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Question 1: Exploration agent explanation

The "dumb" agent does not have a ranked list of condition-action, this agent does not follow a specific ordering from a knowledge base. Unfortunately, this agent bases most of its decisions on random action, except for those actions based off a sensor, such as when to fire the arrow when on a stench or when to pick up the gold while on a glitter. Therefore, the possibility that the agent will successfully reach his final goal is very slim.

The "intelligent" agent follows the precept of always looking for the safe space. A safe space is defined as a square that does not contain a stench or a breeze. If the agent is in an area on his route to the gold where he must choose between a square containing a stench or a square containing a breeze then he must choose the stench due to his ability to kill the Wumpus to create a new safe space. If the agent must be in a room which contains a breeze, it randomly chooses a direction to follow in hopes to not fall into a pit. The agent continues in this notion until it has found the goal, while full well remembering each sensor from the spaces/rooms visited to help make its next decisions.

Question 2: The average cumulative payoff of the agent

Due to the randomized nature of the "dumb" agent, the average cumulative payoff for this agent is -520.

The "intelligent" agent is able to accumulate the perceptions of each room, which allows for the cumulative payoff to be lower than the average cumulative payoff of the dumb agent. The average cumulative payoff of the "intelligent" agent has not been determined as we were unable to solve this question. The goal of the "intelligent" agent is to be able to optimize the path in a way that it will almost always be able to access the gold. The only time where there is a chance it could be unsuccessful in its mission to obtain the goal would be when the Wumpus is blocking its path and there is no 100% guarantee that firing an arrow in a specific direction will kill the Wumpus. Thus, we expect that the cumulative average of the "intelligent" agent would be positive in almost every case, except for the ones which come down to probability. The score will likely be in the hundreds since it will lose some points mapping out the entire area based on its percepts.