TOC Assignment - 1 A-58

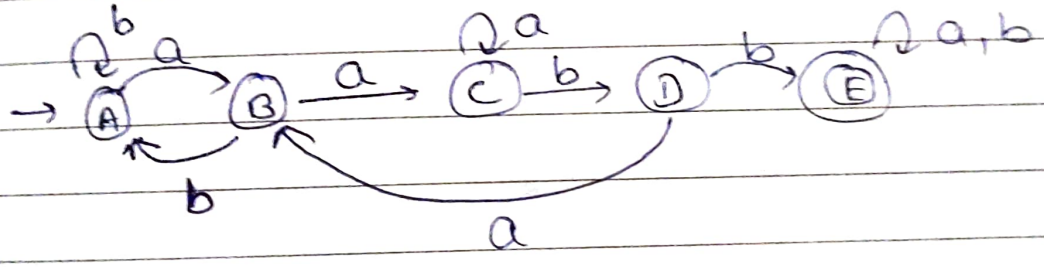
Teacher's Sign.

Q1. $\Sigma = \{0, 1\}$; $L = \{00, 01, 10, 11\}$

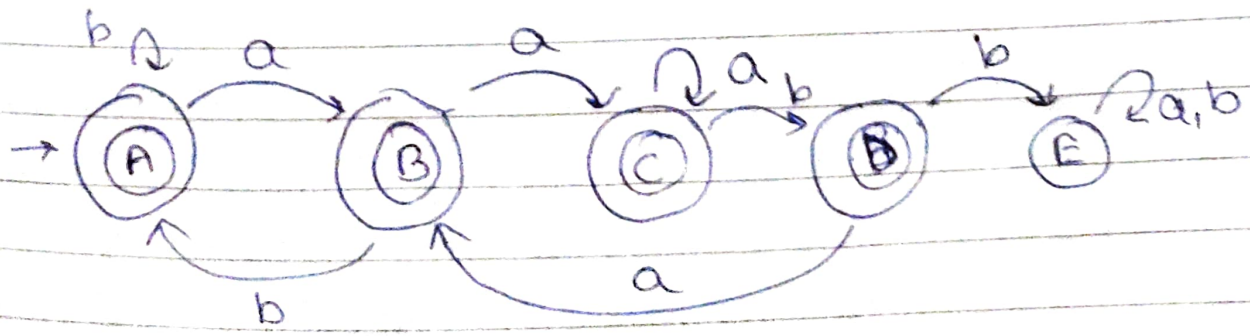
Eg. 00, 11, 001, 1

Q2. $\Sigma = \{a, b\}$; $L = \{aa, ab, ba, bb\}$

Let us construct for aabb;



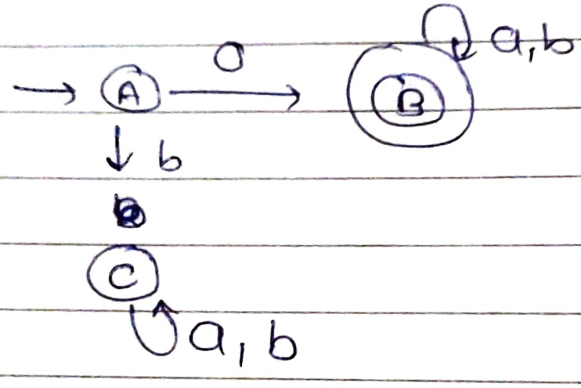
Flip the states / make the final state into non final state and make non-final as final state.



Q3. $\Sigma = \{0, 1\}$

Set of all strings starting with '0'

$L_1 = \{0, 00, 01, 000, 010, 011, \}$



Q4. Power of Sigma:

Σ means alphabets and power of Σ means strings of alphabets of particular length.

Eg. Let $\Sigma = \{a, b\}$.

$\Sigma^{\wedge 1}$ = Set of all strings of length 1.

$\Sigma^{\wedge 2}$ = Set of all string of length 2.

Σ^n n = Set of all Strings of length n.

Q 5.

	DFA	NDFA
→	The transition from a state is to a single particular next state for each input symbol.	The transition from a state can be to multiple next step for each input symbol.
→	Requires more space.	Requires less space
→	Empty strings transition are not seen.	Empty string transition are seen
→	Backtracking is allowed.	Backtracking is not always possible.