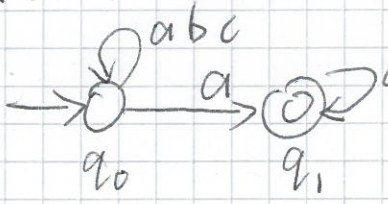
1. (a).

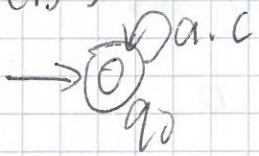


q_0: the strings that each character is a, or b or c

q_1: the strings that have at least one a,

Non-deterministic.

(b).

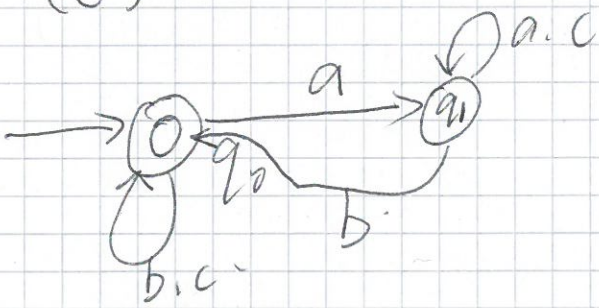


q_0: the strings that don't have b in it,

only a or c happen in the string

~~Deterministic~~ Non-deterministic.

(c).



q_0: the strings that last character is b or c

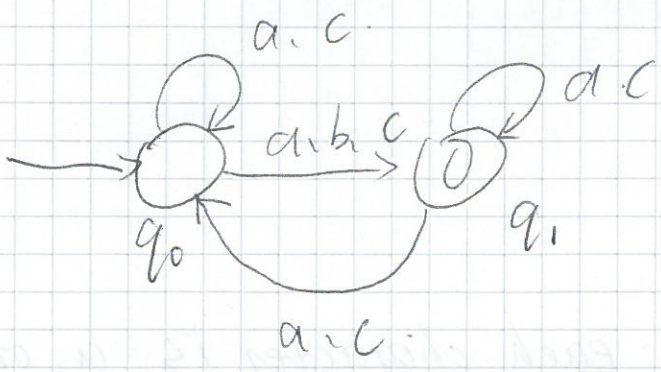
and for each if a happens in the string, there must exist a b later.

q_1: the strings that already have a, but

don't have b following the a.

Deterministic

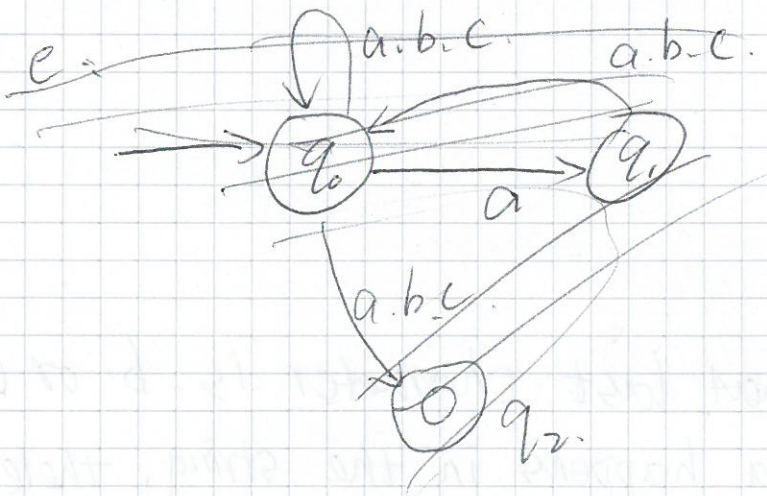
d.



q_0 : the string that have a or c as last character.

q_1 : the strings that don't have bb as subsequence. If there exists b, it the next character after b is not b.

Non-deterministic



~~$\Sigma = \{a.b.c\}$~~

~~$\Sigma = \Sigma^* a^\omega + \Sigma^* b^\omega + \Sigma^* c^\omega + \Sigma^* (ac)^\omega + \Sigma$~~