



COSTRUZIONE AUTOMI A PILA

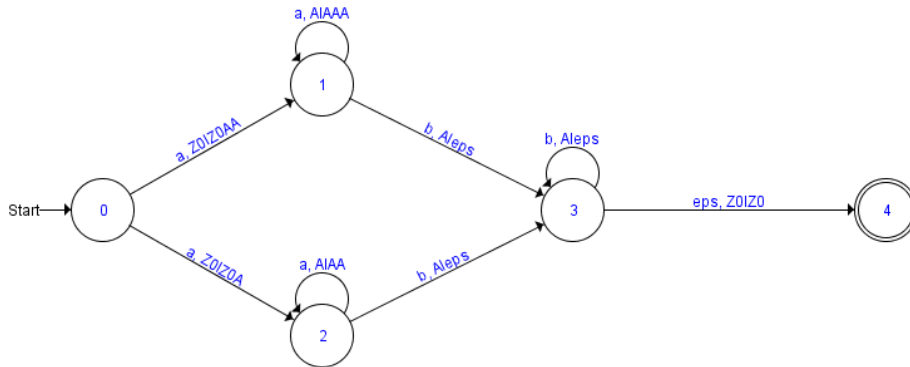
Per ciascuno dei seguenti linguaggi, costruire un automa riconoscitore, possibilmente deterministico.

1. $L = \{a^n b^n \mid n > 0\} \cup \{a^n b^{2n} \mid n > 0\}$
2. $L = \{a^n b^m c^k \mid n, m, k > 0, n = m \text{ oppure } n = k\}$
3. $L = \{(ab)^n d^+ c^m d^d (ce)^+ \mid n > m + p, m > 0, p > 0\}$
4. $L = \{(wc^+ w^R)^n c^+ a^m b^q \mid n + m > q, q \geq 0, w \in \{a, b\}^+\}$
5. $L = \{a^n b^m c^+ a^p b^q c^p \mid p \in \{2, 4\}, n + p > m + q, m, n, p > 0\}$
6. $L = \{a^n b^m \mid 0 < n \leq m \leq 2n\}$
7. $L = \{(ab)^n (cd)^n \mid n > 0\}$
8. $L = \{a^n b^m a^m b^n \mid n, m > 0\}$

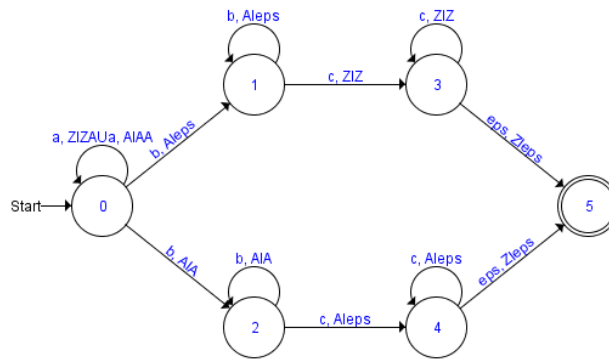


SOLUZIONI

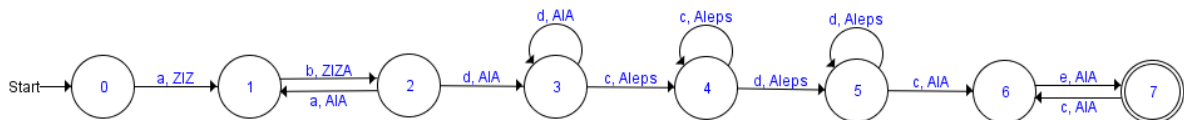
1. $L = \{a^n b^n \mid n > 0\} \cup \{a^n b^{2n} \mid n > 0\}$



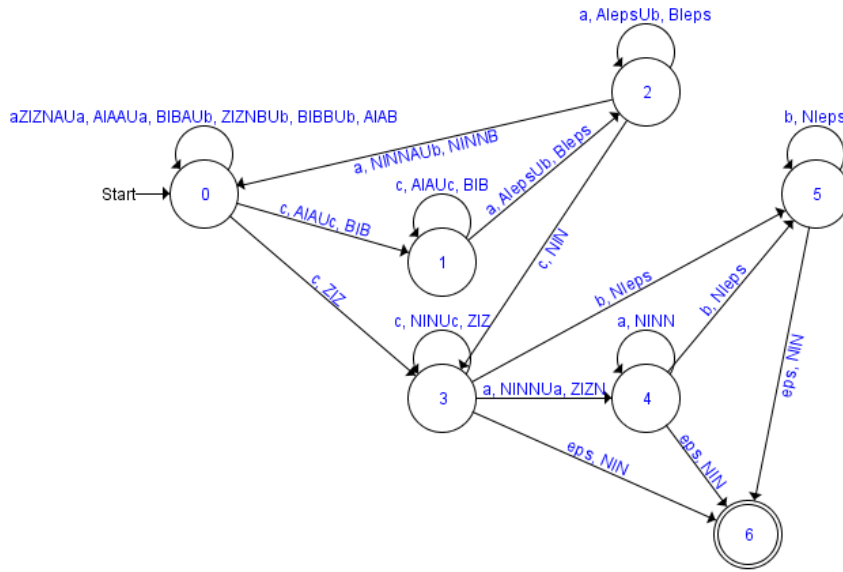
2. $L = \{a^n b^m c^k \mid n, m, k > 0, n=m \text{ oppure } n=k\}$



