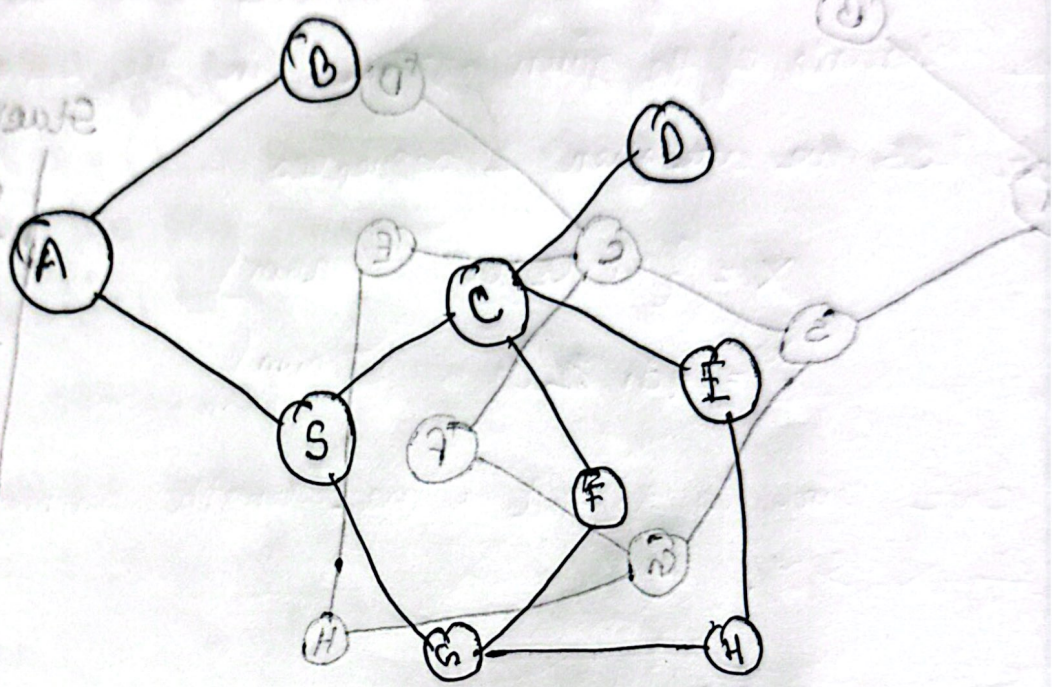
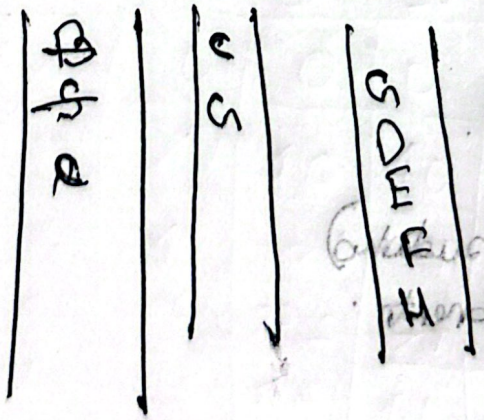
Breadth First Search

Queue



Queue status



Output : A B S C G D E F H

Where BFS is used

1. finding the shortest path in unweighted graph.
2. Solving puzzles (like 8 puzzle, Rubiks cube).
3. finding connected components.
4. Web crawling
5. Network broadcasting.
6. Tree level-order traversal.

How BFS works

1. Put starting node into a queue.
2. Marking it as visited
3. While the queue is not empty
    1. Remove first node from the queue.
    2. Visited all unvisited neighbors of that node.
    3. Add those neighbor to the queue.