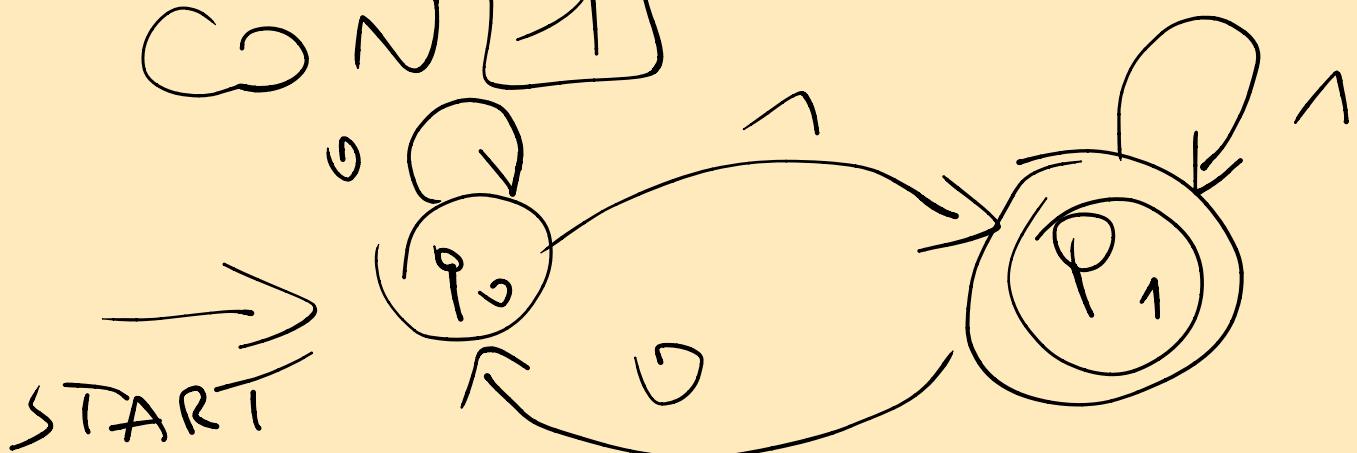
- $F = \{q_2\}$ $L(A) =$
LING. ACCETTATO
DA A

