-- G**raph traversal** (also known as **graph search**) refers to the process of visiting each vertex in a Graph Such traversals are classified by the order in which the vertices are visited. Tree Traversal  is a special case of graph traversal.

## - Graph traversal algorithms :

### **1-** Depth-first search

A depth-first search (DFS) is an algorithm for traversing a finite graph. DFS visits the child vertices before visiting the sibling vertices; that is, it traverses the depth of any particular path before exploring its breadth. A stack is generally used when implementing the algorithm.

### 2- Breadth-first search

A breadth-first search (BFS) is another technique for traversing a finite graph. BFS visits the sibling vertices before visiting the child vertices, and a Queue is used in the search process. This algorithm is often used to find the shortest path from one vertex to another

--Breadth-first search can be used to solve many problems in graph theory, for example:

* finding all vertices within one [connected component](https://en.wikipedia.org/wiki/Connected_component_(graph_theory));
* [Cheney's algorithm](https://en.wikipedia.org/wiki/Cheney%27s_algorithm);
* finding the [shortest path](https://en.wikipedia.org/wiki/Shortest_path) between two vertices;
* testing a graph for [bipartiteness](https://en.wikipedia.org/wiki/Bipartite_graph);
* [Cuthill–McKee algorithm](https://en.wikipedia.org/wiki/Cuthill%E2%80%93McKee_algorithm) mesh numbering;
* [Ford–Fulkerson algorithm](https://en.wikipedia.org/wiki/Ford%E2%80%93Fulkerson_algorithm) for computing the [maximum flow](https://en.wikipedia.org/wiki/Maximum_flow_problem) in a [flow network](https://en.wikipedia.org/wiki/Flow_network);
* serialization/deserialization of a binary tree vs serialization in sorted order (allows the tree to be re-constructed in an efficient manner);
* [maze generation algorithms](https://en.wikipedia.org/wiki/Maze_generation_algorithm);