CS & IT ENGINEERING

Finite Automata

Theory of Computation

Basics of Finite Automata
DPP 04 Discussion



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TOPICS TO BE COVERED

01 Question

02 Discussion



Consider following two statements:



Every DFA can be converted into equivalent NFA (By definite)

 \times **S₂:** NFA design is easy because NFA help us to write a program. Which of the following is correct?



S₁ only.

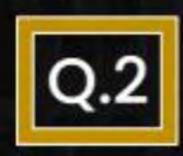


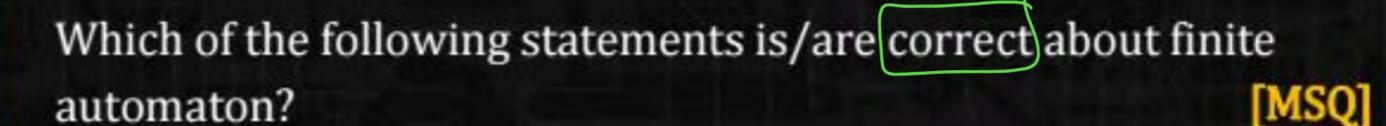
S₂ only.



Both S₁ and S₂ are correct.

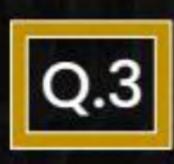
Both are incorrect.





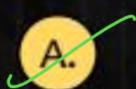


- A. Finite automata represent only finite language.
- B. Finite automata represents only infinite language.
- Transition function in NFA is $Q \times \sum \bigcup \{\epsilon\} \rightarrow 2^Q$
- D. Every regular language is finite. X



From each state, how many transition are possible in DFA for each input symbol? [MCQ]





Exactly 1



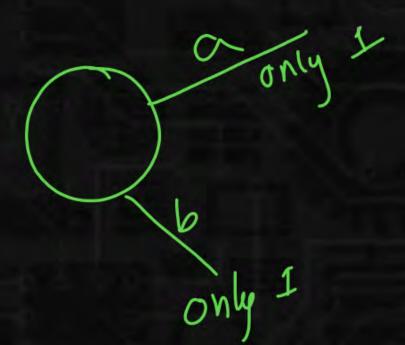
At least 1



Exactly 2



Al least 2



Consider following two statements:



 S_1 : If every state is final state in DFA, then L(DFA) = Σ^*

 \times S₂: If every state is non-final state in DFA, then L(DFA) = { \in }



 S_1 only.



S2 only.

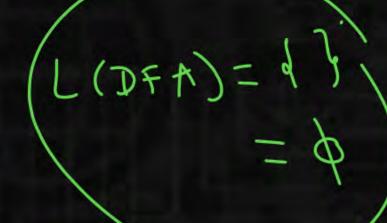


Both S₁ and S₂ are correct.



Both are incorrect.





Q.5

For $L = \{(a + b)^2\}$, how many states are required in minimal DFA?



= {aa+ab+ba+bb}

A.

2

В.

3

C.

4

D.

1

