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BTECH 3RD YEAR

AIML Tutorial 5

As shown in the graph,
the queue has

 $\{S, 0\}$

Now, after visiting $\{S, 0\}$, the queue has
 $\{A, 1\}, \{D, 5\}$.

We visit ~~A~~. Then the queue has,
 $\{B, 4\}, \{D, 5\}$

We visit B. Then, the queue has,
 $\{G, 3\}, \{C, 5\}, \{D, 5\}$.

We visit G, which is the goal state.

We have reached the total goals and hence, we stop.

Note, Hence, our path is:-

$$S \rightarrow A \rightarrow B \rightarrow G$$

Ans 2. As shown in the graph,
we start with ~~S~~ S.

the queue has $\{A, 9\}, \{D, 5\}$

Now we visit D.

Then, the queue has $\{A, 9\}, \{B, 4\}, \{E, 3\}$.

Now we visit ~~B~~ E

Then the queue has $\{A, 9\}, \{B, 4\}, \{G, 0\}$.

Now we visit the goal state G.

We have reached the goal state and hence, all goals
states are reached.

Hence, our path is:-

$$S \rightarrow D \rightarrow E \rightarrow G$$

Ans 3: Advantages of least cost ~~Si~~ Uniform Cost Search:-
• Guaranteed to find the least cost solution.

Disadvantages of Uniform Cost Search:-
• Exponential Storage required
• Open list must be kept sorted (as a priority queue)
• Must change cost of a node on open if a lower-cost path to it is found.

Ans 4: Advantages of Greedy Search:-

- Finding the solution is quite easy with a greedy algorithm for a problem.
- Analyzing the run time for greedy algorithms is much more easier upon which further ~~can~~ analysis can be done.

Disadvantages of Greedy Search:-

- It is very sensitive to change in data or parameters.
- It is very difficult to prove the correctness of the algorithm.