

# Take Test: HW 2

★

Test Information

Description

Instructions

Multiple Attempts

Not allowed. This test can only be taken once.

Force Completion

This test can be saved and resumed later.

Your answers are saved automatically.

🔍 Question Completion Status:

QUESTION 1

(1 \* 0 \* ) \* is equivalent to:

☐ I. None

☐ II. (0 + 1) \*

☐ III. (1 + 0 + ) \*

☐ IV. (10) \*

0.5 points

Save Answer

QUESTION 2

(a + b) (a + λ) \* (b + λ) + is equivalent to:

☐ I. None

☒ II. (a + b) a \* b \*

☐ III. (a + b) a \* b b \*

☐ IV. (a + b) a \* b +

0.5 points

Save Answer

QUESTION 3

The language over the alphabet {a, b}, consisting of strings of a's and b's of odd length.

☒ I. (a + b) ((a + b) (a + b) ) \*

☐ II. (a + b) (a + b) \*

☒ III. (a + b) ((a + b) (a + b) ) +

☐ IV. None

0.5 points

Save Answer

QUESTION 4

The language over {a, b, c}, that includes ac as a substring.

☐ I. (a + b + c) \* ac (a + b + c) \*

☐ II. All of the answers

☐ III. (a + b + c) \* a (a + b + c) \* c (a + b + c) \*

☐ IV. ac (a + b + c) \*

0.5 points

Save Answer

QUESTION 5

The language over {a, b} that contains a number of a's divisible by 3.

☐ I. b \* ab \* ab \* ab \* (b \* ab \* ab \* ab \* ) \*

☐ II. None

☒ III. b \* (ab \* ab \* ab \* ) \*

☐ IV. b \* + b \* ab \* ab \* ab \*

0.5 points

Save Answer

QUESTION 6

The language generated by the regular expression (b + c) \* a (b + c) \* (a (b + c) \* a (b + c) \* ) \* is:

☐ I. None

☐ II. L1 = {w ∈ {a, b, c} \* : w contains at least three a's}

☐ III. L1 = {w ∈ {a, b, c} \* : w contains an even number of a's}

☒ IV. L1 = {w ∈ {a, b, c} \* : w contains an odd number of a's}

0.5 points

Save Answer

QUESTION 7

Given the following finite automata:

The regular expression that generates the language in the above DFA is:

☐ I. None

☒ II. (a + b + c) \* abc (a + b + c) \*

☐ III. (a + b + c) \*

☐ IV. (a + b + c) \* a (a + b + c) \* b (a + b + c) \* c (a + b + c) \*

0.5 points

Save Answer

QUESTION 8

Consider the language (a + b) \* (b + ba + baa) + a + aa + λ; which of the following strings is NOT in the language?

☒ I. babaaaaa

☐ II. abaaba

☐ III. abababa

☐ IV. bbbbbb

0.5 points

Save Answer