Modern Education Society's
Wadia College of Engineering, Pune
Department of Computer Engineering

NAME OF STUDENT:	**CLASS:**
SEMESTER/YEAR:	**ROLL NO:**
DATE OF PERFORMANCE:	**DATE OF SUBMISSION:**
EXAMINED BY:	**EXPERIMENT NO: 01**

TITLE: DEPTH FIRST SEARCH ALGORITHM AND BREADTH FIRST SEARCH ALGORITHM

PROBLEM STATEMENT: Implement Depth first search algorithm and Breadth First Search algorithm, use an undirected graph and develop a recursive algorithm for searching all the vertices of a graph or tree data structure.

OBJECTIVES:

1. To understand Depth first search and Breadth first search algorithm and it's importance.
2. To understand the implementation of recursive algorithm.

PRE-REQUISITES:

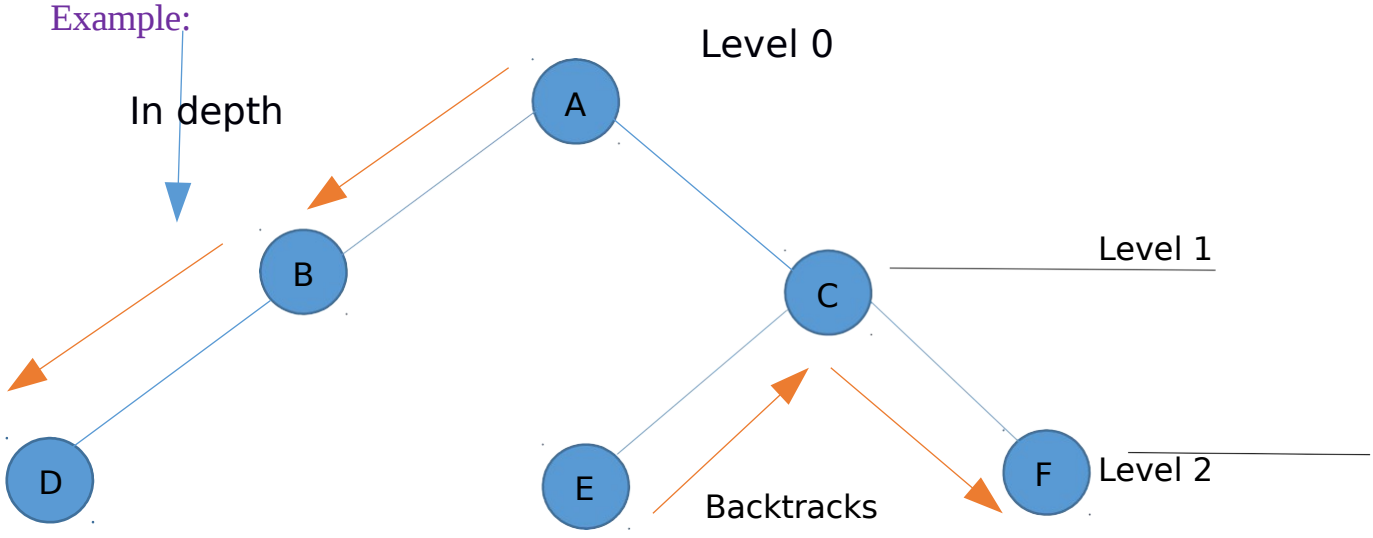
Depth First Search:

It is a recursive algorithm for traversing a tree or graph data structures.

It is called DFS because it starts from the root & follows each path to it's greatest depth node before moving to the next path.

DFS uses a Stack data structure for its implementation.

Example:



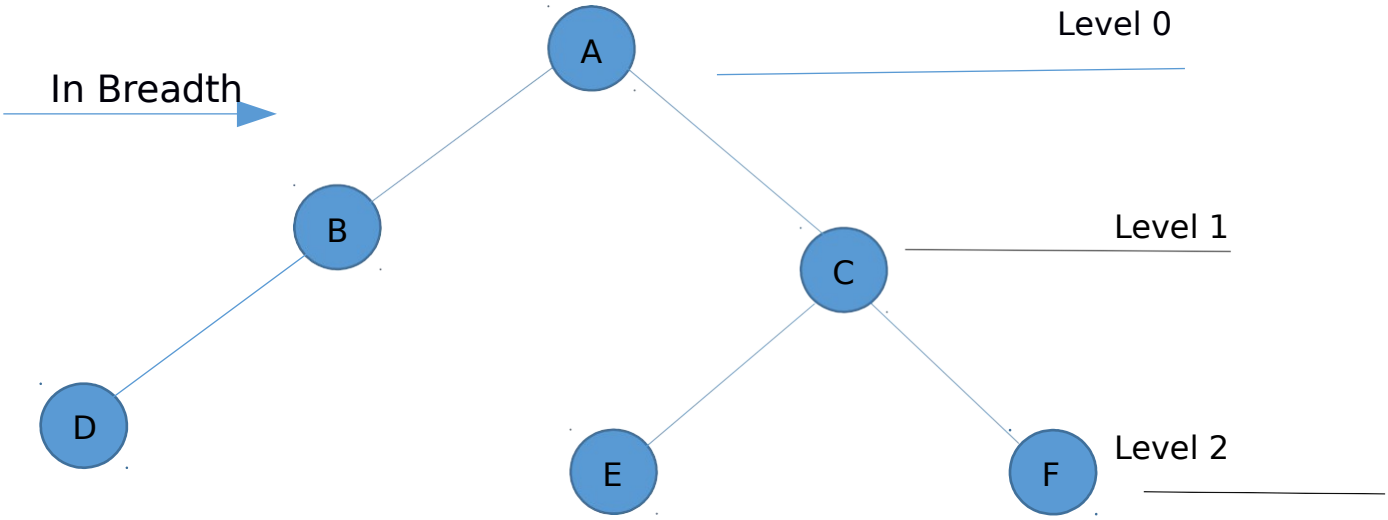
Output is: A, B, D, C, E, F

Breadth First Search (Level order Search)

Breadth First Search is a vertex based technique for finding a shortest path in graph.

It uses a Queue data structure which follows first in first out.

In BFS, one vertex is selected at a time when it is visited and marked then its adjacent are visited and stored in the queue.



Output is: A, B, C, D, E, F

Questions:

1] Difference between DFS & BFS.

2] What is time complexity of DFS algorithm?

3] What is time complexity of BFS algorithm?