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CIS 421 Artificial Intelligence

Assignment: 1 - Reflex Agent

Due: February 5, 2018

Informal Analysis of Reflex Agent Algorithms

Both of the algorithms utilized in this simulation were fairly similar. The pure reflex agent (without memory) went through many conditional tests to determine the next action. The first tests ran were the ones that were prioritized, as when the first test is correct, then the action is executed above all others. In this implementation, the agent first attempted to vacuum dirt. Then, if dirt was around it, it would go towards it. After that, it would do the same with the goal location. If it did not perceive a goal or dirt, it would randomly choose between left, right and forward (left and right if it was facing a wall or furniture). This algorithm is successful in sucking up dirt and ending on the goal once near these objects, but appears to aimlessly wander once away from them, and often gets trapped in corner spaces. In the implementation with memory, the memory change only one part of the aforementioned process. If the agent had not gone straight in the three previous turns, then it would go straight. This was done in effort to give the agent more direction, in the hopes that it would prevent trapping or aimless wandering. The tests show that the reflex agent with the memory is slightly more effective, but the results are too varied to say that it is conclusively more effective.