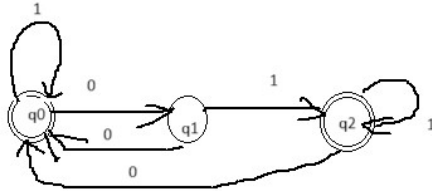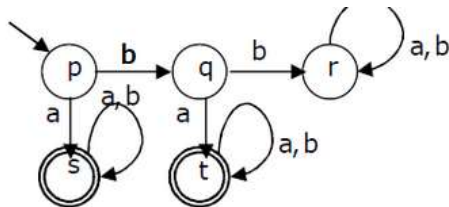a. Apply closure properties and find
    1. Find DFA over {0, 1} ending in a 1 and not containing the substring 00.
    2. Find DFA which accepts strings start with a 0 and has odd length or starts with a 1 and has even length.
    3. Find complement FA for L = {ϵ, a} over {a, b}
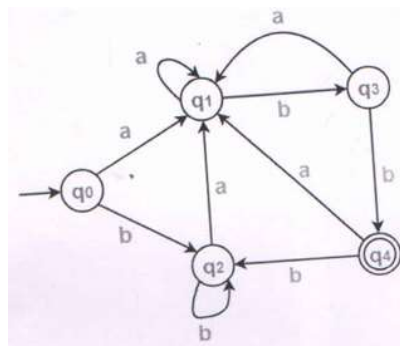   4. Find DFA for L^R.

    5. L1= {x| 00 is not a substring of x}. L2 = {x|x ends with 01}. Design FA to accept L1-L2.
    6. Let Σ = {a, b}, and Δ = {0, 1}. Let L = (00 $\cup$ 1)∗ and h(a) = 01 and h(b) = 10. What is h−1(1001)? What is h−1(010110)? What is h−1(L)?
    7. Find DFA for $L=\{w_1aw_2 | w_1, w_2 \in \{a, b\}*, |w_1| <= 2, |w_2| \geq 2\}$
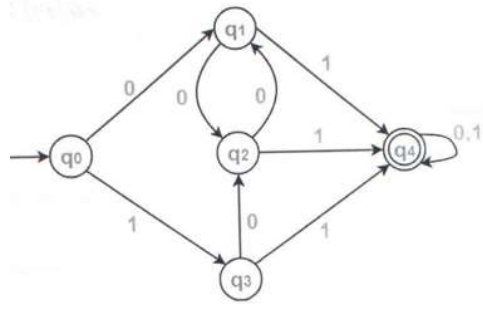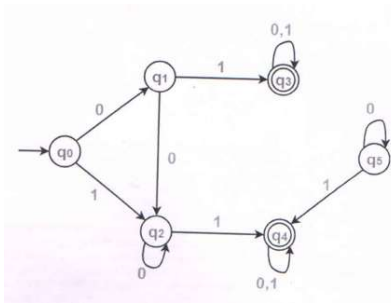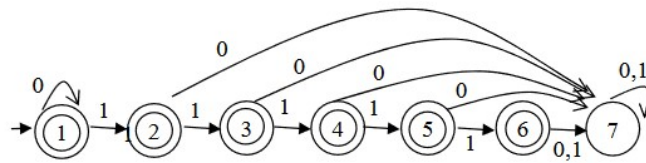
b. Minimize DFA
    1.

    2.

    3.

4.

5.

6.