Breadth First Search

Choose difficulty: ☑ Beginner ☑ Intermediate ☑ Advanced

1. Which of the following policies does a queue follow?

- (●) a: FIFO - First In, First Out Explanation
- ( ) b: LIFO - Last In, First Out Explanation
- ( ) c: FILO - First In, Last Out Explanation
- ( ) d: Random order Explanation

2. Which of the following describes a standard graph traversal algorithm?

- ( ) a: Visiting all the edges of the graph Explanation
- (●) b: Visiting all the vertices of the graph Explanation
- ( ) c: Detecting all the cycles in the graph Explanation
- ( ) d: None of the above Explanation

3. Consider the following undirected graph:
Vertices, V = [1, 2, 3, 4, 5, 6]
Edges, E = [[1, 2], [1, 3], [2, 4], [2, 5], [3, 5], [3, 6]]
Where each array within E signifies an edge between the two mentioned vertices
Which of the following data structures is represented by the above graph?

- ( ) a: Tree Explanation
- (●) b: Cyclic graph Explanation
- ( ) c: Disconnected Graph Explanation
- ( ) d: Complete Graph Explanation

4. Consider the following undirected graph:
Vertices, V = [a, b, c , d, e, f]
Edges, E = [[a, b], [a c], [b, d], [b, e], [c, e], [c, f]]
Where each array within E signifies an edge between the two mentioned vertices.
If we were to store this graph's vertices in a queue in the order top to bottom(parent to child) and left to right(edges that appear first in the edge matrix appear first in the queue) with 'a' as the root, what index would vertex 'e' be stored at (assume 0 indexing for the queue and no deletions)?

- ( ) a: 2 Explanation
- ( ) b: 3 Explanation
- (●) c: 4 Explanation
- ( ) d: 5 Explanation

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