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Section: 08

Course : CSE 331

Quiz : 1

Ans to the Q: No. 1

$w = x^m y x^n$ where $m+n$ is even.

Regular expression is,

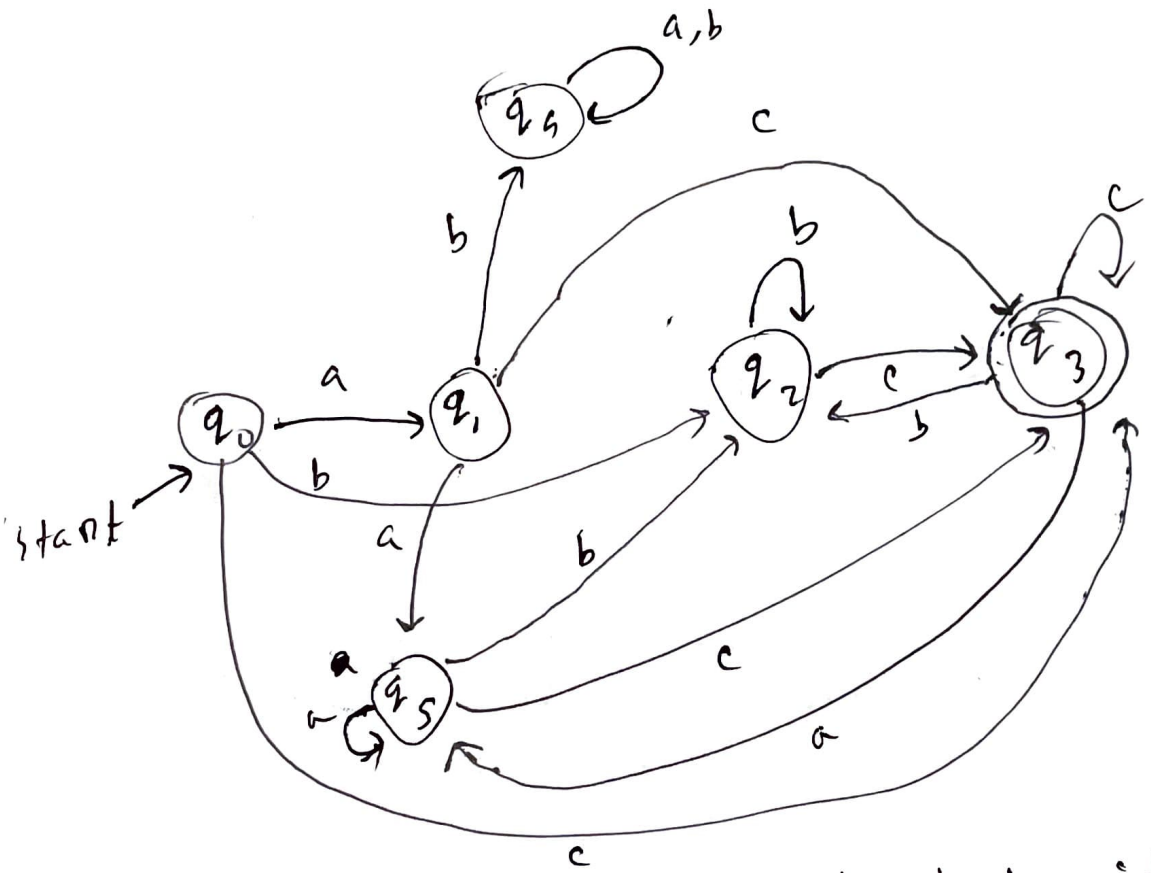
$$(x^2)^m y x^n \mid x^m y (x^2)^n \mid (x^2)^m y (x^2)^n$$

Here, if either m or n is even, $m+n$ will also be even. Also, if both are even, $m+n$ will also be even.

So, $(x^2)^m y x^n$ is applicable when m is even and n can be anything. Then, $x^m \cdot y(x^2)^n$ is applicable when m is even and n can be anything. Lastly,

$(x^2)^m \cdot y \cdot (x^2)^r$ is appliable when m and r both are even.

Ans to the Q: N: 2



Here, $L = \{ w \mid w$ does not start with ab AND ends with bc$\}$

As, w cannot start with ab, we have taken two states for a. The ~~first~~ first a will be stored in q1. If

there is a 'b' after q_1, it will go to q_4 and get trapped. If there is 'aa' at the beginning, the 2nd 'a' will be at q_5.

Now, if there is ab to 'ab' at beginning, the string can contain anything but there should be a 'bc' at the end.

So, the string will end only when the is a 'bc' at the end.