CS & IT ENGINEERING

Theory of Computation

FA with output

DPP 09 Discussion

Mallesham Devasane Sir

01 Question

02 Discussion

Q.1 Which of the following is/are correct? [MSQ]

$\delta : Q \times \Sigma \to Q$

A. Transition function (δ) in mealy machine and moore machine is same.

B. Output function (λ) in moore machine is $\lambda: Q \to \Delta$.

C. Output function (λ) in mealy machine is $\lambda: Q \times \Sigma \to \Delta$.

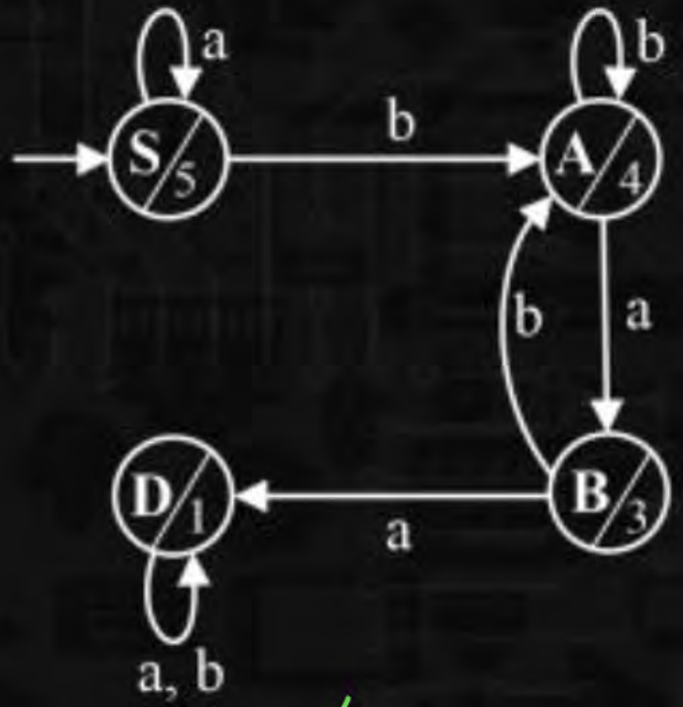
D. Output is associated with state in mealy machine

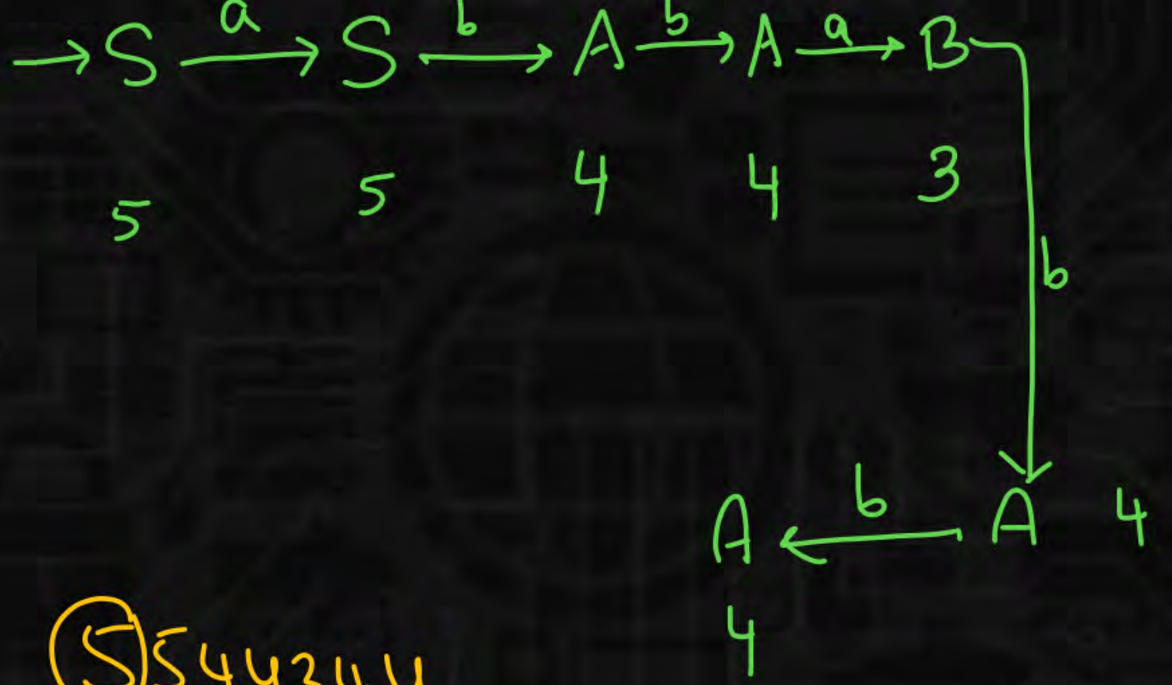
Q.2

Consider the following moore machine:

