Washington State University
School of Electrical Engineering and Computer Science
Fall 2019

CptS 440/540 Artificial Intelligence
Homework 2
Due: September 5, 2019 (11:59pm)

General Instructions: Your submission for this homework should be a zip file containing your Agent.h and Agent.cc files (or a PyAgent.py file), and an optional readme.txt file. Put your files into one zip file and submit as an attachment under Content → Homework 2 for the course CptS 440 Pullman (all sections of CptS 440 and 540 are merged under the CptS 440 Pullman section) on the Blackboard Learn system by the above deadline. Note that you may submit multiple times, but we will only grade the most recent entry submitted before the above deadline.

For this homework you will implement a reflex agent with state to play the Wumpus World game. Specifically,

1. Download the Wumpus World simulator from GitHub at https://github.com/holderlb/wumpus-world-simulator.
2. Read the README for instructions on how to use the simulator.
3. Implement an agent that executes the following reflex rules (**and only these rules**).
    a. If the agent observes the Glitter percept, it should execute the GRAB action.
    b. If the agent has the gold and is in location [1,1], it should execute the CLIMB action.
    c. If the agent observes the Stench percept, and it has an arrow, then it should execute the SHOOT action.
    d. If the agent observes the Bump percept, it should randomly choose either the TURNLEFT or TURNRIGHT action.
    e. Otherwise, the agent should execute the GOFORWARD action.
4. Your agent should maintain state information about the agent's location and orientation and whether it has an arrow and the gold. Your agent does not have access to the game state within the simulator, so the agent will have to update its own state after each turn. But you may copy/include/import simulator code into your agent.
5. Submit a zip file with your Agent.h and Agent.cc files, or PyAgent.py file, along with an optional readme.txt file containing any information you think we may need about your agent. Your agent should not require any user input. Your agent will be tested by copying only your Agent.h and Agent.cc files, or PyAgent.py file, into a fresh copy of the simulator code, and compiling and running it on several test worlds. Your grade will be based on satisfying the above requirements and good programming style (see the course website for links to style guides).