

**PAID VU LMS HANDLING by Mam Mehwish**

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**CS607p**

**Mid Term (Live Quiz)**

1. There exists \_\_\_\_\_ many solutions for an 8-queen problem.
  - 92
  - 88
  - 98
  - 100
2. N-queens problem is implemented in
  - Chess
  - Ludo
  - Carom
3. In case if there exists an optimal solution for a problem by constructing optimal solutions for its subproblems, the problem possesses
  - Greedy
  - Overlapping subproblems
  - Optimal Substructure
  - Memorization
4. BFS stands for
  - Basic Field Slot
  - Block First Split
  - Beginners Friends Search
  - Breadth First Search
5. Backtracking algorithm is implemented by constructing a tree of choices is known as

- State-space tree
  - State-chart tree
  - Backtracking tree
  - Node tree
6. PRIM's algorithm is based on \_\_
- Dynamic Programming
  - Branch and Bound
  - Greedy Method
  - Divide and Conquer
7. \_\_\_\_\_ was the first solution to Eight Queen Puzzle published.
- 1848
  - 1847
  - 1849
  - 1850
8. \_\_\_\_\_ many possible solutions occur for a 10-queen problem.
- 850
  - 842
  - 742
  - 724
9. \_\_\_\_\_ searching algorithm keeps track of nodes, which are already visited.
- BFS
  - DDS
  - RDS
10. \_\_\_\_\_ methods can be used to solve n-queen's problem.
- Backtracking
  - Greedy Algorithm
  - Divide and Conquer
  - Iterative Improvement

Methods that can be used to solve the N-Queen's problem:

- Iterative Improvement
- Greedy Algorithm
- Divide and Conquer
- Backtracking

2. When was the Eight Queen Puzzle published?

- 1846
- 1849
- 1848

3. \_\_\_\_\_ is the extended version of the Eight Queen Puzzle applicable for  $n \times n$  squares:

- n-Queen Puzzle
- n-Queens Problem
- n-Puzzle Problem
- n-Queen's Challenge

4. \_\_\_\_\_ was the first solution to the Eight Queen Puzzle published:

- 1849
- 1847
- 1848
- 1850

5. Queen attacks each other in \_\_\_\_\_ directions:

- 1
- 2
- 3
- 4

1. is not an application of Breadth First Search.

- Path Finding
- Finding Shortest Path

- GPS Navigation System
  - Bipartiteness of a Graph** ✓
2. **FIFO in searching and sorting stands for**
- Flat In Flat Out
  - First In First Out** ✓
  - Forward In Forward Out
  - Field Input Field Output
3. **is the way to determine that the specific node has been visited or not.**
- Having Null Vertex Distance
  - Unvisited Node** ✓
  - Queuing Vertex
  - Having Numerical Value
4. **In Breadth First Search algorithm the node is visited**
- Equivalent to the number of indegree of the node
  - Twice
  - Thrice
  - Once** ✓
5. **Lets say we have a person, who wants to visit some places. Therefore, he starts from a vertex and wants to visit every place connected to this vertex, then \_\_ algorithm will be used in this scenario.**
- Kruskal's Algorithm
  - Breadth First Search** ✓
  - Depth First Search
  - Trims Algorithm

**Which searching algorithm among the following takes less memory?**

- Linear Search
- Optimal Search
- Breadth First Search

- Depth First Search ✓

☐ The DepthFirst Search algorithm is implemented in recursion with

- UFO.
- UFA
- FIFO ✓
- FILA

☐ among the following is incorrect for DFS and BFS.

- BFS is equivalent to level order traversal in trees
- BFS is implemented using Queue
- DFS is equivalent to post order traversal in trees ✓
- DFS and BFS code have the same time complexity

☐ What is true about Artificial Intelligence?

- The Ability to act Rationally
- All of the Given ✓
- The Ability to Solve Problems
- The Ability to act like human beings

☐ A search algorithm imposes a fixed depth limit on nodes.

- Depth Limited Search ✓
- Depth First Search

1. What is the space complexity of Depthfirst search?

- $O(m)$
- $O(bm)$  ✓
- $O(b)$

2. Among the mentioned below attributes, which one is true about Iterative Deepening DFS?

It is considered as the preferred informed search method

It is a depthfirst search with a fixed depth limit

It does not perform DFS in a BFS fashion

It's a Depth First Search Algorithm, but it does it one level at a time by gradually increasing the limit until a goal is found ✓

3. Which searching algorithm among the following takes less memory?

Linear Search

Depth First Search ✓

Optimal Search

Breadth First Search

4. AOE algorithm is used in the Game tree to make decisions of Win and Lose.

Greedy Search Algorithm

Heuristic Search Algorithm

DFS/BFS algorithm

Min/Max Algorithm ✓

5. Depth First Search is equivalent to \_\_\_\_\_ of the traversal in Binary Trees.

Postorder Traversal

Levelorder Traversal

Inorder Traversal

Preorder Traversal ✓

6. What will be the time complexity of the iterative depthfirst search traversal code, where V = No. of Vertices, E = No. of Edges?

$O(V+E)$  ✓

$O(v)$

$O(V\setminus E)$

$O(E)$

7. A search algorithm requires less memory than \_\_\_\_\_ algorithm.

Brute Force Search, Depth First Search

Breadth First Search, Depth First Search ✓

Breadth First Search, Optimal Search

Depth First Search, Breadth First Search

8. Which of the following are referred to as Informed search algorithms?

Best First Search

A Search

Both Best First Search and A Search ✓

Iterative Deeping Search

9. Breadth First Search is equivalent to \_\_\_\_\_ traversal in the Binary Search Trees.

LevelOrder Traversal ✓

PreOrder Traversal

InOrder Traversal

PostOrder Traversal

10. Rejects all new paths that have loops

DFS

BFS ✓

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