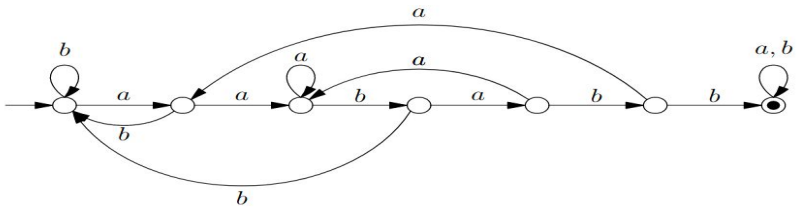
CS303 Tutorial -1

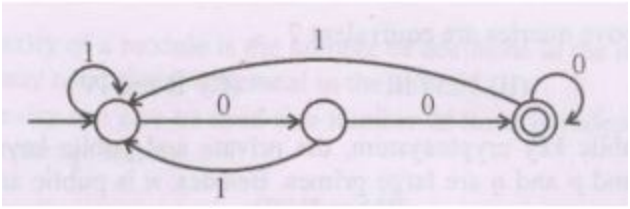
1. Give a DFA for Σ = {0,1} and strings that have an odd number of 1's and any number of 0's.

2. Give a DFA for Σ ={a, b, c} that accepts any string with *aab* as a substring.

3. Given DFA accepts the set of all strings over {a,b} that contain the substring _____.



4.



The above DFA accepts the set of all strings over {0,1} that
(A) begin either with 0 or 1.
(B) end with 0.
(C) end with 00.
(D) contain the substring 00.

5. Design a DFA with ∑ = {0, 1} that accepts the strings with an even number of 0's followed by single 1.

6. Draw a DFA for the language accepting strings ending with '01' over input alphabets ∑ = {0, 1}

7. Draw a DFA for the language accepting strings ending with '0011' over input alphabets ∑ = {0, 1}

8. Draw a DFA that accepts a language L over input alphabets ∑ = {0, 1} such that L is the set of all strings starting with ’00’
9. Define DFA and NFA with illustration. Use all the required notation for each state carefully.
10. Define regular language and regular expressions

Questions to solve within 6/9/2020 (Sunday)

- Construct a DFA that accepts set of all strings over {a,b} of length exactly 2.

- Construct a DFA for set of all strings over {a, b} [w ⊆ {a, b}], such that the length of this string is at least 2 (i.e. |w| ≥ 2).

- Construct a DFA which accepts set of all strings over {a, b} [w ⊆ {a, b}], such that the length of the string is at most 2 (i.e |w| ≤ 2).

- Design a minimal DFA, which accepts set of all strings over {a,b} [w ⊆ {a, b}], such that |w| mod 2 = 0