Question # 1 of 30 (Start time: 09:00:13 PM, 30 December 2020)

Tot

GTG for the expression (a+b)*bb may have minimum number of states:

Select the correct option

- 1
- 2
- 3
- 4

Question # 1 of 30 (Start time: 09:00:13 PM, 30 December 2020)

Tot

GTG for the expression (a+b)*bb may have minimum number of states:

Select the correct option

- 1
- 2
- 3
- 4

Question # 2 of 30 (Start time: 09:01:46 PM, 30 December 2020)

Tot

If S = { x }, then S* will be _____.

Select the correct option

- {^,x,xxx,xxxx,xxxxx,...}
- {^,x,xx,xxx,xxxx,...}
- {^,x,xxx,xxxxx,xxxxxxx,...}
- {^,xx,xxxx,xxxxxx,xxxxxxxx,...}

Question # 3 of 30 (Start time: 09:02:49 PM, 30 December 2020)

Tot

Dead states are defined as:

Select the correct option

- No such state exist
- A dead state is non final state of a DFA whose transition on every input symbol terminates on itself.
- It is non-distinguishable state
- None of the given

Question # 3 of 30 (Start time: 09:02:49 PM, 30 December 2020)

Tot

Dead states are defined as:

Select the correct option

- No such state exist
- A dead state is non final state of a DFA whose transition on every input symbol terminates on itself.
- It is non-distinguishable state
- None of the given

Question # 4 of 30 (Start time: 09:04:21 PM, 30 December 2020)

Tot

Let S = {a, bb, bab, baabb} be a set of strings, which one of the following will not be included in S*?

Select the correct option

- baba
- baabbabb
- bbaaabb
- bbbaabaabb

Question # 4 of 30 (Start time: 09:04:21 PM, 30 December 2020)

Tot

Let S = {a, bb, bab, baabb} be a set of strings, which one of the following will not be included in S*?

Select the correct option

- (●) baba
- ( ) baabbabb
- ( ) bbaaabb
- ( ) bbbaabaabb

Question # 5 of 30 (Start time: 09:05:46 PM, 30 December 2020)

Tot

FA corresponding to an NFA can be built by introducing an empty state for a letter having

Select the correct option

- (●) no transition at certain state
- ( ) one transition at certain state
- ( ) two transitions at certain state
- ( ) more than two transitions at certain state

Question # 6 of 30 (Start time: 09:06:37 PM, 30 December 2020)

Tot

If L1′ and L2′ are regular languages, then L1.L2 will be

Select the correct option

- (●) regular
- ( ) non regular
- ( ) may be regular
- ( ) none of the mentioned

Question # 7 of 30 (Start time: 09:07:48 PM, 30 December 2020)

Tot

The length of output string in case of _____ is one more than the length of corresponding input string.

Select the correct option

- (●) Moore machine
- ( ) Mealy machine
- ( ) Incremental machine
- ( ) Adding Machine

Question # 8 of 30 (Start time: 09:09:30 PM, 30 December 2020)

Tot

Suppose a language L1 has 2 states and L2 has 2 states. If we have a machine M that accepts L1 ∩ L2. Then, the total number of states in M is equal to _____.

Select the correct option

- ○ 2
- ● 4
- ○ 6
- ○ 8

Question # 9 of 30 (Start time: 09:10:34 PM, 30 December 2020)

Tot

If "r1" and "r2" are regular expressions, then which of the following is not a regular expression?

Select the correct option

- r1 + r2
- r1 r2
- r1*
- r1 - r2

Question # 10 of 30 (Start time: 09:11:12 PM, 30 December 2020)

Tot

Kleene's Theorem Part III expresses the relationship between _____.

Select the correct option

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

Question # 11 of 30 (Start time: 09:12:55 PM, 30 December 2020)

Tot

Which of the following is NOT true about the term alphabet?

Select the correct option

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

Question # 12 of 30 (Start time: 09:14:15 PM, 30 December 2020)

Tot

Consider we have languages L7 and L6. Which of the following represents their concatenation?

Select the correct option

- (●) L7+L6
- ( ) L7/L6
- ( ) L6*L7
- ( ) L7L6

Question # 13 of 30 (Start time: 09:15:29 PM, 30 December 2020)

Tot

Which of the following is the minimal number of states for a finite automaton accepting the language of all strings defined over any alphabet set?

Select the correct option

- 1
- 2
- 3
- 4

Question # 13 of 30 (Start time: 09:15:29 PM, 30 December 2020)

Tot

Which of the following is the minimal number of states for a finite automaton accepting the language of all strings defined over any alphabet set?

