

Concepts of NFAs and e-NFAs

* This form will record your name, please fill your name.

1

Considering the definition below, select the correct answer for each of the data missing, i.e., (1), (2), (3), (4), and (5).

Definition of ϵ -NFA

A is a $(Q, \Sigma, q_0, A, \delta)$, where

Q is a finite set of states;
 Σ is a finite input alphabet;

$q_0 \in Q$ is the initial state;
 $A \subseteq Q$ is the set of accepting states;
 $\delta : Q \times$ \rightarrow is the transition function.

For every element q of Q and every element σ of , we interpret $\delta(q, \sigma)$ as the set of states to which the FA can move, if it is in state q and receives the input σ , or, if $\sigma =$, the set of states other than q to which the can move from state q without receiving any input symbol.

2

With respect to (1):
(1 Point)

- ☐ Set
- ☐ List
- ☐ 5-tuple
- ☐ Vector

3

With respect to (2):
(1 Point)

a. $(\Sigma \cup \{\epsilon\})$

b. Σ

c. $\{\epsilon\}$

d. \emptyset

- ☐ a.
- ☐ b.
- ☐ c.
- ☐ d.

4

With respect to (3):
(1 Point)

a. \emptyset

b. ε

c. a

☐ a.

☐ b.

☐ c.

5

With respect to (4):
(1 Point)

a. Equivalent DFA

b. DFA

c. ε -NFA

☐ a.

☐ b.

☐ c.

6

With respect to (5):
(1 Point)

- a. 2^Q , i.e., the powerset of Q
- b. Q

☐ a.

☐ b.

This content is neither created nor endorsed by Microsoft. The data you submit will be sent to the form owner.

 Microsoft Forms