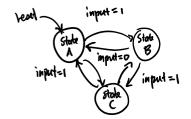
## State Machine

January 8, 2018

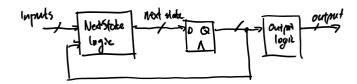
12.22

**State Machine** is a sequential circuit and has multiple states

**State Diagram** is used to visualize and describe the behavior of a state machine



## Implementing a State Machine



There are three parts to a state machine:

- 1. The next-state logic takes in current input and current state and determine what the next state should be
- 2. The registers in the middle holds the memory of the current state
- 3. The output logic takes current state and produces an appropriate output