L. REGDARSI

→ DFA → INIZIA
CON UNO STATO
INIZIALE E
FINISCE CON LO STESSO
STATO FINALE
DESCRITTO

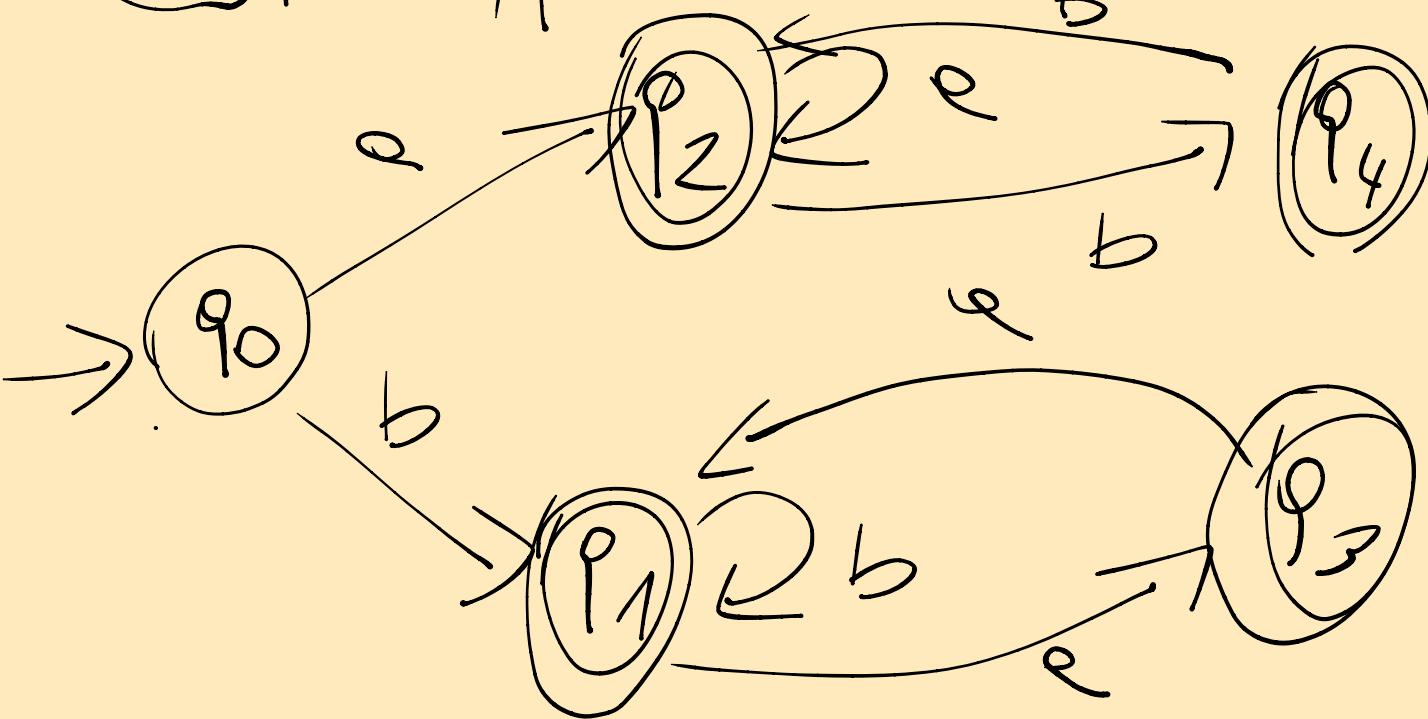
ES. DFA

= PAROLE CHE TERMINANO
CON $\boxed{1}$



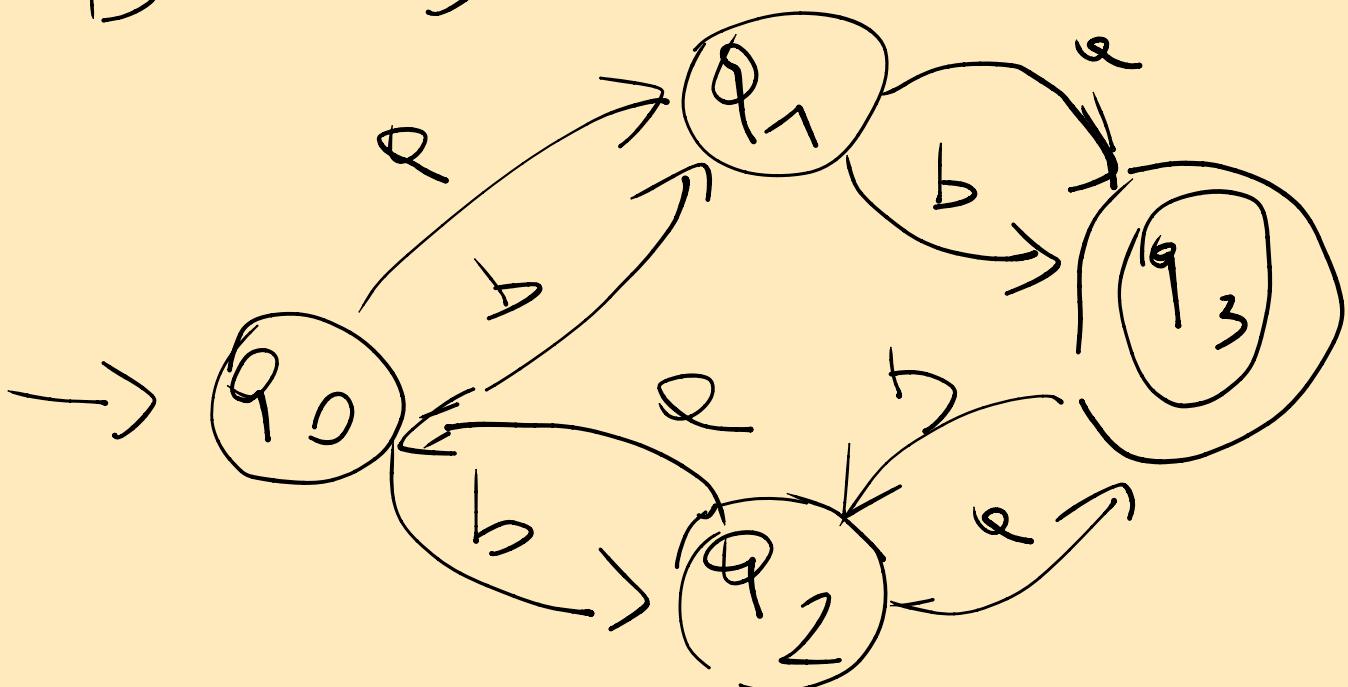
- PAROLE CHE TERMINANO

CON "A" O CON "B"

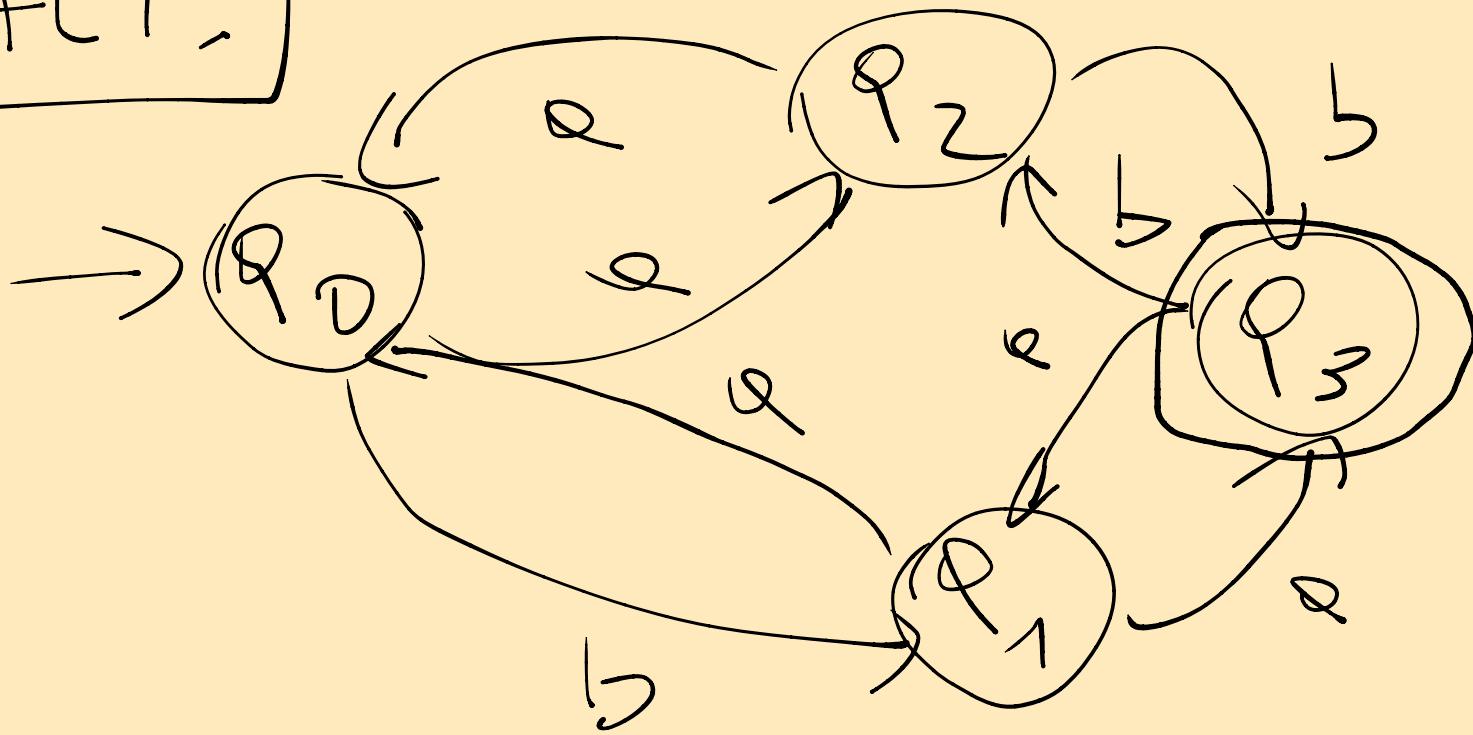


- DFA $\rightarrow \{0, 1\}$ (ALF.)

