



**COSTRUZIONE AUTOMI A STATI FINITI PER IL RICONOSCIMENTO DI
LINGUAGGI REGOLARI**

Dato il Linguaggio:

- generare la grammatica
- darne la classificazione
- costruire l'automa a stati finiti per il suo riconoscimento

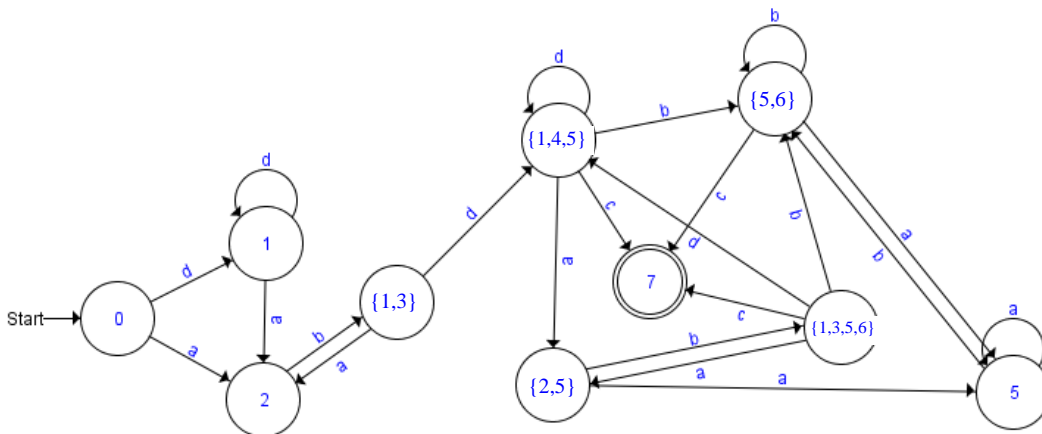
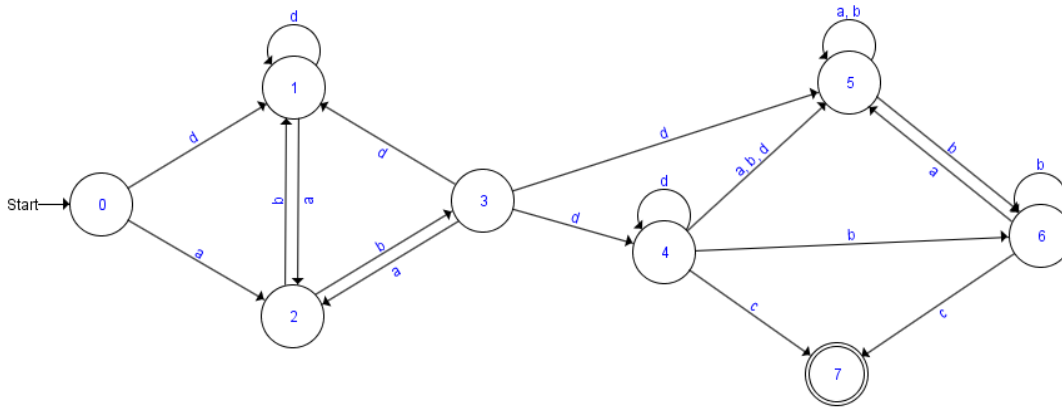
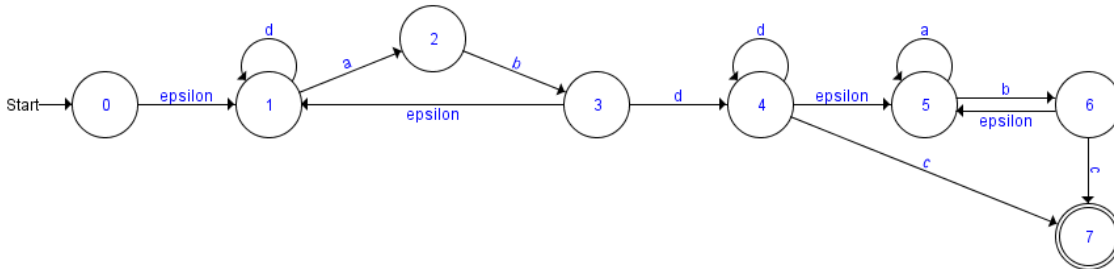
1. $(d^*ab)^+d^+(a^*b)^*c$
2. $(a^+b^+)^+(dca^*|cb^+(ab)^*)$
3. $(ab^*(fb)^+|dc^*a)^*ec^*$
4. $(a^*b^+c)^+((db)^*)^+$
5. $((a^*b^+c)^+(db)^*)^+$
6. $(a^+b^+c)^+(db|bg)^*(e^+d^+a^*b^*)^+$
7. $(a^+b^*c^+)^+(a^+(cb)^*c^+)^*$



