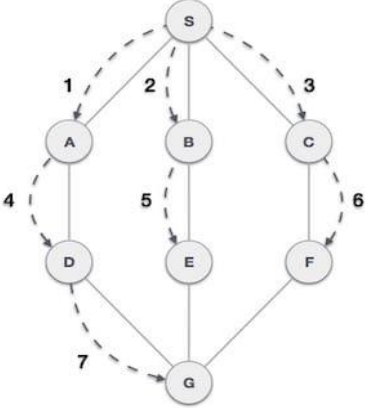
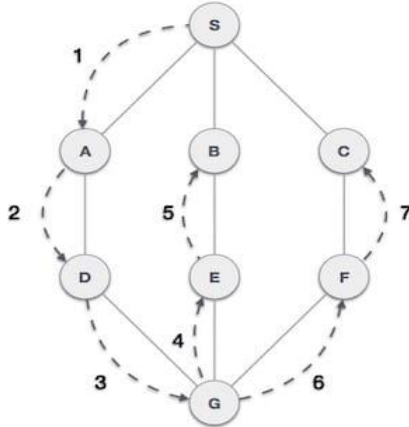


Comparison between Adjacency List and Adjacency

Matrix representation of Graph:

	Adjacency List	Adjacency Matrix
Define	An Adjacency list is an array consisting of the address of all the linked lists . The first node of the linked list represents the vertex and the remaining lists connected to this node represents the vertices to which this node is connected. This representation can also be used to represent a weighted graph. The linked list can slightly be changed to even store the weight of the edge.	Adjacency Matrix is a 2D array of size $V \times V$ where V is the number of vertices in a graph. Let the 2D array be $adj[i][j]$, a slot $adj[i][j] = 1$ indicates that there is an edge from vertex i to vertex j . Adjacency matrix for undirected graph is always symmetric. Adjacency Matrix is also used to represent weighted graphs. If $adj[i][j] = w$, then there is an edge from vertex i to vertex j with weight w .
Space complexity	$O(V^2)$	$O(V+E)$
draw	<p>Adjacency List</p>	<p>1. Adjacency Matrix</p>

How does BFS and DFS work?

	BFC	DFC
Definition	BFS, stands for Breadth First Search. Breadth First Search (BFS) algorithm traverses a graph in a breadthward motion and uses a queue to remember to get the next vertex to start a search when a dead end occurs in any iteration.	DFS, stands for Depth First Search. Depth First Search (DFS) algorithm traverses a graph in a depthward motion and uses a stack to remember to get the next vertex to start a search when a dead end occurs in any iteration
Data structure	BFS uses Queue to find the shortest path	DFS uses Stack to find the shortest path.
Source	BFS is better when target is closer to Source	DFS is better when target is far from source
Suitability for decision tree	As BFS considers all neighbour so it is not suitable for decision tree used in puzzle games.	DFS is more suitable for decision tree. As with one decision, we need to traverse further to augment the decision. If we reach the conclusion, we won.
Speed	BFS is slower than DFS.	DFS is faster than BFS.
Time Complexity	$BFS = O(V+E)$	$DFS = O(V+E)$
draw		

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