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# Task : 03

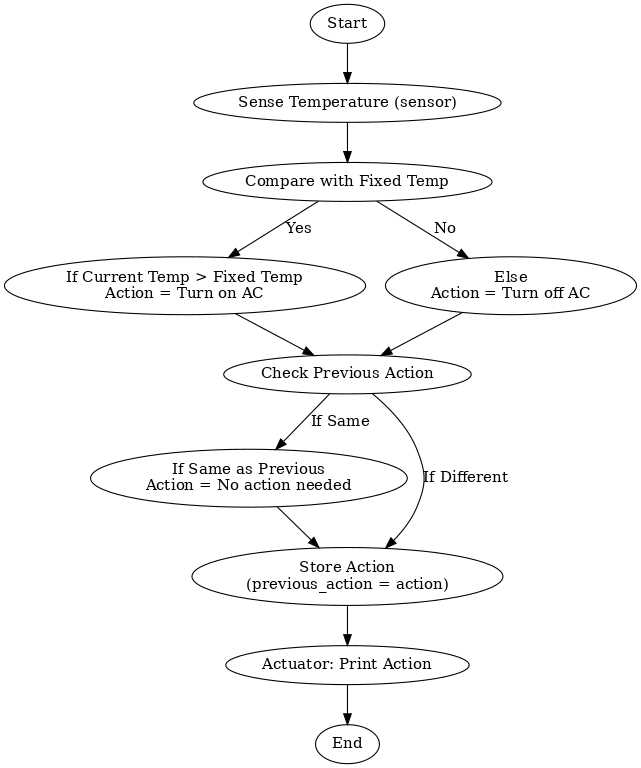
**Model Based Reflex Agent**

# Improved Documentation: ModelBasedReflexAgent

This document provides the improved documentation of the Python program implemented for a simple Model-Based Reflex Agent. The agent is designed to control the Air Conditioner (AC) based on room temperature.

## Flowchart

The following flowchart explains the working of the agent:



## Class Explanation

The `ModelBasedReflexAgent` class simulates an intelligent agent with the following functions:

1. \_\_init\_\_(self, temp): Initializes the agent with fixed temperature, previous action, and current temp.

2. sensor(self, temp): Updates current room temperature sensed by the agent.

3. performance(self): Determines the action (Turn on AC, Turn off AC, or No action needed).

4. actuator(self): Executes the chosen action and prints it.

## Example Usage

Rooms with their respective temperatures are defined. The agent decides the action for each room.

## Source Code

class ModelBasedReflexAgent:  
 def \_\_init\_\_(self, temp):   
 self.fixed\_temp = temp  
 self.previous\_action = None  
 self.current\_temp = None  
   
 def sensor(self, temp):  
 self.current\_temp = temp  
   
 def performance(self):  
 action = None  
 if self.current\_temp > self.fixed\_temp:  
 action = "Turn on the AC"  
 else:  
 action = "Turn off the AC"  
   
 if self.previous\_action == action:  
 action = "No action needed"  
   
 self.previous\_action = action  
 return action  
   
 def actuator(self):  
 action = self.performance()  
 print(f"{self.current\_temp}°C => Action: {action}")  
  
  
# Example rooms  
rooms = {  
 "study Room": 20,  
 "bedroom Room": 18,  
 "Kitchen": 30,  
}  
  
agent = ModelBasedReflexAgent(22)   
  
for room, temp in rooms.items():  
 print(f"{room} :\t", end='')  
 agent.sensor(temp)  
 agent.actuator()  
  
print("\nExample of an individual room:")  
agent.sensor(24)  
agent.actuator()