1. Construct a DFA and NFA that recognizes the language L={w | w = saba for some string s $\in \Sigma^*$}
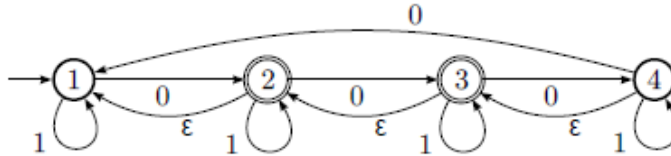   Also check the following words for both NFA & DFA
   i) bbabab
   ii) baba

2. Construct a DFA and NFA for L= { w | w begins with 1 and ends with 0 }
   Also check the following words for both NFA & DFA
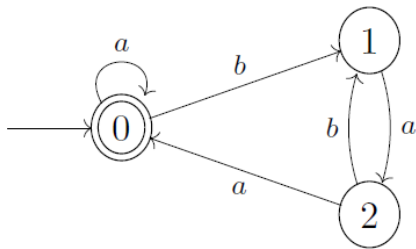   i) 110101
   ii) 1010

3. Convert the following NFA to DFA
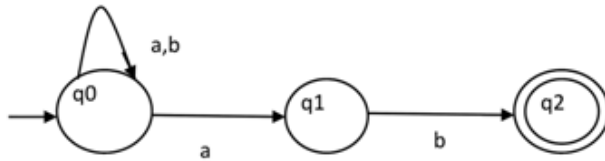
4. Convert the following ε-NFA to NFA

5. Convert the following Regular Expression to ε-NFA.
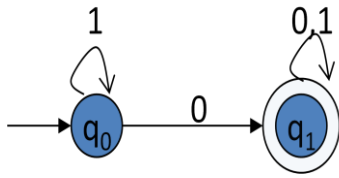   **a. (a|b)* a (a|b)**
   b. (ab)*abc

6. Convert all ε- NFA's in Ex. 5 into minimized DFA.

7. Find the RE for the given FA using $R_{ij}^{(k)}$ method .

(Rearrange the states as 1, 2, and 3)

8. Find the RE for the given FA using Arden's lemma.

9. Check whether the following languages are regular or not.
   a. $L = \{ a^i b^j c^k \ / \ i, j, k \geq 1 \}$
   b. $L = \{ a^{2m} \ / \ m \geq 1 \}$
   c. $L = \{ 0^n 1^m 2^{n+m} \ / \ m, n \geq 1 \}$