[NAT]

Moore machine:





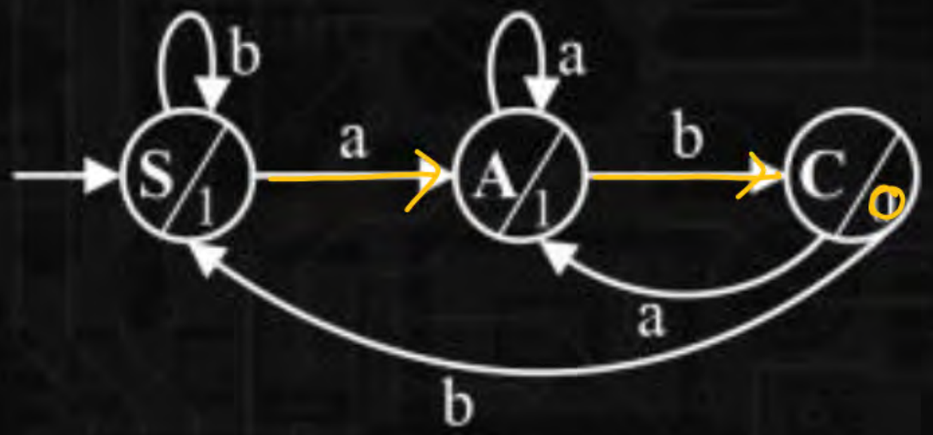
S5443444

On input "abbabb" the output will be___.

Q.3

Consider the following moore machine:

[MCQ]



The above moore machine will produce

A. 0 output for every occurrence of bab.

B. 1 output for every occurrence of aa.

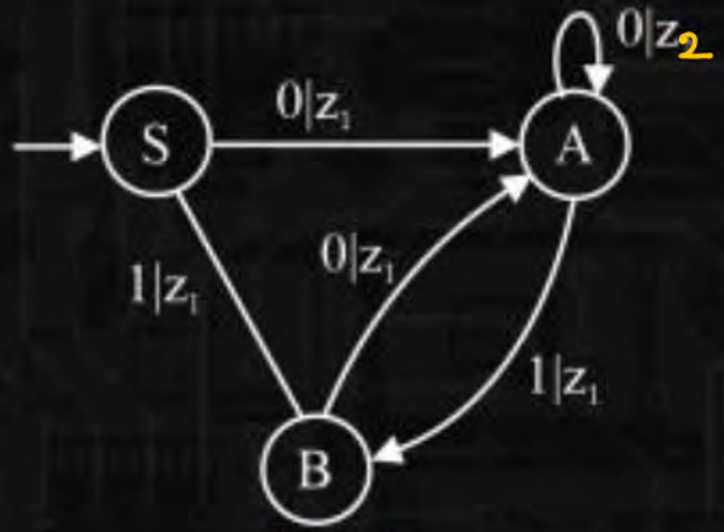
C. 0 output for ever occurrence of ab.

D. None of these.

Q.4

Consider the following mealy machine on $\Sigma = \{0, 1\}$

[MCQ]



S $\xrightarrow{0}$ A $\xrightarrow{1}$ B $\xrightarrow{0}$ A $\xrightarrow{1}$ B $\xrightarrow{0}$ A $\xrightarrow{0}$ A

z_1 z_1 z_1 z_1 z_1 z_2

For input "010100" what will be the output?

A. $z_1z_1z_1z_1z_1z_2$.

B. $z_1z_2z_1z_2z_1z_2$.

C. $z_1z_2z_1z_2z_1z_2$.

D. None of these.

Q.5 [MCQ]

Consider the following statements:

S_1: Mealy machine and moore machine both are equivalent.

S_2: For n length input moore machine produces (n + 1) length output. (one length o/p symbol is associated with state)

Which of the following is correct?

A. S_1 only.

B. S_2 only.

C. Both S_1 and S_2 are correct.

D. None of these.


THANK YOU GW
SOLDIERS !