SOLUZIONI

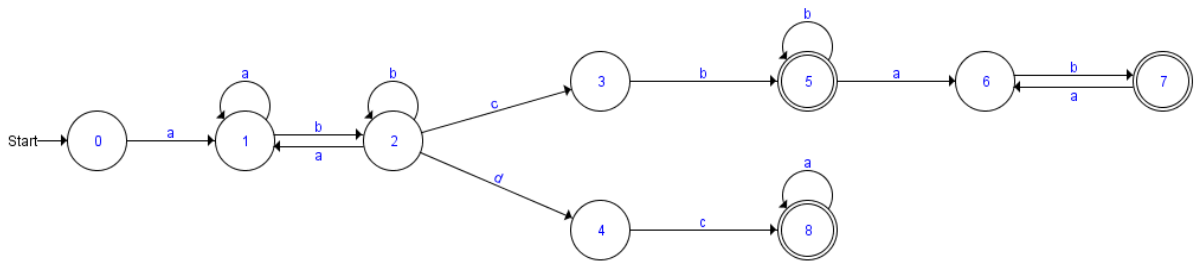
- $(d^*ab)^+d^+(a^*b)^*c$
 $S \rightarrow Ac$
 $A \rightarrow Bb \mid C$
 $B \rightarrow Ba \mid A$
 $C \rightarrow Cd \mid Dd$
 $D \rightarrow Eab$
 $E \rightarrow Ed \mid D \mid \epsilon$

Tipo 3



2. $(a^+b^+)^+(dca^*|cb^+(ab)^*)$
 $S \rightarrow aS \mid aA$
 $A \rightarrow bA \mid bS \mid bB$
 $B \rightarrow dcC \mid cD$
 $C \rightarrow aC \mid \epsilon$
 $D \rightarrow bD \mid bE$
 $E \rightarrow abE \mid \epsilon$

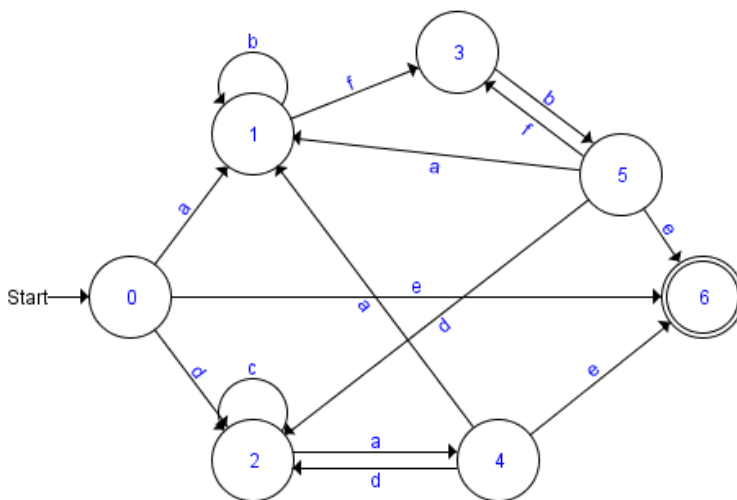
Tipo 3



3. $(ab^*(ab)^+|dc^*a)^*ec^*$

- $S \rightarrow Sc \mid Ae$
 $A \rightarrow B \mid C \mid \epsilon$
 $B \rightarrow Bfb \mid Dfb$
 $D \rightarrow Db \mid Aa$
 $C \rightarrow Ea$
 $E \rightarrow Ec \mid Ad$

