AI - Lab Test Viva

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1) What is A* search algorithm?
2) What are methods used to calculate distance approximation heuristically?
3) What is a heuristic function?
4) What are agents?
5) How does an agent use sensors
6) Why IDS is better than other search algorithm?
7) Where are A* & IDS algorithms implemented in real life.

Answers

1) A* search algorithm is a technique used in graphs and path finding problems. It uses different heuristics and makes its job easier.

2) The methods are →
   - (r) Euclidean distance
   - (r) Manhattan distance

3) A heuristic function is a function used to decide on which path to follow when a number of paths or ways are possible. It finds the best path to go on.

4) An agent is anything that can sense its environment using its sensors and act upon it using Actuators.

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5) Agent uses sensors to sense its environment. Each sensor senses a particular entity and provides the information to the agent.

6) IDDFS always provides optimal answers in the same space and time complexity as DFS and BFS.

7) In real life A* algorithm are used in Maps as in Google maps when finding the path, also some games used this. IDDFS is also used to find paths and optimal solutions