How does BFS and DFS work?

BFS(Breadth-First Search)

DFS(Depth First Search)

Definition: is a vertex-based technique for finding the shortest path in the graph. It uses a Queue data structure that follows first in first out.

Definition: is an edge-based technique. It uses the Stack data structure

Work: It uses a Queue data structure that 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. It is slower than DFS.

Work: performs two stages, first visited vertices are pushed into the stack, and second if there are no vertices then visited vertices are popped.

Example:

Input:

A

/ \ D *(*

/ /\

DEF

Output:

A, B, C, D, E, F

Example:

Input:

Α

/\

B D

/ /\

Output:

A, B, D, C, E, F