Finite State Machines

Enum | Switch

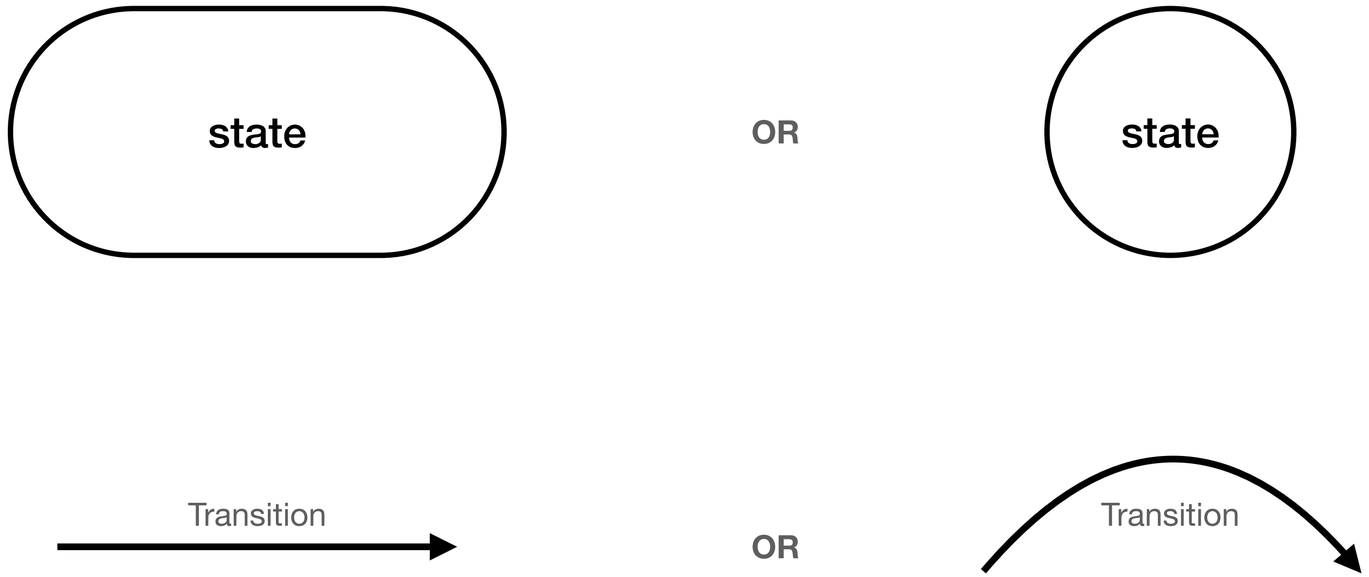
Yash Herekar

Finite State Machines

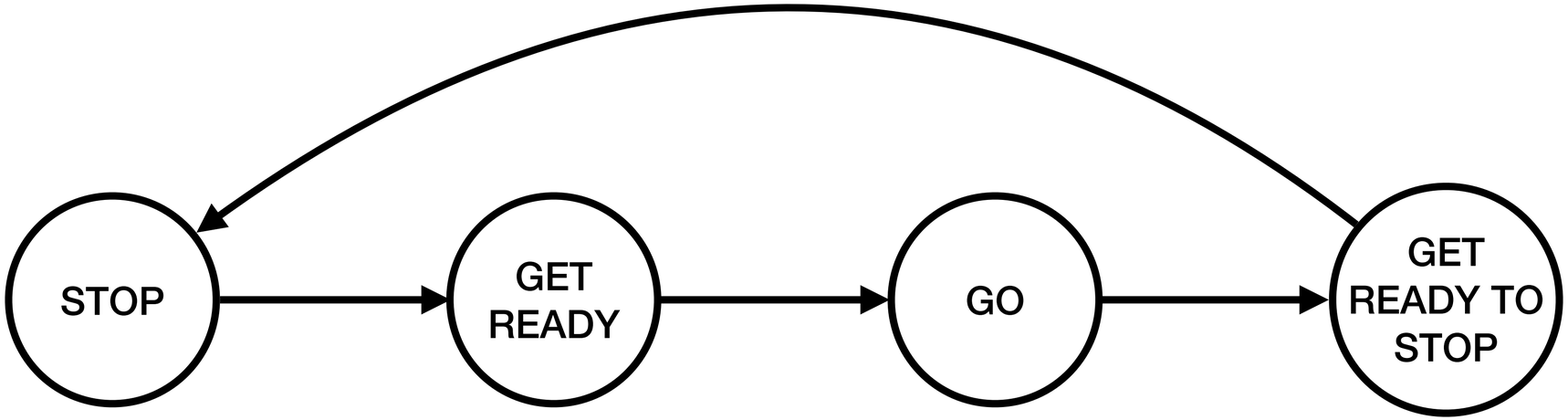
FSM

- A finite state machine (FSM) is a mathematical model used to design sequential logic circuits or to describe the behaviour of a system.
- It is an abstract machine that can be in **exactly one of a finite number of states** at any given time.
- FSM can change from one state to another in response to some inputs, the change from one state to another is called a **transition**.

State Model Diagrams



Traffic Light Example



Traffic Light Example

1. **STOP**

   Previous state: GET READY TO STOP

   Next state: GET READY

   I. Red light **ON**

   II. Yellow light **OFF**

   III. Green light **OFF**

2. **GET READY**

   Previous state: STOP

   Next state: GO

   I. Red light **ON**

   II. Yellow light **ON**

   III. Green light **OFF**

3. **GO**

    Previous state: GET READY

    Next state: GET READY TO STOP

    I. Red light **OFF**

    II. Yellow light **OFF**

    III. Green light **ON**

4. **GET READY TO STOP**

    Previous state: GO

    Next state: STOP

    I. Red light ON

    II. Yellow light ON

    III. Green light OFF