How To Master Graphs In Data Structures

- PreRequisites
  - Recursion - used in DFS
  - Stacks
  - Queues - used in BFS
  - Trees
- Overall Practice Link
  - https://www.codingninjas.com/codestudio/guided-paths/data-structures-algorithms/content/118511/offering/1376643
- Basic Terminologies
  - Link - https://www.codingninjas.com/codestudio/guided-paths/data-structures-algorithms/content/118511/offering/1376643
  - Vertex And Edges
  - Adjacent Vertex
  - Path In Graph
  - Connected Graph
  - Connected Components In Graph
  - Directed And Undirected Graphs
  - Weighted And Unweighted Graphs
- Representation Of Graph
  - Link - https://www.codingninjas.com/codestudio/guided-paths/data-structures-algorithms/content/118511/offering/1376643
  - Edge List
  - Adjacency List
  - Adjacency Matrix
- Basic BFS/DFS Questions
  - Dfs Bfs Notes - https://www.codingninjas.com/codestudio/guided-paths/data-structures-algorithms/content/118511/offering/1376644
  - DFS Print
  - BFS Print
  - Is Graph Connected?
  - Print All Connected Components Of Graph
- Applications Of BFS/DFS
  - Is Graph Tree Or Not?
    - https://www.codingninjas.com/codestudio/guided-paths/data-structures-algorithms/content/118511/offering/1381534
  - Colour The Graph

- https://www.codingninjas.com/codestudio/guided-paths/data-structures-algorithms/content/118511/offering/1381539
  - Largest Island
    - https://www.codingninjas.com/codestudio/guided-paths/data-structures-algorithms/content/118511/offering/1381537
  - Count Nodes Within K Distance
    - https://www.codingninjas.com/codestudio/guided-paths/data-structures-algorithms/content/118511/offering/1381541
- MST - Minimum Spanning Tree
  - Link - https://www.codingninjas.com/codestudio/guided-paths/data-structures-algorithms/content/118511/offering/1376645
  - Kruskal's Algorithm
  - Detect Cycle In Graph
  - Union Find Algorithm In Graph
  - Prim's Algorithm
  - Question - https://www.codingninjas.com/codestudio/guided-paths/data-structures-algorithms/content/118511/offering/1381545
- Shortest Path In Directed Graph
  - Dijkstra's Algorithm Notes- https://www.codingninjas.com/codestudio/guided-paths/data-structures-algorithms/content/118511/offering/1376646
  - Question - https://www.codingninjas.com/codestudio/guided-paths/data-structures-algorithms/content/118511/offering/1381542
- Toplogocial Sort
  - Kahn's Algorithm
  - https://www.codingninjas.com/codestudio/guided-paths/data-structures-algorithms/content/118511/offering/1376647
  - Question - https://www.codingninjas.com/codestudio/guided-paths/data-structures-algorithms/content/118511/offering/1381543
- Graphs In Matrix
  - Snake And Ladder - https://www.codingninjas.com/codestudio/guided-paths/data-structures-algorithms/content/118511/offering/1381550
  - Rotting Oranges - https://www.codingninjas.com/codestudio/guided-paths/data-structures-algorithms/content/118511/offering/1381549
  - Shortest Path In Binary Matrix - https://www.codingninjas.com/codestudio/guided-paths/data-structures-algorithms/content/118511/offering/1381547
- Other Questions
  - https://www.codingninjas.com/codestudio/guided-paths/data-structures-algorithms/content/118511/offering/1381554
- Other Algorithms - Competitive Programming
  - Bellman Ford Algorithm

- Floyd Warshall Algorithm
- Strongly Connected Components - Tarjan's Algorithm