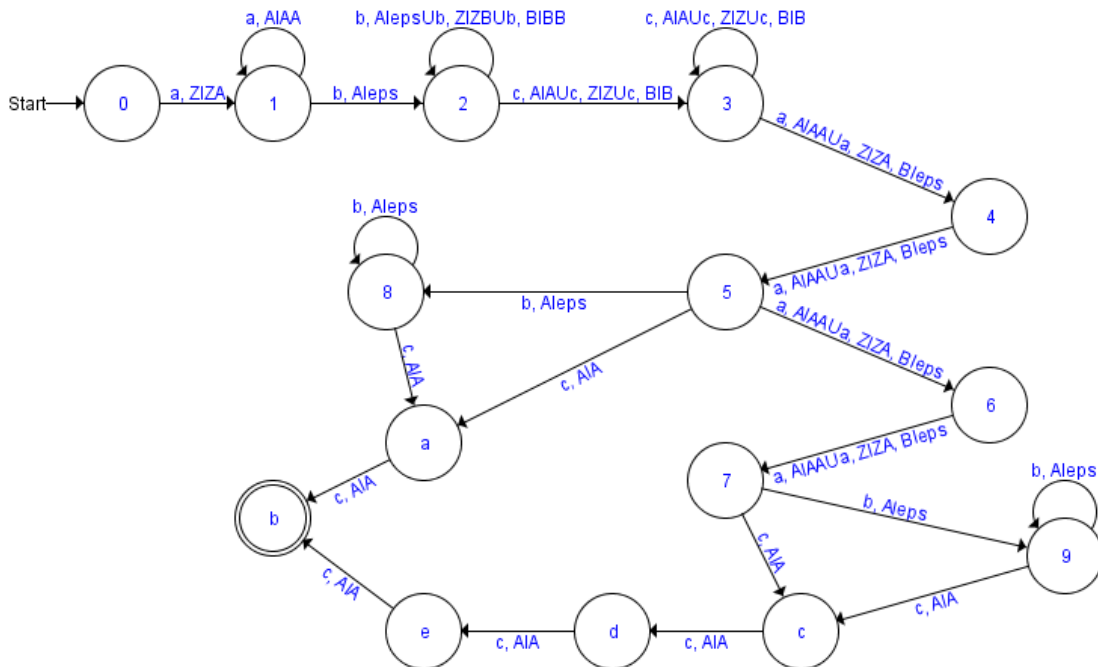
3. $L = \{(ab)^n d^+ c^m d^p (ce)^+ \mid n > m+p, m > 0, p > 0\}$



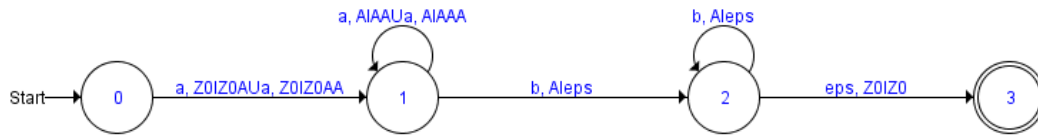
4. $L = \{(wc^+w^R)^n c^+ a^m b^q \mid n+m > q, q \geq 0, w \in \{a,b\}^+\}$



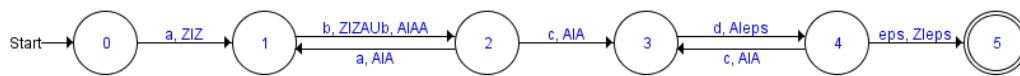
5. $L = \{a^n b^m c^+ a^p b^q c^p \mid p \in \{2,4\}, n+p > m+q, m,n,p > 0\}$



6. $L = \{a^n b^m \mid 0 < n \leq m \leq 2n\}$



7. $L = \{(ab)^n (cd)^n \mid n > 0\}$



8. $L = \{a^n b^m a^m b^n \mid n, m > 0\}$

