Unit 2 - Week 1

Assignment 1

The due date for submitting this assignment has passed.
As per our records you have not submitted this assignment.

Due on 2019-02-13, 23:59 IST.

1) Which of the following is an example of finite state systems?
   (a) Text editor
   (b) Elevator
   (c) Control unit of a computer
   (d) All of the above

   No, the answer is incorrect.
   Score: 0
   Accepted Answers:
   d.

2) Which of the following is not a finite automata?
   (a) NFA
   (b) DFA
   (c) ε-NFA
   (d) TFA

   No, the answer is incorrect.
   Score: 0
   Accepted Answers:
   a.
3) Which of the status are final/accepting state of the following automata?

(a) $q_0$
(b) $q_1, q_3, q_6$
(c) $q_5, q_6$
(d) $q_2, q_4, q_5$

No, the answer is incorrect.
Score: 0
Accepted Answers: c.

4) Which of the following forms a DFA?

(a) $(Q, \Sigma, \delta, q_0, F)$
(b) $(Q, \Sigma, \delta, F)$
(c) $(Q, \delta, q_0, F)$
(d) $(Q, \Sigma, \delta, F)$

No, the answer is incorrect.
Score: 0
Accepted Answers: a.
Which of the following is the transition table of the given DFA?

(a)

<table>
<thead>
<tr>
<th></th>
<th>a</th>
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<tbody>
<tr>
<td>→</td>
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<td>q2</td>
<td>q2</td>
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<tr>
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<td>q0</td>
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(b)

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(c)

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(d)

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<td>q2</td>
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<tr>
<td></td>
<td>q0</td>
<td>q2</td>
</tr>
</tbody>
</table>

No, the answer is incorrect.
Score: 0
Accepted Answers:
a.

What is $\Sigma^*$ of a given DFA with $\Sigma$ as alphabet?

(a) Language over $\Sigma$
(b) Dual of $V$
(c) Empty language
(d) All possible strings over $\Sigma$
7) Which of the following strings is accepted by the given DFA?

(a) 011110
(b) 101011
(c) 010100
(d) 111000

No, the answer is incorrect.
Score: 0
Accepted Answers:
d.

8) Which of the following is the definition of extended transition function?

(a) \( \hat{\delta}(q, w) = \hat{\delta}(q, xa) = \hat{\delta}(\hat{\delta}(q, x), a) \)
(b) \( \hat{\delta}(q, w) = \hat{\delta}(q, xa) = \delta(\hat{\delta}(q, x), a) \)
(c) \( \hat{\delta}(q, w) = \delta(q, xa) = \delta(\hat{\delta}(q, x), a) \)
(d) None of the above

No, the answer is incorrect.
Score: 0
Accepted Answers:
a.
9) Which state does the given DFA reach after processing the string \( w = 1011 \)?

(a) \( q_1 \)
(b) \( q_2 \)
(c) \( q_3 \)
(d) \( q_4 \)

No, the answer is incorrect.
Score: 0
Accepted Answers: 

10) The given DFA accepts which of the following:

(a) All strings starting with 1
(b) All strings ending with 1
(c) All strings starting with 0
(d) All strings ending with 0

No, the answer is incorrect.
Score: 0
Accepted Answers: 

11) Which of the following should be the final state if the given DFA were to accept all strings ending with 01?

(a) $q_0$
(b) $q_1$
(c) $q_2$
(d) $q_3$

No, the answer is incorrect.
Score: 0
Accepted Answers:

12) Which is not true for regular language?

(a) Language of DFA
(b) Language of NFA
(c) Set off all strings that take starting state to one of accepting states
(d) All of the above is false

No, the answer is incorrect.
Score: 0
Accepted Answers:
The given DFA accepts

(a) All strings starting with 1
(b) All strings starting with 0
(c) All strings starting with 1 of even length
(d) All strings starting with 0 of even length

No, the answer is incorrect.
Score: 0
Accepted Answers:
d.

What should be in the blank space shown in the diagram for the given figure to be a DFA?

(a) 0
(b) 1
(c) A
(d) Any symbol will make it a DFA

No, the answer is incorrect.
Score: 0
Accepted Answers:
c.
Is the given figure a DFA?

(a) Yes
(b) No

No, the answer is incorrect.
Score: 0
Accepted Answers:
b.