ADITYA ENGINEERING COLLEGE (A)
Aditya Nagar, ADB Road, Surampalem
Department of Information Technology

Theory of Computation

Name of the Faculty: S.Neelima, Assistant Professor, Department of IT
Subject: Theory of Computation
Year & Semester: II -II
Topic: Mealy and Moore Machines
Conventional Methods: Chalk & Talk
Teaching Methodology: Video Demonstration

Mealy and Moore Machines are the two types of finite automata with output. In general, finite automata does not consists of output. But Moore and mealy machines produces output for given input. Many have taught this topic using chalk and talk. Mrs. S. Neelima has taught the topic of Moore and mealy machines using Video Demonstration. The innovative method of video demonstration makes students to learn concept of mealy and Moore machines easily.

References:

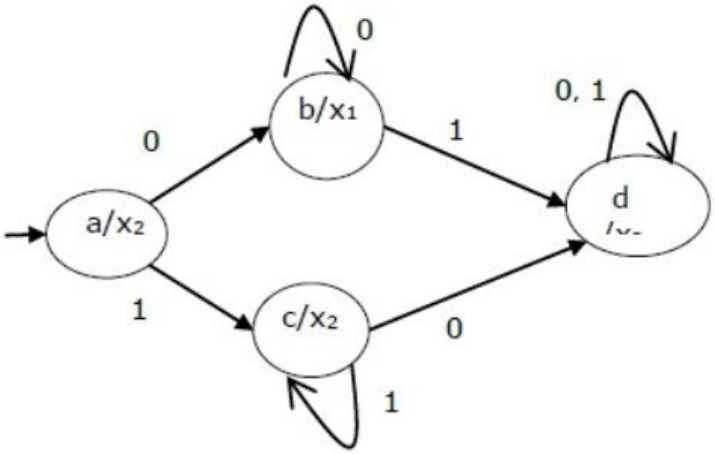
1. https://www.tutorialspoint.com/automata_theory/moore_and_mealy_machines.htm
2. https://www.geeksforgeeks.org/difference-between-mealy-machine-and-moore-machine/

Mealy and Moore Machines

Moore Machines: Moore machines are finite state machines with output value and its output depends only on present state. It can be defined as (Q, q0, ∑, O, δ, λ) where:

- Q is finite set of states.
- q0 is the initial state.
- ∑ is the input alphabet.
- O is the output alphabet.
- δ is transition function which maps Q×∑ → Q.
- λ is the output function which maps Q → O.

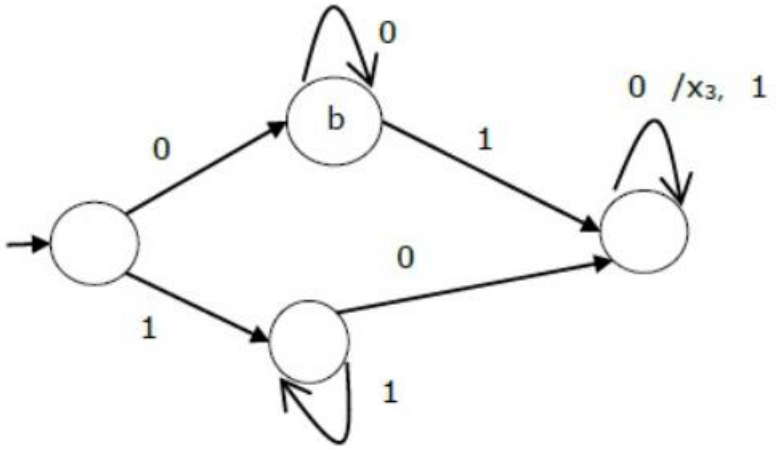
The state diagram of the above Moore Machine is −



Mealy Machines: Mealy machines are also finite state machines with output value and its ou tput depends on
present state and current input symbol. It can be defined as (Q, q0, ∑, O, δ, λ') where:

- Q is finite set of states.
- q0 is the initial state.
- ∑ is the input alphabet.
- O is the output alphabet.
- δ is transition function which maps Q×∑ → Q.
- 'λ' is the output function which maps Q×∑→ Q.

The state diagram of the above Mealy Machine is −



Mealy and Moore Machines using Video Demonstration:

The topic of mealy and Moore machines explained through video demonstration. Finite automata consist of states, state changes. It reads some input and tells that input string is accepted or not. It does not produce any output. But Mealy and Moore machines are the Finite Automata which produces some output after reading some input string. The video demonstration.