Applied Artificial Intelligence (DV2557)

Assignment 1 – Wumpus World

Submitted By:

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Grade Attempted - E grade

This submission is for the E grade of this assignment.

The submission is made in form of a zip file (WumpusWorld_E_Grade.zip) that has been exported from the NetBeans project.

The code for the agent in the Wumpus world is implemented in the "MyAgent.java" (located in WumpusWorld/src/wumpusworld/).

Problem:

An intelligent agent is to be programmed to play the game of Wumpus World which has predefined set of rules.

Aim of the game: (a) to grab gold

(b) to avoid getting killed by Wumpus

(c) to maximise the score

Action that can be performed: (a) turning left and right

(b) moving forward

(c) shooting arrow

(d) climbing out of pit

(e) grabbing gold

Percepts: (a) breeze, around pit

(b) stench, around wumpus

(c) glitter, at gold

Implementation:

The agent is programmed in the provided environment in the "MyAgent.java" file. The approach the agent uses is as follows:

(a) if wumpus is around, can be located, and agent has arrow, then kill wumpus
(b) if wumpus is around, and cannot be located, then move back to known tile
(c) if wumpus is around, can be located, and agent doesn't have arrow, then store wumpus location to avoid it
(d) explore the map in such way that all tiles are covered and avoiding wumpus if it is still alive
(e) grab gold when it is encountered

By following this strategy, the agent can win the gold in the map.