section-5

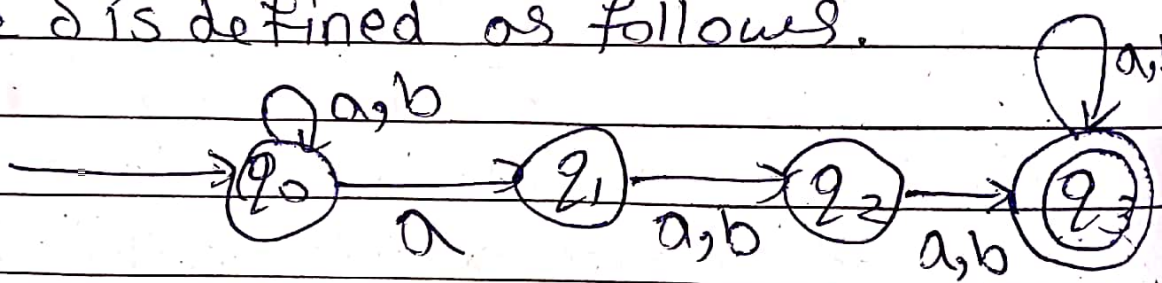
(Q3) Construct a NFA for the language L which accept all the string in which the third symbol from right end is always a over $\Sigma = \{a, b\}$, Difference b/w DFA & NFA.

Sol:

let NFA be

$$M = (Q, \Sigma, \delta, q_0, F)$$

The δ is defined as follows.



$Q = \{q_0, q_1, q_2, q_3\}$

$q_0 = \{q_0\}$, $F = \{q_3\}$

$\Sigma = \{a, b\}$

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DFA	NFA
1. It stands for deterministic finite automata	1. It stands for non-deterministic finite automata.
2. Transition function δ is written as: $\delta: Q \times \Sigma \to Q$	2. Transition function δ is written as $\delta: Q \times (\Sigma \cup \{\varepsilon\}) \to 2^Q$
3. In DFA, ε-transition is not possible	3. In NFA, ε-transitio is possible
4. DFA can not be converted into NFA	4. NFA can be converted into DFA.