21 Lecture - CS402

Important Mcqs

- 1. In a Mealy machine, what is the output function based on?
 - a) Current state
 - b) Input symbol
 - c) Both current state and input symbol

Answer: c) Both current state and input symbol

What is the primary difference between a Mealy machine and a Moore machine?

- a) The type of output produced
- b) The number of states
- c) The input symbols used

Answer: a) The type of output produced

What is the name of the type of Finite State Machine that a Mealy machine belongs to?

- a) Mealy machine
- b) Moore machine
- c) Finite Automaton

Answer: c) Finite Automaton

How is output generated in a Mealy machine?

- a) Only based on the current state
- b) Only based on the input symbol
- c) Based on both current state and input symbol

Answer: c) Based on both current state and input symbol

What is the output of a Mealy machine used for?

- a) To recognize a language
- b) To generate a language
- c) To perform some action based on input

Answer: c) To perform some action based on input

How many types of Mealy machines are there?

- a) 1
- b) 2
- c) 3

Answer: a) 1

In a Mealy machine, can the output depend on the future input?

- a) Yes
- b) No
- c) It depends on the specific machine

Answer: b) No

What is the purpose of the state transition function in a Mealy machine?

a) To determine the next state based on the input symbol

- b) To determine the output based on the input symbol
- c) To determine the output and next state based on the current state and input symbol

Answer: c) To determine the output and next state based on the current state and input symbol

Which of the following is not a characteristic of a Mealy machine?

- a) Has a finite number of states
- b) Can recognize or generate a language
- c) The output depends only on the current state

Answer: c) The output depends only on the current state

What is the computational power of a Mealy machine compared to a Turing machine?

- a) More powerful
- b) Less powerful
- c) Equally powerful

Answer: b) Less powerful