



CURRENT QUIZ 2021

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CS402 TODAY GRAND QUIZ

Let L be the language of all strings, defined over $\Sigma = \{0, 1\}$ ending in 111. Which of the following strings are indistinguishable with respect to L with z being 11?

- **111, 101**
- 100, 101
- 110, 101
- 010, 101

If we have a finite language and the number of states in the FA is n then the maximum number of letters in the each word of the language that will be accepted by the given FA will be:

- 1
- n-1
- **n+1**
- n

Which of the following statements is true about NFA with null string?

- Infinite states
- infinite set of letters
- Infinite set of transitions
- **Transition of null string is allowed at any stage**

Which of the following state is introduced while developing NFA for the closure of an FA?

- Simply an initial state
- Final state
- **An initial state which should be final as well**
- An initial state with loop for all letters

In order to make NFA for the union of FA1 and FA2, the new initial state should be linked to:

- initial and final states of FA1 and FA2 respectively
- **initial states of both FAs**
- initial state of FA1 only
- final and initial states of FA1 and FA2 respectively

If we have only one state, having no transition for input letters, then it is an example of:

- RE
- FA
- TG
- **NFA**

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In the context of make NFA for the concatenation of FA1 and FA2 (FA1 accepting null string), which of the following option is correct?

- Initial states in both FAs
- FA2 having initial state only
- FA2 havig final state only
- **Final states in both FAs**

In which of the following machine, the length of output string is 1 more than that of input string?

- Mealy machine
- **Moore machine**
- Finite automation with output
- Non-deterministic finite automation

An ____ can be considered to be an intermediate structure between Finite automation and Trnsition Graph.

- RE
- GTG

• **NFA**

- None

We cannot construct an NFA for the language of ____ defined over alphabet set {a, b}

- Even Even
- Odd

• **Palindromes**

- Integers

The language of all strings defined over Alphabet set = {x, y} that ends with same letter will have the maximum length of :

- 1
- 2
- 3

• **infinite**

Reverse of string "BcAbed" defined over = {Ab, Bc, d, e} is ____

- debABc

• **deAbBc**

- deAbcB
- debAcB

If two RE's generate same language then these RE's are called ____

- Same RE
- Equal RE
- Similar RE

• **Equivalent RE**

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Let FA3 be an FA corresponding to FA1FA2, then the initial state of FA3 must correspond to initial state of:

- FA1 only
- FA2 only
- FA1 or FA2
- **FA1 and FA2**

If r_1 and r_2 are regular expressions then $(r_1^*r_2)$ is a/an ____

- FA
- TG
- GTG
- **Regular expression**

Kleene's Theorem part I expresses the relationship between ____

- **FA and TG**
- TG and RE
- RE and FA
- FA and RE

In the context of make NFA for the concatenation of FA1 and FA2 (Both FAs accepting null string) which of the following option is correct?

- **Final states in both FAs**
- Initial states in both FAs
- FA2 having initial state only
- FA2 having final state only

Length of EVEN-EVEN language is ____

- **Even**
- Odd
- Sometimes even & sometimes odd
- Such language does not exist

The language having even number of a's and even number of b's defined over $S = \{a, b\}$ is called ____

- **EVEN-EVEN**
- ODD-ODD
- PALINDROME
- FACTORIAL

Which of the following diagram is very rigid in order to express any language?

- TG
- NFA

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- GTG
- **FA**

Which one of the following is the RE for the language defined over $\Sigma = \{a, b\}$ having all the words starting with a?

- $(a+b)^*$
- $aa(a+b)^+$
- $a(a+b)^*$
- $a^*(a+b)$

Which one of the following string is a part of EQUAL language?

- aabbba
- babab
- **ababab**
- aabbbaa

Keeping in view the language of all strings ending with 'a', for which symbol we will take a loop on the final state of its transition diagram?

- **a**
- b
- c
- d

Which is false about the PALINDROME LANGUAGE?

- Every word is reverse of itself
- It is an infinite language
- FA can be build for it
- **None**

The FA can be drawn for the regular expression $(a+b)^*$ with minimum ____ state(s)

- **1**
- 2
- 3
- 4

How many states of a finite automation will be final for accepting $L = \{\epsilon, b, bb, bbb\}$?

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- 1
- 2
- 3
- 4

FA stands for ____

- **Finite Auotomation**
- Fixed Automation
- False Automation
- Functional Automation

Which of the following string belongs to the language of the regular expression $(aa^*b)^*$?

- baabab
- abbbaa
- aaaaaa
- **aabaab**

What is false about the term alphabet?

- It is a finite set of symbols
- It is usually denoted by Greek letter sigma
- **It can be an empty set**
- Strings are made up of its elements

Which of the following statement is NOT true?

- FA can be considered to be an NFA
- FA can be considered to be an NFA with null string
- NFA can be considered to be a TG
- **TG can be considered to be an NFA**

We can create an equivalent ____ for a language for which we create an ____

- FA, NFA
- **NFA, FA**
- FA, GTG
- None

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In which of the following machine, the length of output string is the same to that of input string?

- Moore machine
- Finite automation with output
- **Mealy machine**
- Non-deterministic finite automation

A ____ with "n" states must accept at least one string of length greater than "n"

- **DFA**
- RE
- Irregular language
- Irrelevant language

While developing NFA for the union of FA1 and FA2, there will be ____ transition/transitions for both 'a' and 'b' on the new initial state.

- Single
- Only one
- Only three
- **Multiple**

Keeping in view the discussion by Martin, how many states are required to recognize the language of all strings defined over $\Sigma = \{a, b\}$, with 'b' being the second letter from right?

- 6
- **7**
- 8
- 9

In order to make NFA for the union of FA1 and FA2, the final state/states of:

- **both FAs should be linked**
- FA1 have a transition to the final state of FA2
- both FAs should be left intact