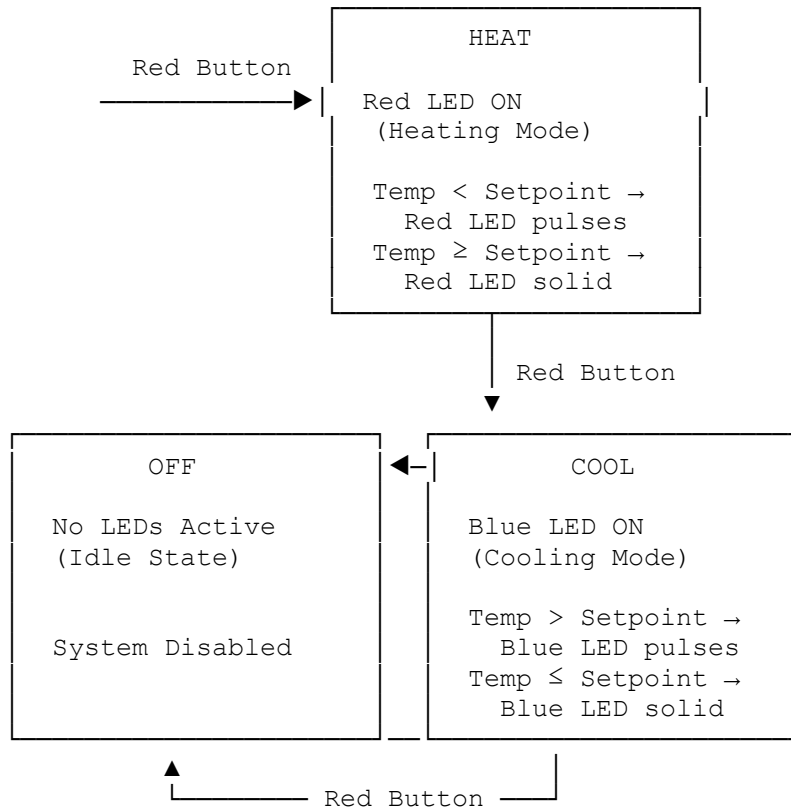


# CS-350 Module 7 – Thermostat State Machine Diagram

## Thermostat State Machine Diagram



## ○ Button Logic (Applies in ALL States)

- **Red Button**
  - Cycles thermostat state:
    - OFF → HEAT → COOL → OFF
- **Green Button**
  - Increases temperature setpoint
  - **Does NOT change state**
- **Blue Button**
  - Decreases temperature setpoint
  - **Does NOT change state**

✓ This separation of responsibilities is explicitly required by the SNHU rubric.

## State Transition Summary

Current State	Input	Next State
OFF	Red Button	HEAT
HEAT	Red Button	COOL
COOL	Red Button	OFF

---

## LED Behavior Logic

State	Temperature Condition	LED Behavior
HEAT	$\text{Temp} < \text{Setpoint}$	Red LED pulses
HEAT	$\text{Temp} \geq \text{Setpoint}$	Red LED solid
COOL	$\text{Temp} > \text{Setpoint}$	Blue LED pulses
COOL	$\text{Temp} \leq \text{Setpoint}$	Blue LED solid
OFF	Any	LEDs off