

# Theory of Automata

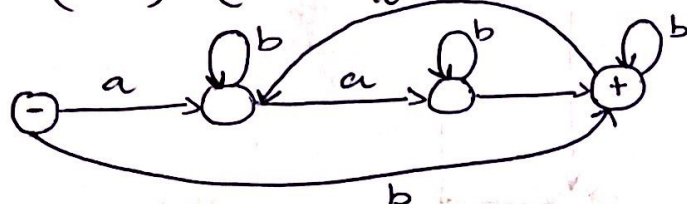
## Assignment #2

Q1:-

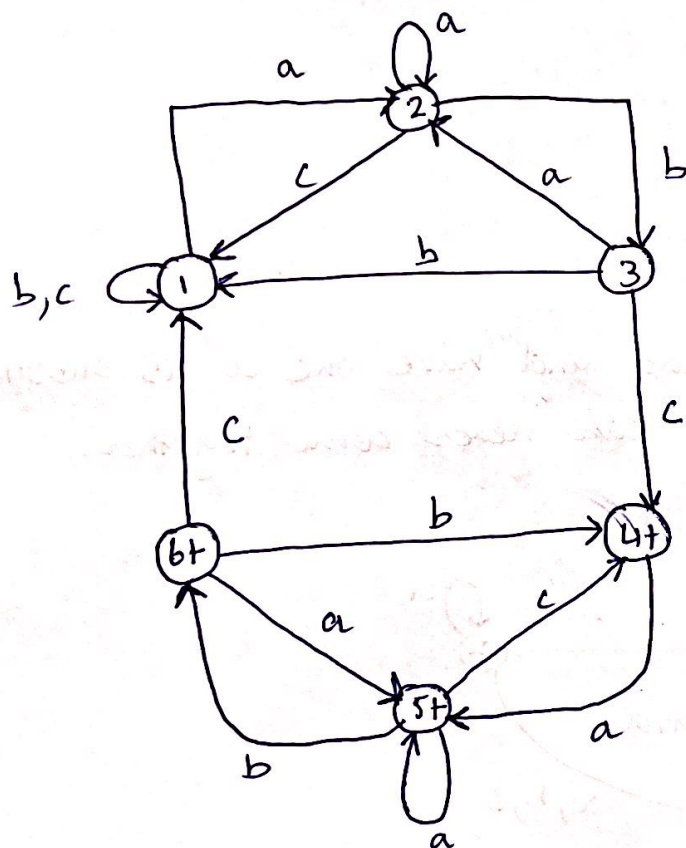
=>

$$b^* (aaa)^* (ab^* ab^* a^* cb^*) ((aaa)^* + b)^*$$

=>

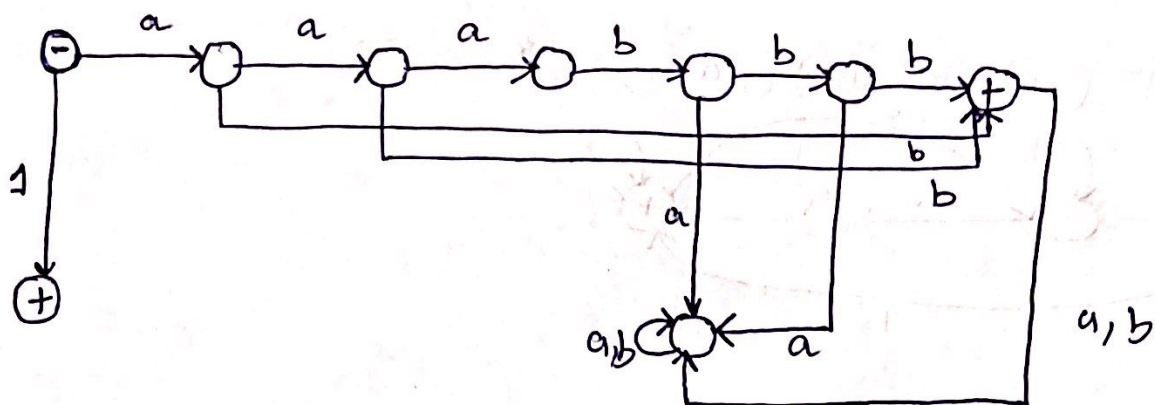


Q2:-



Q3:-

$$\Rightarrow \{1, ab, aabb, aaabbb\}$$

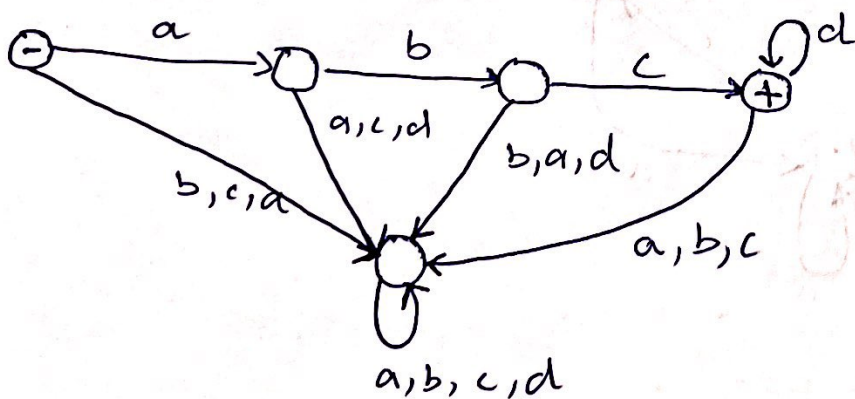


Q4:-

$$\rightarrow (a+b)(a((a+b)a)^*)$$

Should have a or b atleast and have one a as substring in middle and two b's can never come together.

Q5:-



it will accept abcd together where d can be null and can be more than one, on the other hand a, b, c will come at least for one.