AL2002 – Artificial Intelligence Lab

Lab Task 2

Problem: 1

Imagine a single-floor office building with a fire alarm system that is controlled by a simple reflex agent. The system has smoke detectors and temperature sensors placed throughout the building to detect any signs of fire.

The agent's rules are as follows:

- If smoke is detected, the alarm will sound, and the sprinkler system will activate to put out the fire.
- If a high temperature is detected, the alarm will sound, and the fire department will be called.
- If neither smoke nor high temperature are detected, the system remains in its normal state with the alarm off and the sprinkler system deactivated.

The goal of the agent is to keep the building and its occupants safe by quickly and efficiently responding to any signs of fire. Write a program to develop a simple reflex agent.

Problem: 2

An Automatic Watering System is set up in a greenhouse. The system has sensors that detect the moisture level in the soil, and a control unit that operates the watering system. The task of the simple reflex agent program is to control the watering system based on the moisture level of the soil.

Percepts: Moisture level sensor States: Dry soil, Moist soil, Wet soil Rules:

1. If the moisture level sensor detects dry soil, the agent activates the watering system to water the plants.
2. If the moisture level sensor detects moist soil, the agent keeps the watering system off to avoid overwatering the plants.
3. If the moisture level sensor detects wet soil, the agent deactivates the watering system to prevent waterlogging.