CON NVR. PARTI DI "A" \hookrightarrow
DI "B"

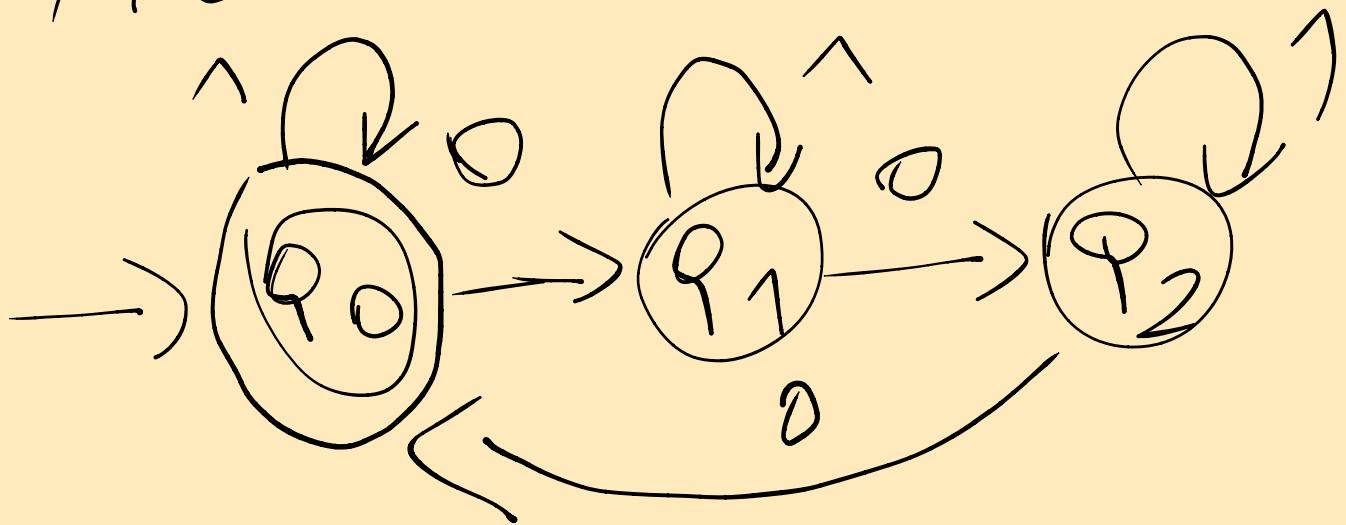


ALT.



