

# GRAPH

1. Introduction to graph and its representation (matrix and list form both)
2. Introduction to BFS and DFS
  - a. Questions on DFS
    - i. <https://www.geeksforgeeks.org/find-number-of-islands/>
    - ii. <https://www.geeksforgeeks.org/longest-path-between-any-pair-of-vertices/>
    - iii. <https://www.geeksforgeeks.org/find-a-mother-vertex-in-a-graph/>
    - iv. <https://www.geeksforgeeks.org/iterative-depth-first-traversal/>
    - v. <https://www.geeksforgeeks.org/find-paths-given-source-destination/>
    - vi. <https://www.geeksforgeeks.org/stepping-numbers/>
    - vii. <https://www.geeksforgeeks.org/maximum-product-of-two-non-intersecting-paths-in-a-tree/>
  - b. Question on bfs
    - i. <https://www.techiedelight.com/breadth-first-search/>
    - ii. <https://www.techiedelight.com/find-minimum-passes-required-convert-negative-values-matrix/>
    - iii. <https://www.techiedelight.com/find-shortest-distance-every-cell-landmine-maze/>
    - iv. <https://www.techiedelight.com/count-the-number-of-islands/>
    - v. <https://www.techiedelight.com/find-shortest-safe-route-field-sensors-present/>
    - vi. <https://www.techiedelight.com/lee-algorithm-shortest-path-in-a-maze/>
    - vii. <https://www.techiedelight.com/chess-knight-problem-find-shortest-path-source-destination/>
    - viii. <https://www.geeksforgeeks.org/minimum-time-required-to-fill-given-n-slots/>
3. Minimum Spanning Tree  
<https://www.hackerearth.com/practice/algorithms/graphs/minimum-spanning-tree/tutorial/>
  - a. Kruskal's Algorithm- <https://www.geeksforgeeks.org/kruskals-algorithm-simple-implementation-for-adjacency-matrix/>
  - b. Prim's Algorithm <https://www.geeksforgeeks.org/prims-minimum-spanning-tree-mst-greedy-algo-5/>
4. Topological sort  
<https://www.hackerearth.com/practice/algorithms/graphs/topological-sort/tutorial/>  
<https://www.geeksforgeeks.org/topological-sorting/#:~:text=Topological%20sorting%20for%20Directed%20Acyclic,before%20v%20in%20the%20ordering.&text=For%20example%2C%20another%20topological%20sorting,5%20%203%201%200%E2%80%9D.>
5. Shortest path Algorithm  
<https://www.hackerearth.com/practice/algorithms/graphs/shortest-path-algorithms/tutorial/>
  - a. Bellman Ford's Algorithm: <https://www.geeksforgeeks.org/bellman-ford-algorithm-dp-23/>
  - b. Dijkstra's Algo : <https://www.geeksforgeeks.org/dijkstras-shortest-path-algorithm-greedy-algo-7/>

6. Flood Fill Algorithm : <https://www.hackerearth.com/practice/algorithms/graphs/flood-fill-algorithm/tutorial/>  
<https://www.geeksforgeeks.org/flood-fill-algorithm-implement-fill-paint/>

**“Don’t practice until you get it right. Practice until you can’t get it wrong “**

**“Keep Calm and keep coding”**

**ALL THE BEST**

