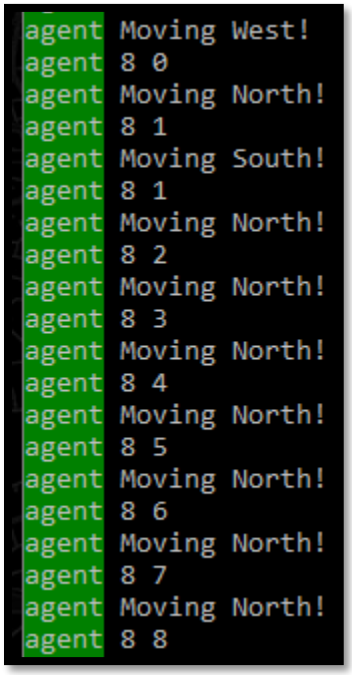
AGENT PROGRAMMING

CS551K | Assessment 1 | 51879040

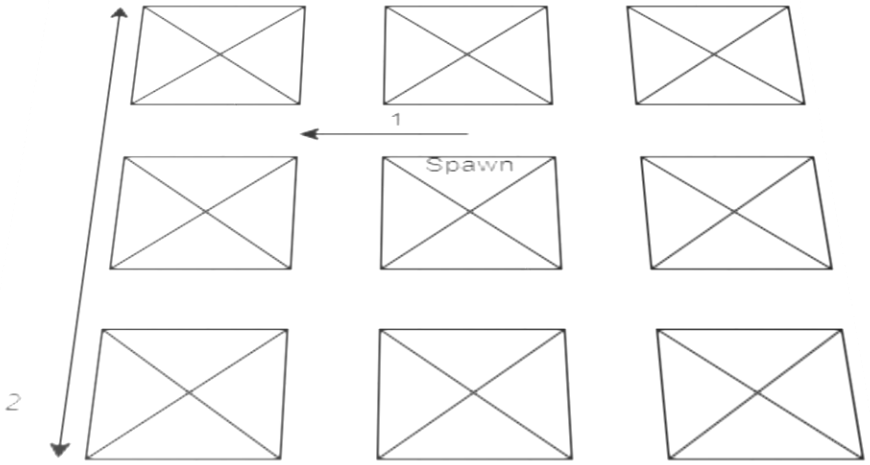
TASK 1: MOVING THE AGENT

For moving the agent, we use the North, West, South, East functions given within the python file. The agent may move any of these 4 directions, it may move 1 or 2 spots. If the agent moves 2 spots, we do not count that spot as visited. The goal of this action is to move the agent to visit every spot, in order to determine where the agent is, we use the scan function to identify each location at the end of each move made.



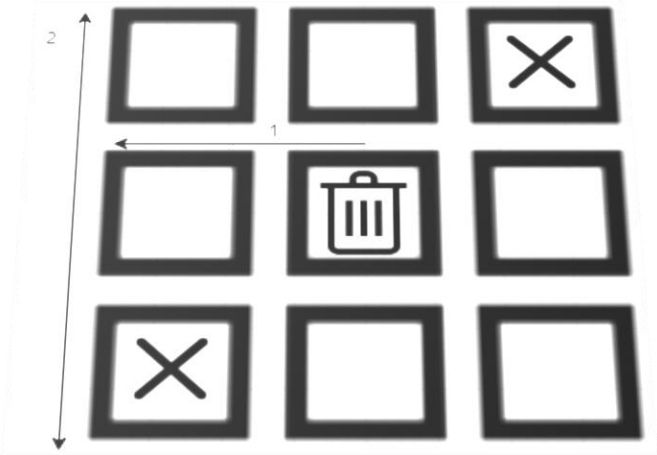
TASK 2: SWEEP

Using a for loop we can use the agent movement to sweep an area. We can set a search range for values *i* and *j* where each variable is coordinates for agent position. The agent announces each spot it takes to help better track its path. The program terminates once the agent has visited all possible locations within the search space.



TASK 3: REMOVE RUBBISH

Removing Rubbish/ Garbage, garbage is spawned within a 10x10 radius of the agent location. Using the previous sweep function, we expand it to include garbage removal. The agent can hold up to 2 pieces of garbage. We use this to our advantage and sweep the area as before but check each space for garbage. If at least 1 hand is empty the agent will pick it up. This will occur till the agent has both hands full. Once this occurs the agent should return location of the incinerator and increate all garbage it holds.



Bugs:

garbage's runs with no errors but does not seem to execute incineration commands. Unable to check whether program is successful in completing the task.

REFERENCES

The following references provided examples and understanding for use of ASL and challenges in this assessment.

Bordini, R.H. and Hübner, J.F., 2005, June. BDI agent programming in AgentSpeak using Jason. In International Workshop on Computational Logic in Multi-Agent Systems (pp. 143-164). Springer, Berlin, Heidelberg.

Bordini, R.H., Hübner, J.F. and Wooldridge, M., 2007. Programming multi-agent systems in AgentSpeak using Jason (Vol. 8). John Wiley & Sons.

University of Liverpool: COMP329
(Java examples of agent problems)
https://cgi.csc.liv.ac.uk/ | https://cgi.csc.liv.ac.uk/~trp/COMP329_files/

Dr. Nir Oren
Course Lecturer | Code Examples