DFA CON MNR. D10

MULTIPLA D 13



= DFA CON UNA

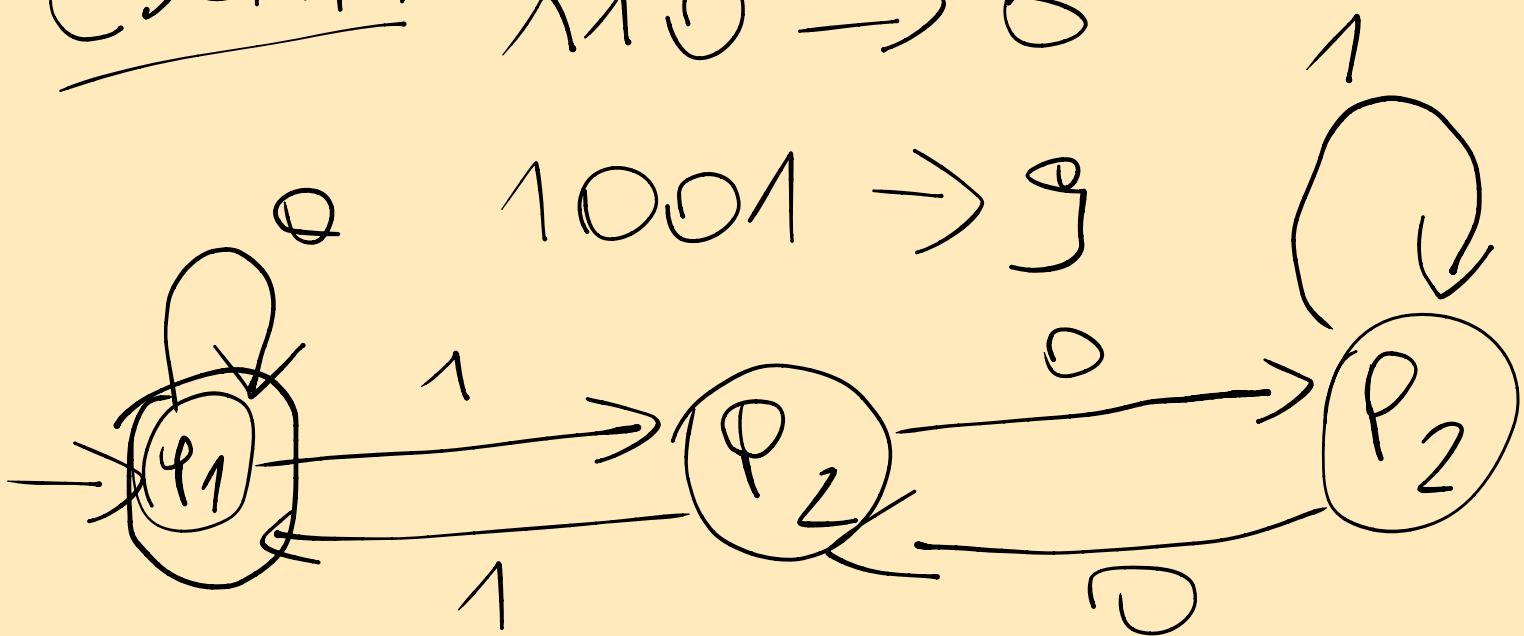
CODIFICA BINARIA
MULTIPLA D13

$11 \rightarrow 3$

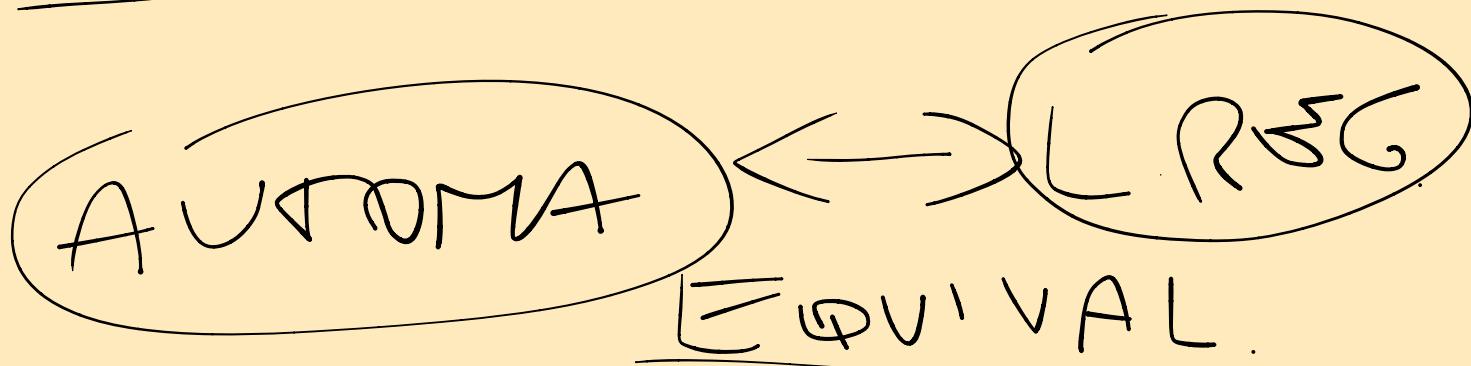
ESEMPIO

$110 \rightarrow 6$

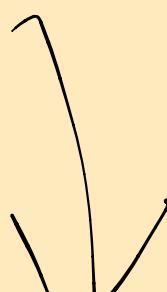
$1001 \rightarrow 9$



NFA



PUMPING LEMMA



L'm lying regular

L'n'g lying regular



OPERAZ. REGOLARI

eb
be → ebbe

- = INTERSEZIONI
- = CONCERNAZIONI
- = COMPLEMENTI
- = STAR DI KLEEN

$\Rightarrow L^* = \{ w_1, \dots, w_k \}$

↗

Grammars

$$A_L = (Q_L, \Sigma, \delta_L, q_L, F_L)$$

$$A_\eta = (Q_\eta, \Sigma, \delta_\eta, q_\eta, F_\eta)$$

$$A_{L \cup \eta} = (Q_L \times Q_\eta, \Sigma, \delta_{L \cup \eta}, (q_L, q_\eta), F_L \times F_\eta)$$

$$\delta_{L \cup \eta}((p_i q), q) =$$

INPUT

$(\delta_L(p_1, q), \delta_R(q_1, q))$



COMB.

