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**Roll# BSAIM-035**

**AI LAB TASKs**

**Documentation**

**• Model-Based Reflex Agent**

**• This agent not only checks the current temperature but also remembers the previous**

**action to avoid turning the heater on or off unnecessarily.**

This program **simulates a heating system** that manages temperatures in multiple rooms. It allows the user to specify the number of rooms and their initial temperatures. The system then **regulates** the temperature over **five cycles** by turning the heater on or off based on predefined conditions.

**Functioning of the Program**

1. **Initializing the System:**
   * Two dictionaries are created:
     + One to store room names and their respective temperatures.
     + Another to track the heater state (ON/OFF) for each room.
   * The user specifies the number of rooms, and for each room:
     + A name is entered.
     + An initial temperature is set.
     + The heater is initially set to OFF.
2. **Running the Temperature Regulation Cycles:**
   * The program runs a **five-cycle simulation** where it checks and adjusts room temperatures.
3. **Checking Heater Conditions:**
   * For each room, if the temperature is **below 22°C**, the heater is turned **ON**, and a message is displayed.
   * If the temperature is **22°C or higher**, the heater remains **OFF**.
4. **Adjusting Room Temperatures:**
   * If the heater is ON, the temperature in the room increases by **1°C**.
   * If the heater is OFF, the temperature decreases by **1°C**.