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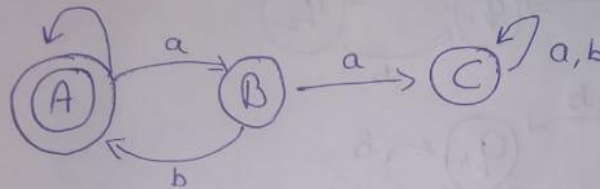
Tutorial-01 (DFA)

1) a)



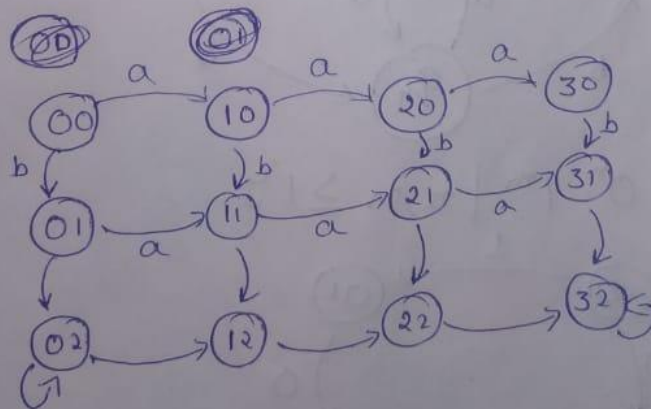
$$\Rightarrow L = \Sigma^* = \{a, b\}^*$$

b)

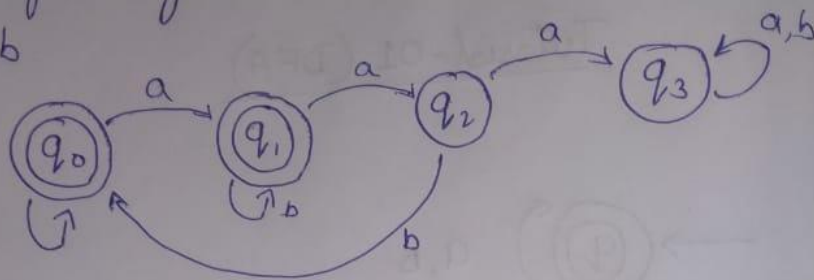


$$\Rightarrow L = \{w/w \text{ contains at most one 'a' and ends with 'b'}\}$$

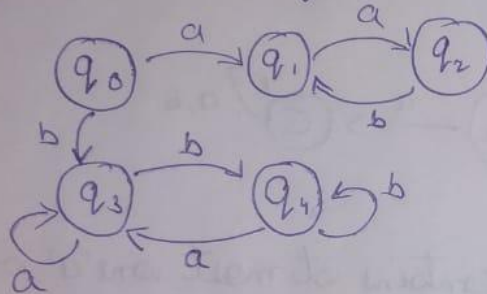
2) (a) $L = \{w/w \text{ has at least three 'a's and at least two 'b's'}\}$



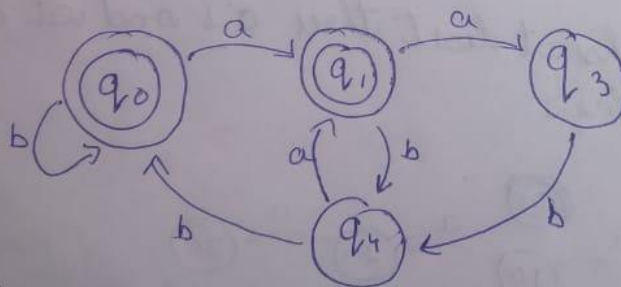
b) Set of string in which every aa is followed by b



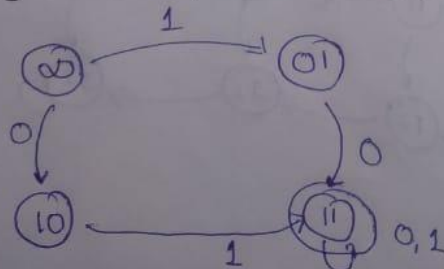
c) string in which every aa is followed by b



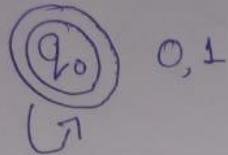
d) $L = \{w/w \text{ has a b in its 2nd last position in such a position exists}\}$



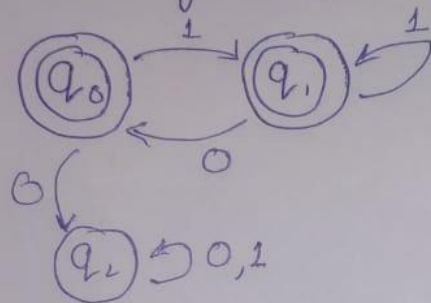
3) a) $L = \{0^n 1^m \mid n, m \geq 1\}$



b) $L = \{0^n 1^m \mid n, m \geq 0\}$



c) $L = \{w \mid \text{every odd position in } w \text{ is a } 1\}$



4) $\Sigma = \{0, 1, 2\}$

$L = \{w \mid \text{the sum of symbols in } w \text{ is a multiple of } 3\}$