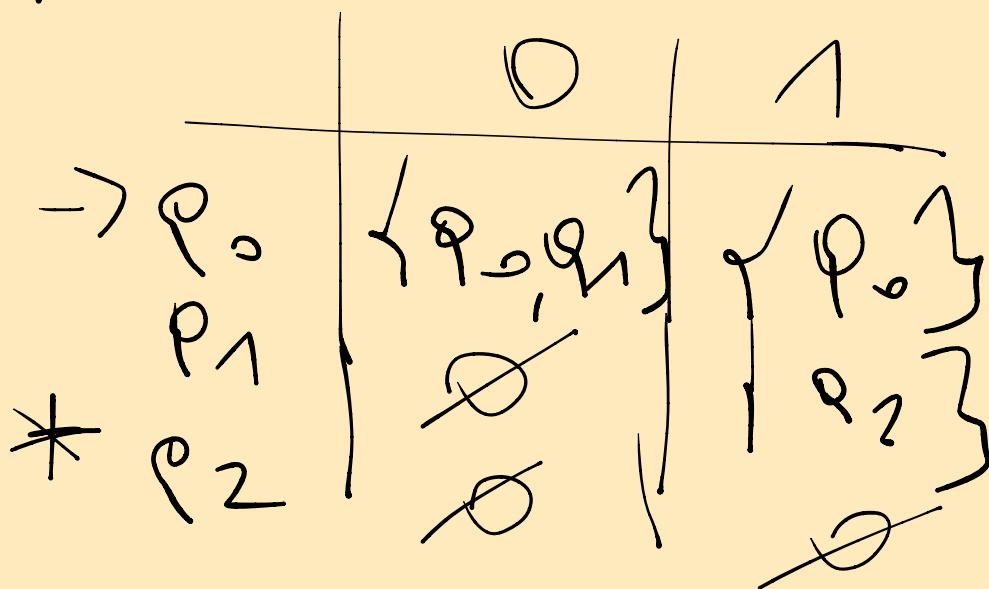
CON INPUT

= NFA

→ NON-DETERMINISTICO

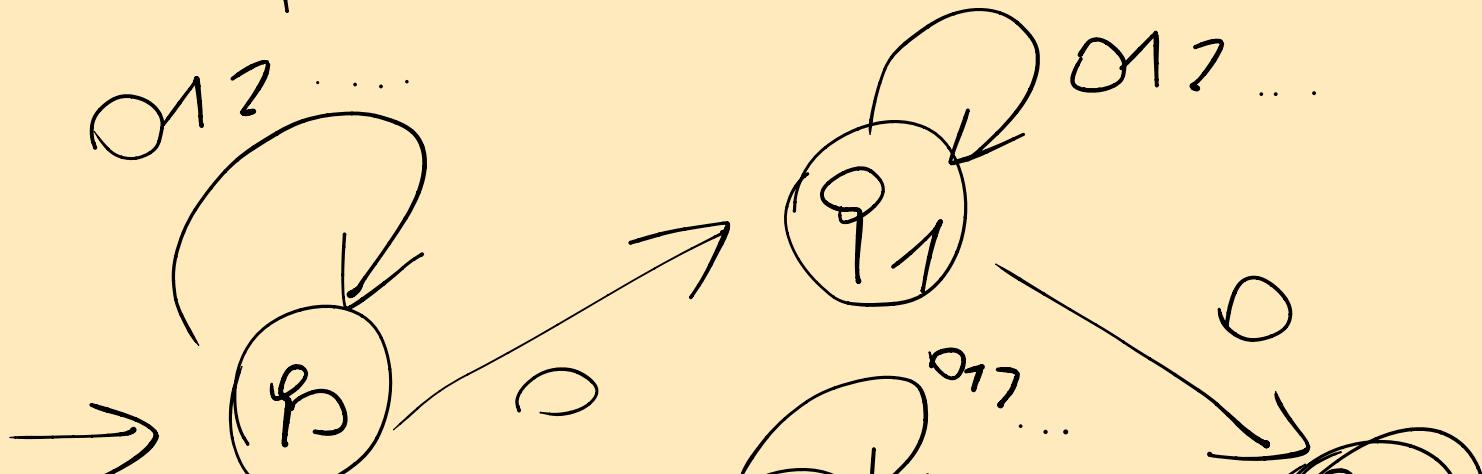
- PIÙ POSSIBILI STATE
FINALI

NFA → RICONOSCE
PAROLE CON OA



NFA / DFA ACCETTANO
GLI LINGUAGGI
~~SIMPLISSSI~~

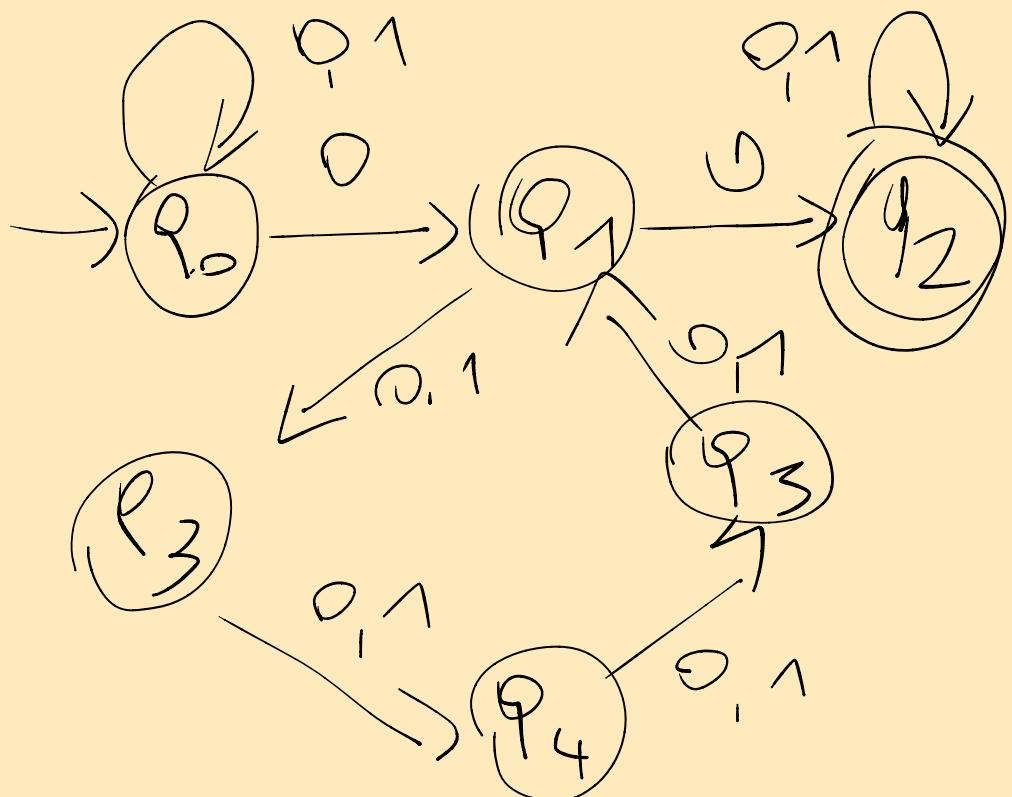
- INSIEME PAROLE
CON $\{0, \dots, g\}^*$
FARÉ IN MODO CHE
LA CITTRA FINALE
SIA GIÀ COMPARSATA
IN PRECEDENZA