Select the correct option

- 1
- 2
- 3
- 4

Question # 14 of 30 (Start time: 09:16:50 PM, 30 December 2020)

Tot

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

Select the correct option

- baabab
- abbbaa
- aaaaaa
- aabaab

Question # 14 of 30 (Start time: 09:16:50 PM, 30 December 2020)

Tot

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

Select the correct option

- baabab
- abbbaa
- aaaaaa
- aabaab

Question # 15 of 30 (Start time: 09:18:01 PM, 30 December 2020)

Tot

Which of the following is the bypass and state elimination step in the context of Kleene's theorem part II proof?

Select the correct option

- 1
- 2
- 3
- 4

Question # 16 of 30 (Start time: 09:19:32 PM, 30 December 2020)

Tot

Which of the following steps replaces multiple incoming transition edges with a single one in proving Kleene's theorem part II?

Select the correct option

- 1
- 2
- 3
- 4

Question # 17 of 30 (Start time: 09:21:00 PM, 30 December 2020)

Tot

Let FA1 accepts many strings and FA2 accepts no string, then FA1+FA2 will be equal to:

Select the correct option

- (●) FA1
- ( ) FA2
- ( ) FA2-FA1
- ( ) (FA2)*

Question # 18 of 30 (Start time: 09:21:30 PM, 30 December 2020)

Tot

Which of the following doesn't accept any language?

Select the correct option

- (●) Finite state machine
- ( ) Deterministic finite state machine
- ( ) Regular expression
- ( ) Moore machine

Question # 19 of 30 (Start time: 09:22:35 PM, 30 December 2020)

Tot

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

Select the correct option

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

Question # 20 of 30 (Start time: 09:23:23 PM, 30 December 2020)

Tot

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

Select the correct option

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

Question # 20 of 30 (Start time: 09:23:23 PM, 30 December 2020)

Tot

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

Select the correct option

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

Question # 21 of 30 (Start time: 09:24:44 PM, 30 December 2020)

Tot

Which of the following statement is true about GTG?

Select the correct option

- Transitions are based on input letters
- Transitions are based on specified substrings
- Transitions are based on regular expressions
- Transitions are based on alphabet set

Question # 22 of 30 (Start time: 09:26:09 PM, 30 December 2020)

Tot

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?

Select the correct option

- a
- b
- c
- d

Question # 23 of 30 (Start time: 09:26:51 PM, 30 December 2020)

Tot

Which of the following is not a step in elimination of states procedure?

Select the correct option

- Unifying all the final states into one using e-transitions
- Unify single transitions to multi transitions that contains union of input
- Remove states until there is only starting and accepting states
- Get the resulting regular expression by direct calculation

Question # 25 of 30 (Start time: 09:30:02 PM, 30 December 2020)

Tot

Suppose we have FA3 which is equal to the union of FA1 and FA2. Now the initial state of the FA3 will be equal to:

Select the correct option

- (●) Only initial state of FA1
- ( ) Only initial state of FA2
- ( ) Initial state of FA1 or FA2
- ( ) Final state of FA2

Question # 26 of 30 (Start time: 09:31:41 PM, 30 December 2020)

Tot

Which of the following regular expressions represent same language?

1. (a+ab)*
2. (ba+a)*
3. a*(aa*b)*
4. (a*b*)*

Select the correct option

- 1 and 2
- 1 and 3
- 3 and 4
- 1 and 4

Question # 27 of 30 (Start time: 09:32:58 PM, 30 December 2020)

Tot

Every _____ is a _____ as well, but the converse may not be true.

Select the correct option

- TG, FA
- FA, TG
- TG, GTG
- FA,GTG

Question # 27 of 30 (Start time: 09:32:58 PM, 30 December 2020)

Tot

Every _____ is a _____ as well, but the converse may not be true.

Select the correct option

- TG, FA
- FA, TG
- TG, GTG
- FA,GTG

Question # 28 of 30 (Start time: 09:34:10 PM, 30 December 2020)

Tot

Which one of the following is a correct word produced by the RE (a*b*)ab?

Select the correct option

- aaaa
- bbbb
- abab
- Null

Question # 29 of 30 (Start time: 09:35:02 PM, 30 December 2020)

Tot

Which one of the following string is a part of EQUAL language defined over Σ={a,b}?

Select the correct option

- aabbbaa
- babab
- ababab
- aabbaa

Question # 30 of 30 (Start time: 09:35:57 PM, 30 December 2020)

Tot

(aa + bb + (ab + ba)(aa + bb)*(ab + ba))* is the RE of _____.

Select the correct option

- (●) EVEN-EVEN
- ( ) ODD-ODD
- ( ) PALINDROME
- ( ) FACTORIAL