

Automata Models – Fall Semester – 2021/2022

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Started on	Saturday, 20 November 2021, 9:01 PM
State	Finished
Completed on	Saturday, 20 November 2021, 9:12 PM
Time taken	11 mins 52 secs
Grade	7.00 out of 10.00 (70%)

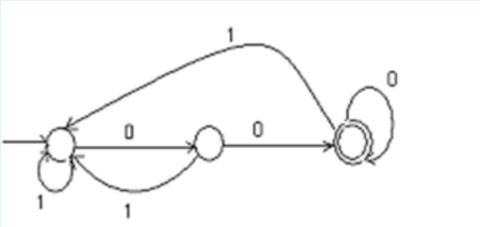
Quiz navigation

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✓	✓	✓	✓	✓
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✗	✓	✓	✗	✗

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Question 1
Correct
Mark 1.00 out of 1.00
Flag question

The DFA shown below accepts the set of all strings over {0, 1} that



Select one:

- ☒ a. End with 00 ✓
- ☐ b. Contain the substring 00
- ☐ c. Begin either with 0 or 1
- ☐ d. End with 0

Your answer is correct.

The correct answer is: End with 00

Question 2
Correct
Mark 1.00 out of 1.00
Flag question

Proving techniques includes

Select one:

- ☐ a. By contradiction
- ☐ b. By induction
- ☐ c. By contrapositive statement
- ☒ d. All of the above ✓

Your answer is correct.

The correct answer is: All of the above

Question 3
Correct
Mark 1.00 out of 1.00
Flag question

If $L = \{ab, bb\}$ which of the following strings is NOT L^*

Select one:

- ☐ a. abab
- ☐ b. abababbb

question

☐ b. abababbb

☐ c. abbb

☒ d. bbb ✓

Your answer is correct.

The correct answer is: bbb

Question 4

Correct

Mark 1.00 out of 1.00

Flag question

Which of the following is not a part of 5-tuple of DFA

Select one:

☐ a. Transition function

☒ b. Output alphabet ✓

☐ c. Initial state

☐ d. Input alphabet

Your answer is correct.

The correct answer is: Output alphabet

Question 5

Correct

Mark 1.00 out of 1.00

Flag question

The practical implementations of DFA are limited but emerging (e.g., Micron automata)

Select one:

☐ True

☒ False ✓

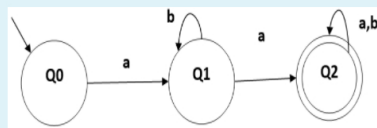
The correct answer is 'False'.

Question 6

Incorrect

Mark 0.00 out of 1.00

Flag question



The regular expression for the above DFA is :

Select one:

☐ a. $aba(a+b)$

☐ b. $ab^*a(a+b)^*$

☒ c. $ab(a+b)$ ✗

☐ d. aba^*

Your answer is incorrect.

The correct answer is: $ab^*a(a+b)^*$

Question 7

Correct

Mark 1.00 out of 1.00

Regular Expression $(a^* + b)$ denotes the language

Select one:

Flag
question

- ☐ a. $\{\lambda, a, b\}$
- ☐ b. $\{\lambda, a, b, aa, ab, ba, bb, \dots\}$
- ☒ c. $\{\lambda, a, b, aa, aaa, \dots\}$ ✓
- ☐ d. $\{a, b, aa, ab, ba, bb, \dots\}$

Your answer is correct.

The correct answer is: $\{\lambda, a, b, aa, aaa, \dots\}$

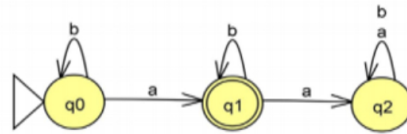
Question 8

Correct

Mark 1.00 out of
1.00

Flag
question

Select the language defined by the following finite automaton:



Select one:

- ☐ a. $\{b^n ab^m ab^p : m, n, p \geq 0\}$
- ☐ b. $\{b^n ab^m a : m, n \geq 0\}$
- ☐ c. $\{aa\}$
- ☒ d. $\{b^n ab^m : m, n \geq 0\}$ ✓

Your answer is correct.

The correct answer is: $\{b^n ab^m : m, n \geq 0\}$

Question 9

Incorrect

Mark 0.00 out of
1.00

Flag
question

The RE for the language

$\{w \in \{a, b\}^* : w \text{ contains at least one } a \text{ is } a(a+b)^*\}$

Select one:

- ☒ True ✗
- ☐ False

The correct answer is 'False'.

Question 10

Incorrect

Mark 0.00 out of
1.00

Flag
question

Choose the correct regular expression to describe the language: $\{\lambda, a, b, ab, abb, abbb, abbbbb \dots\}$

Select one:

- ☐ a. a^*b^*
- ☐ b. $(ab)^*$
- ☐ c. $\lambda + b + ab^*$
- ☒ d. ab^* ✗

Your answer is incorrect.

The correct answer is: $\lambda + b + ab^*$

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