NOTA: ANDREBBE PER TUTTA
INVERSIONE

- INSIEME DI ~~SEGNAZIONI~~
CON 2 ZERI SEP.
DA UN MULTIPLO DI 4



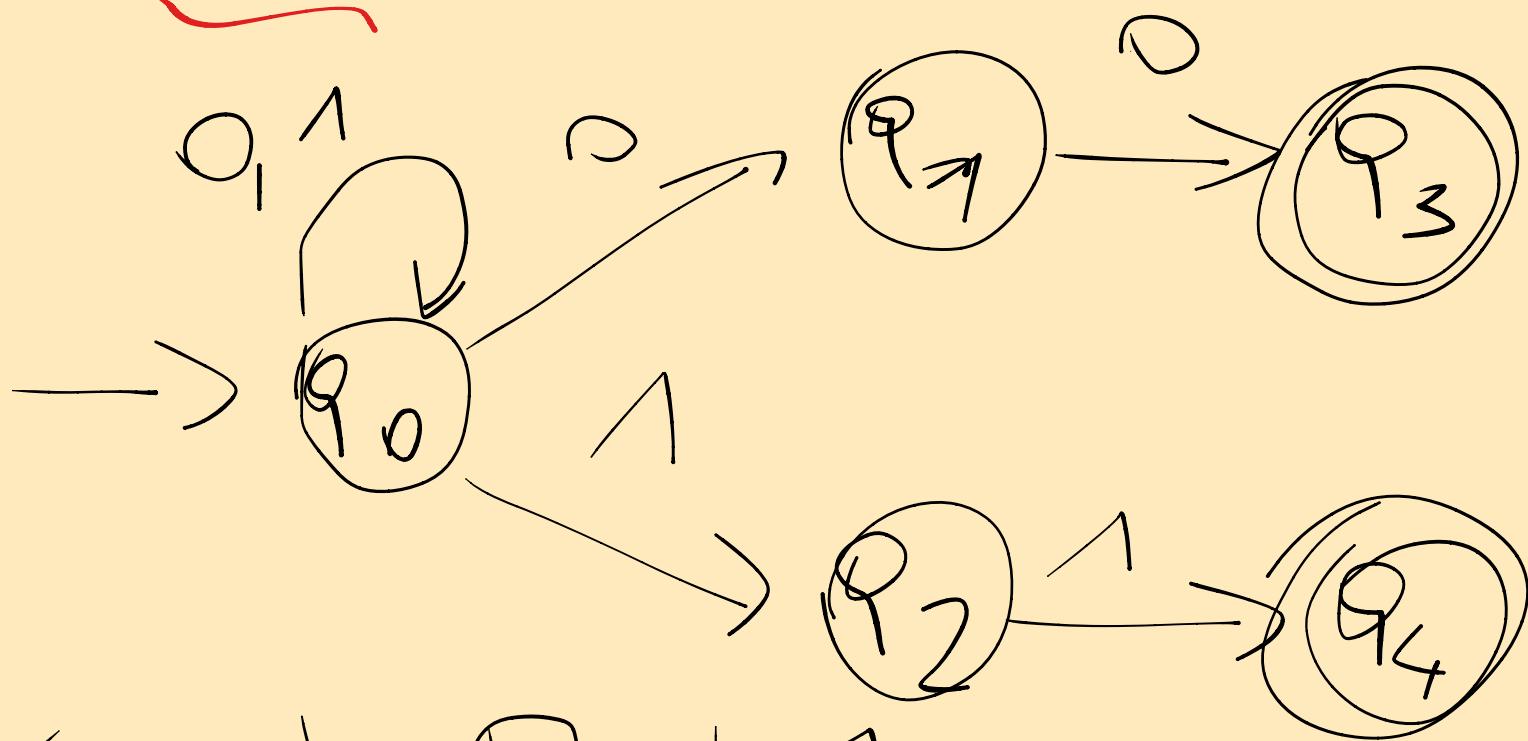
DFA / NFA =
SOGSSI LIN GUAGGI



Σ = NON CONSUMO
(EPSILON) SIMBOLI

Σ REALIZZANO
TRANSIZIONI Vuote

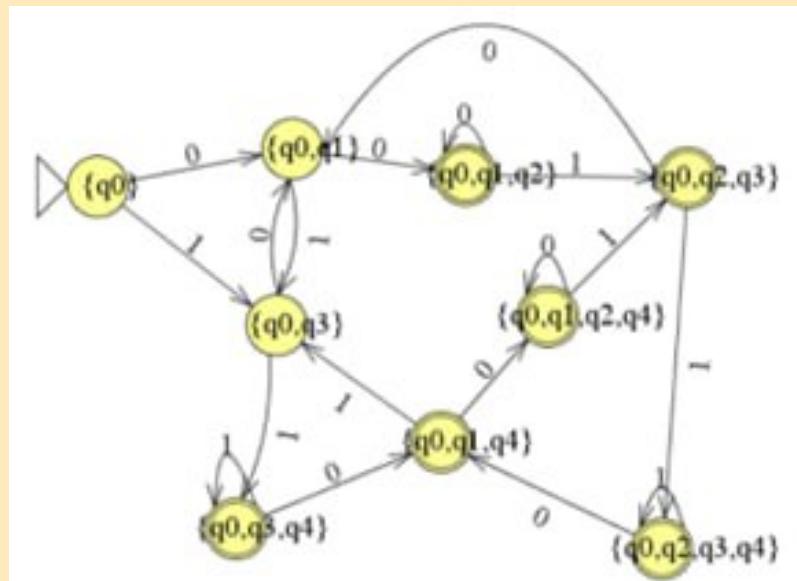
- CONVERSIONS NFA
— DFA



STAR	0	1
$\rightarrow Q_0$	(Q_0, Q_1)	(Q_0, Q_2)
Q_1	Q_3	\emptyset
Q_2	\emptyset	Q_4
* Q_3		ENDING
* Q_4		IN FLORP
(Q_0, Q_1)		DEFINITION
(Q_0, Q_2)		

- GESNRB LA
 COMBINATORIA D'
 NUM GLI STATI
 E COSTRUIRE
 LA TABULA IN FONDO
 INCREMENTALI!

RIS.
FINITO



(ε-NFA)

$A_z(Q, \Sigma, \delta, Q_0, F)$
 T

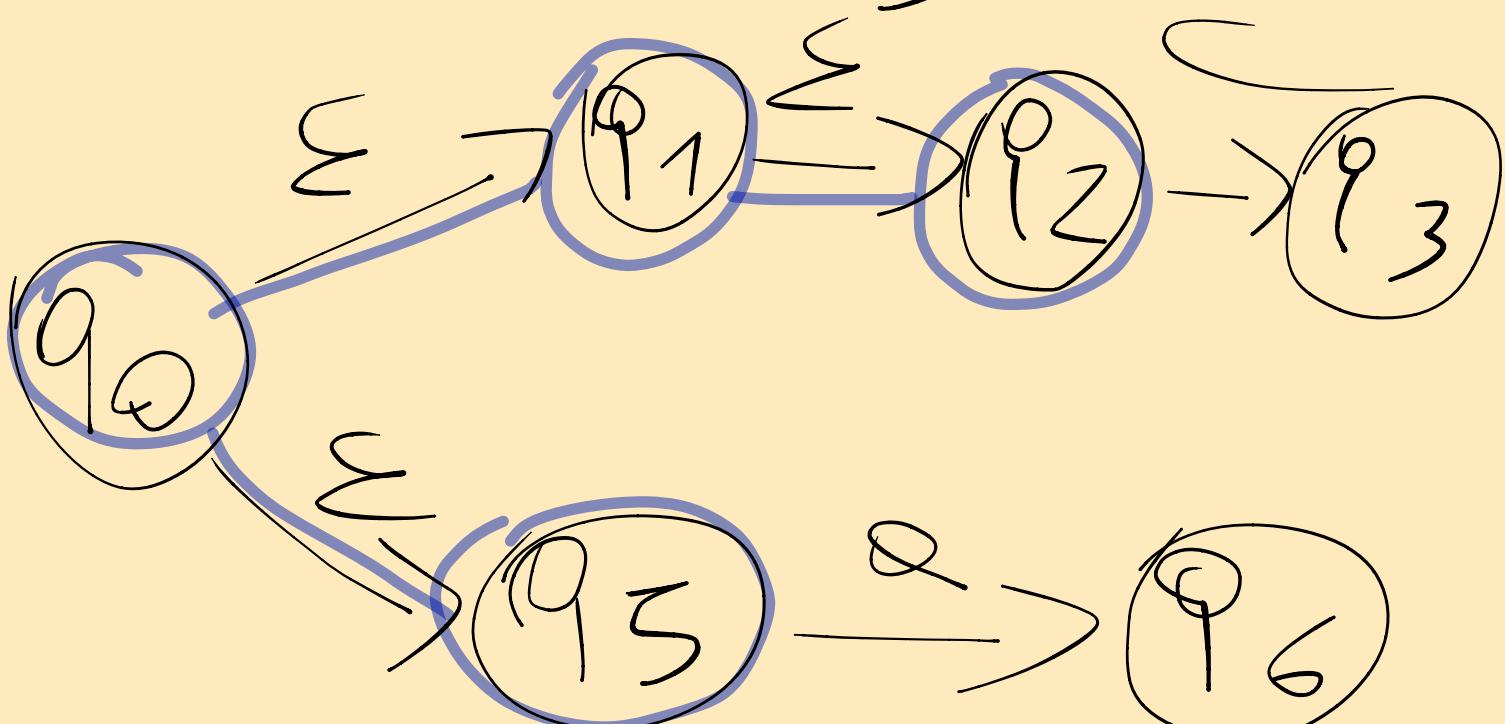
IN SER 'S CO "A"

