Started on	Saturday, 6 August 2022, 11:34 AM
State	Finished
Completed on	Saturday, 6 August 2022, 11:44 AM
Time taken	9 mins 41 secs

Question **1**

Complete

Marked out of 1.00

Is the string 011110011 accepted by the following DFA

$\delta(q_0,0)=q_1$, $\delta(q_0,1)=q_3$, $\delta(q_1,1)=q_2$, $\delta(q_1,0)=q_3$, $\delta(q_2,0)=q_2$, $\delta(q_2,1)=q_0$, $\delta(q_3,1)=q_2$, $\delta(q_3,0)=q_3$

where q_0 and q_3 are the initial and final states, respectively.

Select one:

- True
- False

Question **2**

Complete

Marked out of 1.00

The minimum length of a string in $L(((0+1)(0+1)^*)^*00(0+1)^*)$ is

Answer: 2

Question **3**

Complete

Marked out of 1.00

Let $\Sigma=\{a_1,a_2,a_3,a_4,a_5,a_6,a_7\}$. The number of strings in Σ^* of length 6 such that except for the first and last symbol (which are identical) no symbol is used more than once, are:

Answer: 64

Question **4**

Complete

Marked out of 1.00

What is the solution for the equation $R = Q + RP$ if the regular expression does not contain the empty string λ?

a. $R = QP^*$

b. $R = PQ^*$

Your answer is correct.

Question **5**

Complete

Marked out of 1.00

Write a transition table for the following regular expression:

$(ab + ba)^*$.

A is the start state and D is the dead state.

Which is a final state? C

	a	b
A	C	B
B	B	A
C	A	D
D	D	C

Transition table

Your answer is partially correct.

You have correctly selected 3.

Question **6**

Complete

Marked out of 1.00

In order to have two regular languages L_1 and L_2 equal, $L_3 = (L_1 \cap \overline{L_2}) \cup (\overline{L_1} \cap L_2)$ must be

- a. $\emptyset$
- b. Non-empty
- c. $\{\lambda\}$

Your answer is correct.

Question **7**

Complete

Marked out of 1.00

Precedence of regular expressions in decreasing order is

- a. Kleen star > Concatenation > Union
- b. Concatenation > Kleen star > Union
- c. Kleen star > Union > Concatenation

Your answer is correct.

Question **8**

Complete

Marked out of 1.00

The language of all words with at least with at least two a's can be described by the regular expression

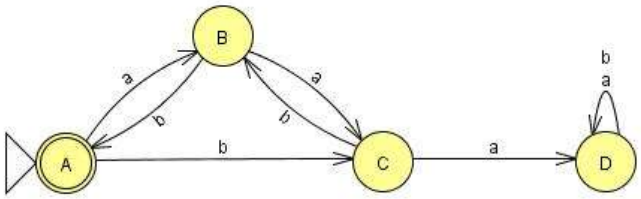
- a. $a(ab)^*a$
- b. $b^*ab^*a(a+b)^*$
- c. $(a+b)^*ab^*a(a+b)^*$
- d. All of the above

Your answer is incorrect.

Question **9**

Complete

Marked out of 4.00



Convert the given DFA into a regular expression by finding out the solutions for each of the states.

A= bb(ab)*b A

B= ((ab)*b) A

C= ((ab)*b) A

D= (b(ab)*b) A

Your answer is partially correct.

You have correctly selected 1.

Question **10**

Complete

Marked out of 1.00

Let $\Sigma = \{0, 1\}$. Define prefix of a language as:

$\text{Pref}(L) = \{u : uv \in L \text{ for some } v \in \{0, 1\}^*\}$.

Let $L = \{w \in \Sigma^+ : w \text{ has equal number of 0's and 1's}\}$.

Then $\text{Pref}(L)$ is:

- a. Set of all strings with unequal number of 0's and 1's
- b. Set of all strings with one more 0 than 1's
- c. Set of all strings over Σ
- d. Set of all strings with one more 1 than 0's

Your answer is correct.

Question **11**

Complete

Marked out of 1.00

The set of all real numbers in C is a regular language.

Select one:

- True
- False

Question **12**

Complete

Marked out of 1.00

What language does the regular expression $(\emptyset^*)^*$ denote?

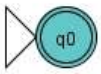
- a. $\{\lambda\}$
- b. Σ^*
- c. $\emptyset$

Your answer is incorrect.

Question **13**

Complete

Marked out of 1.00



Which type of string is accepted by the following finite automata ?

- a. Empty string
- b. All of the above
- c. No string

Your answer is correct.

◄ Announcements

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Quiz 1 (re-exam) ►