**DSA LAB**
**Lab Assignment number 15**

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**Aim:** Implementation of BFS and DFS on a directed graph using adjacency matrix.

## A) BFS Algorithm:

BFS is Breadth First Search

1. Select any random node
2. Add the selected node to queue and list of BFS traversal
3. Add all nodes of selected node from adjacency matrix to the queue and the list of BFS traversal
4. After adding all the nodes from adjacency list, delete from rear in the queue
5. Consider rear node and add all the adjacent node
6. Repeat the process till all nodes are visited

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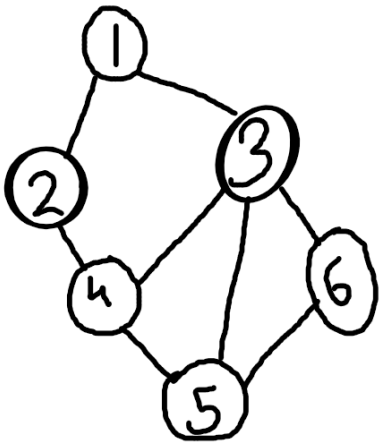


Consider the following graph, it's BFS traversal would be

1, 2, 3, 4, 5, 6

## B) DFS Algorithm

DFS is Depth Frst Search tree

1. Select any random node
2. Push the node to the stack and to the list of DFS traversal
3. Go to any one of the node in the adjacency list of the selected node
4. Repeat this process till all the connections are visited
5. Then pop from the stack
6. Trace the other node in the adjacency list of the top node
7. Repeat till the stack is empty

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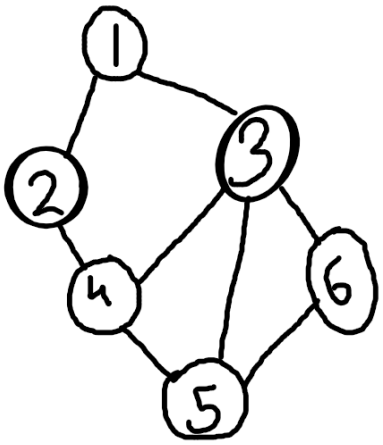


Consider the above graph, it's DFS traversal would be:

1, 2, 4, 3, 6, 5