" ϵ " Σ δ (q_1, q)
 Q_0, F

ϵ -NFA =

$A = (Q, \Sigma, \delta, Q_0, F)$

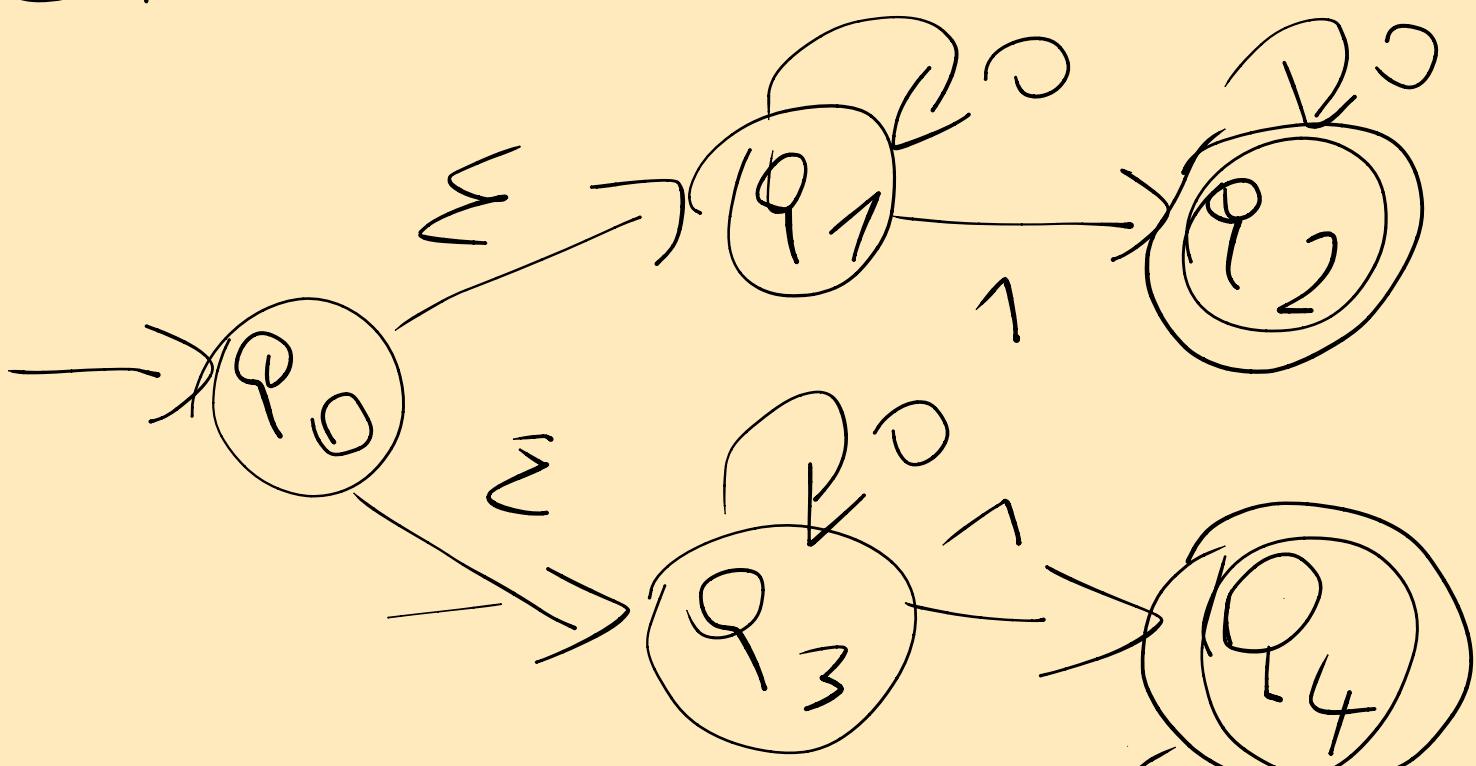
$\Sigma \cup \{\epsilon\}$



ϵ -CHIUSURA =

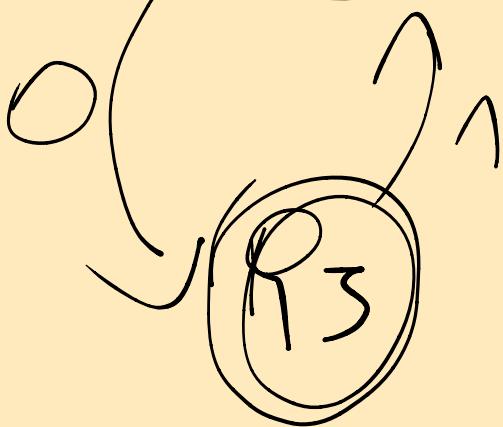
INSIEME DEGLI STATI
CHE NON CONSUMANO
TRANSIZIONI.

CONVERSAZIONE NFA - DFA



① ϵ -CHIUS.