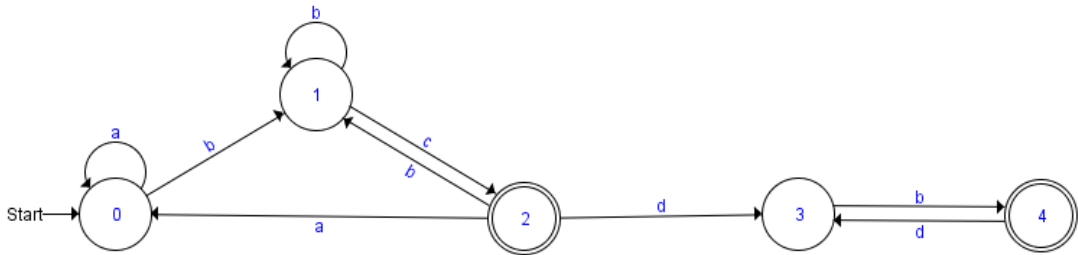
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4. $(a^*b^+c)^+((db)^*)^+$

$S \rightarrow aS \mid A$
 $A \rightarrow bA \mid bcS \mid bcB$
 $B \rightarrow dbB \mid \epsilon$

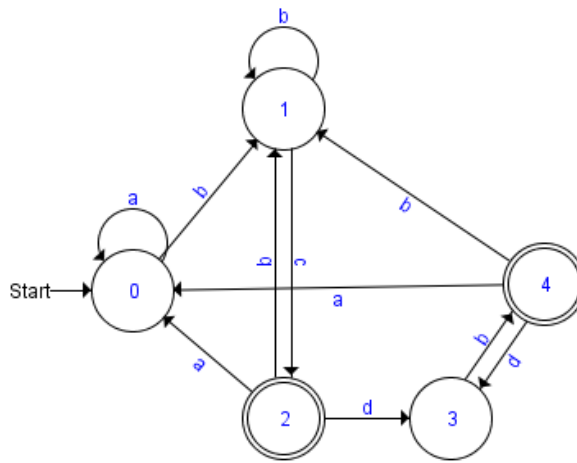
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5. $((a^*b^+c)^+(db)^*)^+$

$S \rightarrow aS \mid A$
 $A \rightarrow bA \mid bcS \mid bcB$
 $B \rightarrow dbB \mid S \mid \epsilon$

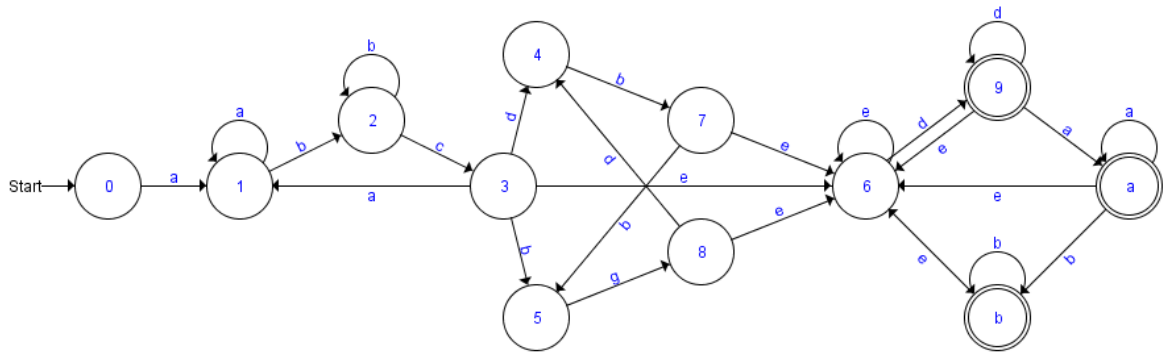
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6. $(a^+b^+c)^+(db|bg)^*(e^+d^+a^*b^*)^+$

$S \rightarrow aS \mid aA$
 $A \rightarrow bA \mid bcS \mid bcB$
 $B \rightarrow dbB \mid bgB \mid C$
 $C \rightarrow eC \mid eD$
 $D \rightarrow dD \mid dE$
 $E \rightarrow aE \mid F$
 $F \rightarrow bF \mid C \mid \varepsilon$

Tipo 3



7. $(a^+b^*c^+)^+(a^+(cb)^*c^+)^*$

$S \rightarrow aS \mid aA$
 $A \rightarrow bA \mid B$
 $B \rightarrow cB \mid cS \mid cC$
 $C \rightarrow D \mid \varepsilon$
 $D \rightarrow aD \mid aE$
 $E \rightarrow cbE \mid F$
 $F \rightarrow cF \mid cC$

Tipo 3

