**Design Defense**

**Q: Analyze the differences between human and machine approaches to solving problems.**

Humans are referred as the superior of all living organisms. AI invention is the prove of human intelligence. This maze can be solved by human being using analysis, focus, eye movement strategy, decision making ability and plans to choose specific routes. As the maze game require, memory and vision. Both can be achieved with focus.

On the other hand, AI can make decision using environment, inputs and previous experience. The agent used in the maze game is a self-taught, it continuously evaluated previous turn and apply new strategies to solve maze problem.

The similarity between Ai and humans is both would make their way out to solve the riddle. But the differences are more, as AI is made by human, but it might have some error. Upon running with error free, it takes few seconds to fully run. Yet it is absolutely mind blown invention.

**Q: Assess the purpose of the intelligent agent in pathfinding.**

In terms of machine learning, both exploitation and exploration involve agent. Exploitation is fast and estimated answer to win something, while exploration let to explore and learn. It allows the agent to explore its knowledge and win. Agents use exploitation more than exploration. In this problem, agent is self-taught, so it learn and explores by itself.

Reinforcement learning means to learn from interactions to get something. In this maze example, the agent gets the reward and win it by using reinforce technique.

Algorithm is involved in every step whether technical or non technical. With technical problems, algorithm help in finding path(as in this game), finding specific numbers, sorting something, etc.

Deep learning use neural networks solve this game. This can be sone by competing one agent to its previous version and getting specific things.