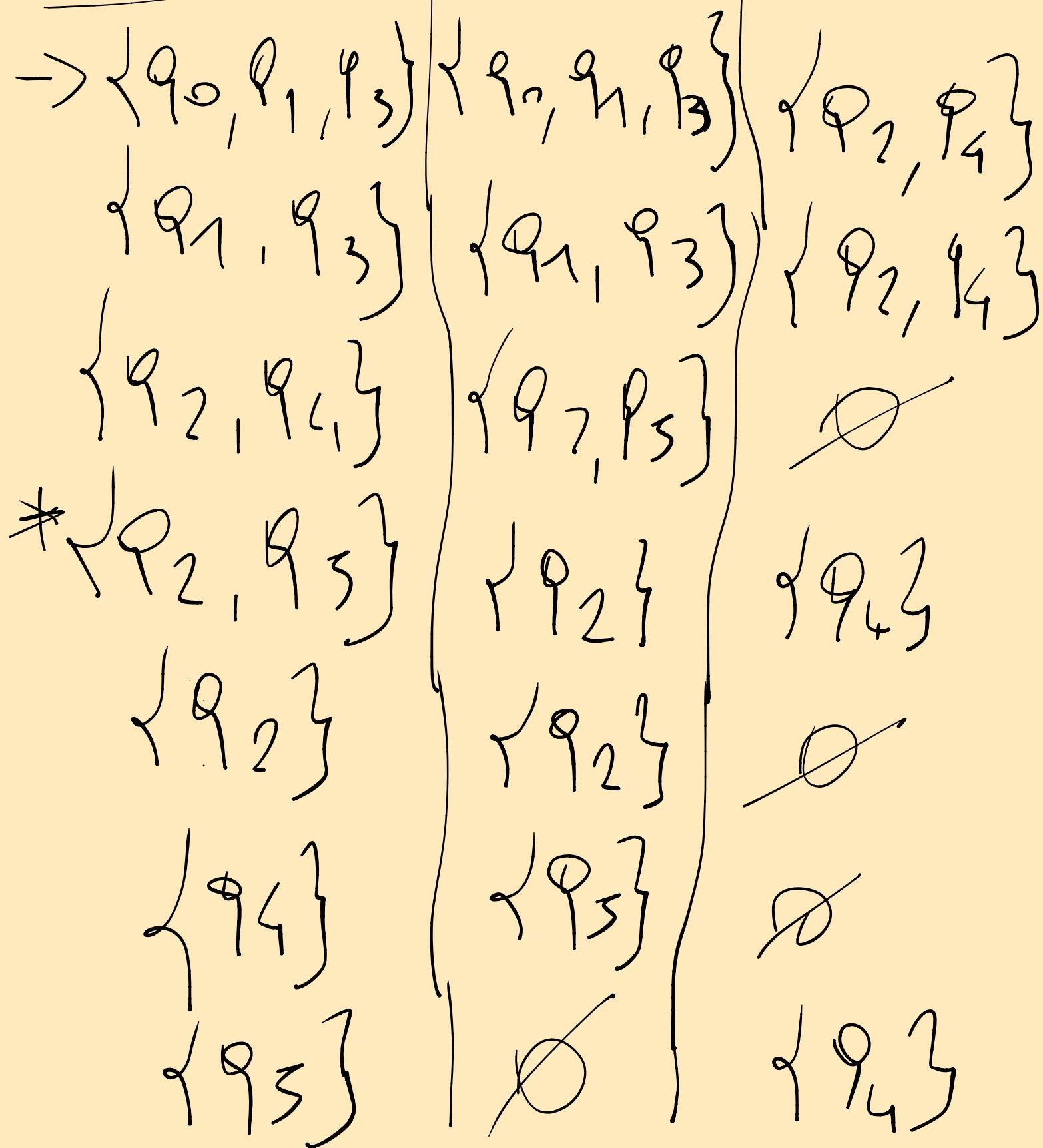
$\{q_0, q_1, q_3\}$



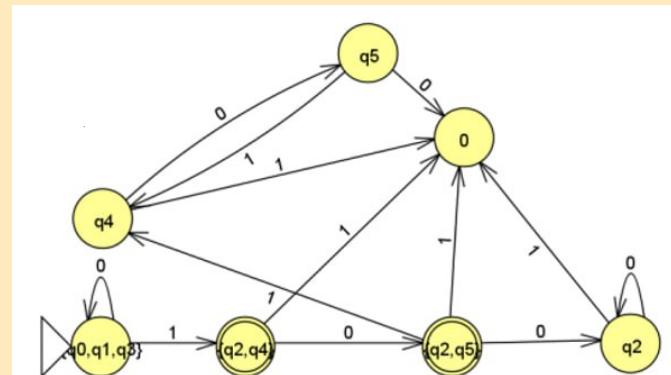
STAR

O

1



R.S.
COMPL B7A

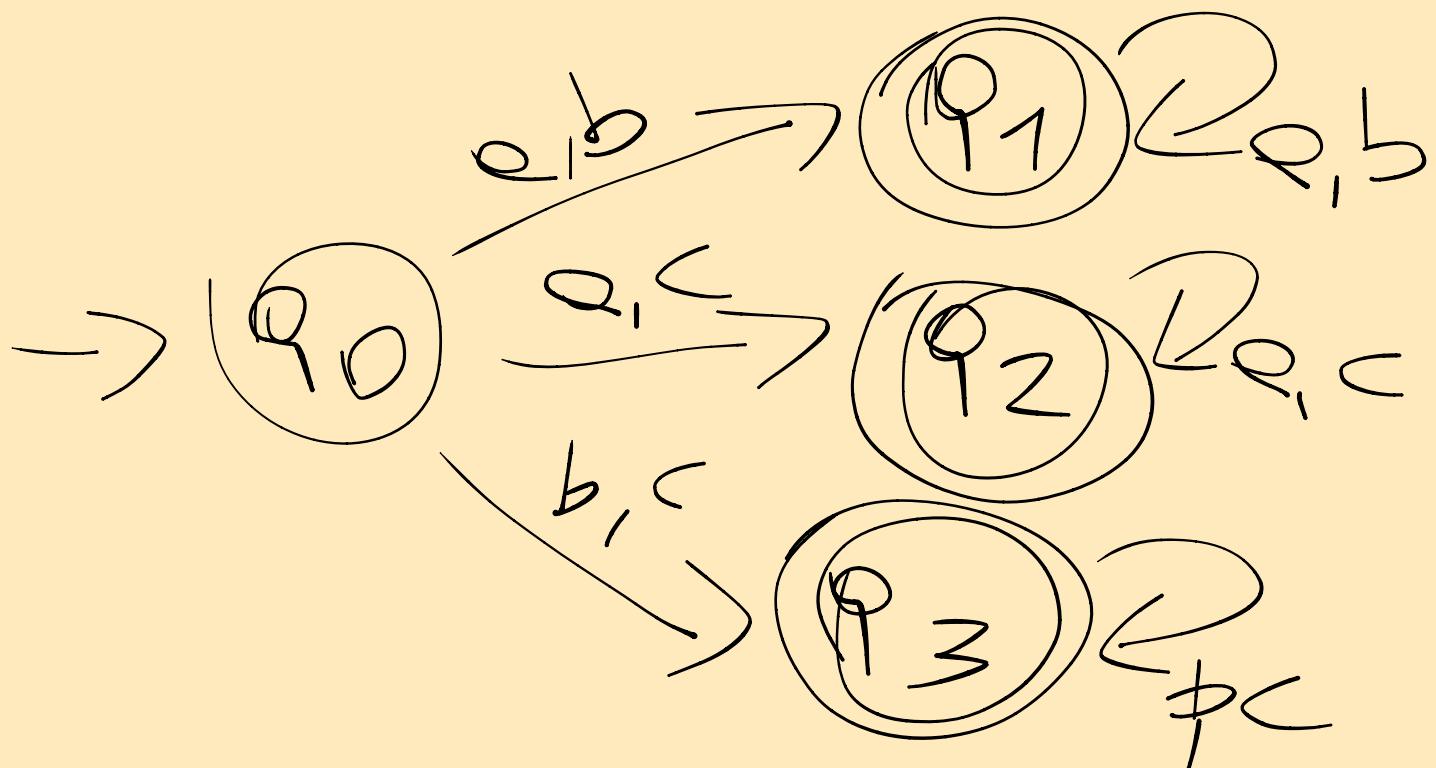


NFA / ε-NFA

$$-\{a, b, c\}^* -$$

NON CON RAISON

TUTTI I SIMBOLI



= CONTENT 11 / 101

