Name: Akshay S Bharadwaj

USN: 1BM18CS011

Date: 16/11/2020

Sem: 5

AI - Viva & Lab Test - 1

1. What is A* search algorithm?
2. What are different methods used to calculate distance approximation heuristically?
3. What is a heuristic function?
4. What are agents?
5. How an agent uses sensor function?
6. Why IDS is better than others?
7. Where are A*, IDS implemented in real life?

Answers:

1. A* is a path search algorithm which determines the shortest path to a destination node by choosing the most promising node next to traverse.

   $f(x) = h(x) + g(x)$.

2. The methods are:
   (i) Best First search. (A*)
   (ii) Iterative deepening search or IDDFS.

3. A heuristic function is designed for solving problems quicker i.e it chooses approximate solutions that look most promising to solve problems quicker.

4. An agent is a being surrounded by an environment which senses it and acts upon it accordingly.

AS

Akshay S Bharadwaj
1BM18CS011

Date : 10/11/2020
Sem : 5

5. An agent senses the environment using sensors. In real-life these sensors can sense, visual, audio, vibrations etc. with the help of devices such as cameras, microphones, SONAR etc. which act as the sensors for the agent.

6. IDS is better than other search methods since it combines BFS and DFS by limiting the depth.

9.

7. A* and IDS can be implemented in real-life during navigation, flow problems etc.