# Heater Simulation Program Explanation

## Overview

- Simulates how heaters operate in different rooms based on temperature.  
- Each room has a name, temperature, and a heater that can be ON or OFF.  
- Program decides heater status based on room temperature.

## How It Works

- Room Objects: Each room stores its own temperature and heater status, allowing independent management.  
- Heater Control Logic:  
 - Heater turns ON if temperature is below a set threshold.  
 - Heater turns OFF if temperature reaches or exceeds the threshold.  
 - Previous heater state is tracked to determine if the heater is continuing its state or changing.  
- Simulation Cycles:  
 - Program runs over multiple cycles representing passage of time.  
 - Temperatures are updated each cycle to see how heaters respond.  
- Output: Prints messages showing heater status and current temperature for monitoring.

## Why It’s Useful

- Demonstrates state tracking for real-world thermostat systems.  
- Illustrates conditional decision-making based on temperature.  
- Provides a framework to observe interactions of multiple heaters in a building.

## Summary

- Models a thermostat system that maintains comfort by switching heaters ON or OFF.  
- Useful for understanding automated temperature control and system behavior over time.