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There are 2 kinds of graph traversal.

(I) Breadth First search (BFS)

(II) Depth First search (DFS)

Breadth First search (BFS): start several paths at a time and advance in each one step at a time. It is actually implemented in queue method.

Algorithm:

(I) Define a Queue of size total number of vertices in the graph.

(II) Select a starting node A and put ~~the~~ it in queue & change its status in the q

(III) visit all the adjacent vertices of the vertex which is at front of the queue, which is not visited & insert them into the queue.

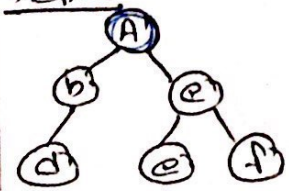
(IV) When there is no new vertex to be visit from the vertex at front of the Queue the delet that vertex from the queue.

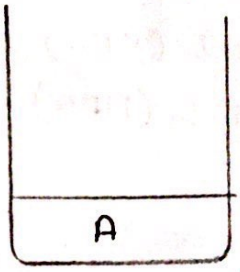
(V) Repeat step 3 & 4, untill queue becomes empty

(VI) Exit.

Example:

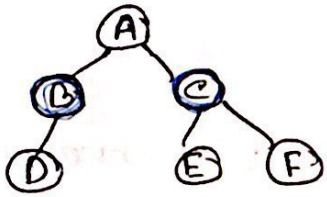
Step-1:

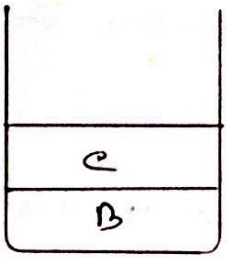




Queue.

Step: 2.

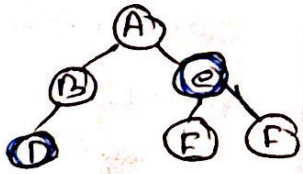


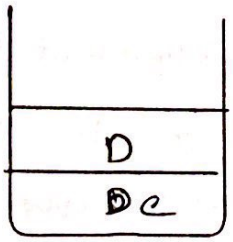


Queue.

Traverse : A

Step: 3.

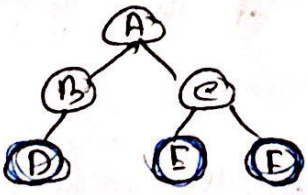


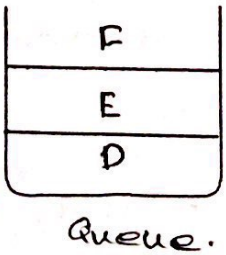


Queue

Traverse: A B

Step:-4

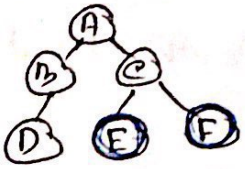


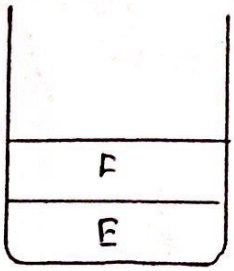


Queue.

Traverse: A B C

Step: 5.

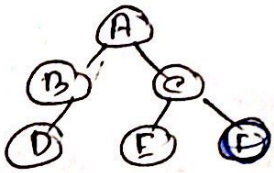




Traverse: A B C D

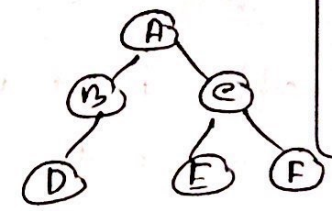
Queue

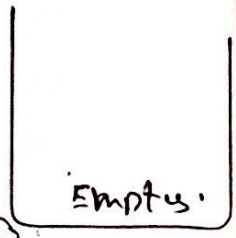
Step-6:



Traverse: A B C D E

Step-7:





Queue.

Traverse: A B C D E F

(Dfs) Depth First search:

Once a possible path is found, continue the search until the end of the path. It is implemented in stack method.

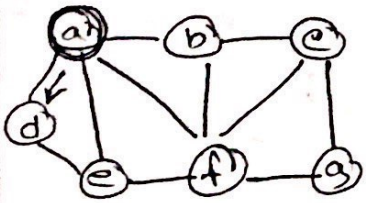
Algorithm:

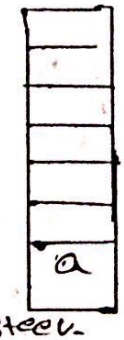
1. Initialize all nodes to the ready state (STATUS = 1)
2. Push the starting node A onto stack and change its status to the waiting state (STATUS = 2)
3. Repeat step 4 and 5 until stack is empty.
4. Pop the top node N of stack. Process N & change its status to the processed state (STATUS = 3)
5. Push onto the stack all the neighbors of N that r still in the ready state (STATUS = 1) & change their status to the waiting state (STATUS = 2)

   [End of step 3 loop.]
6. Exit.

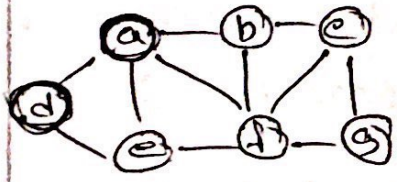
Example:

Step:-1

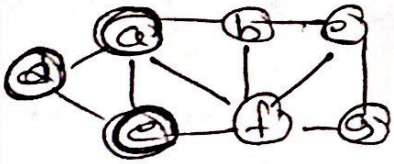


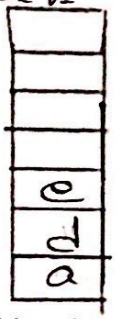


Step-2

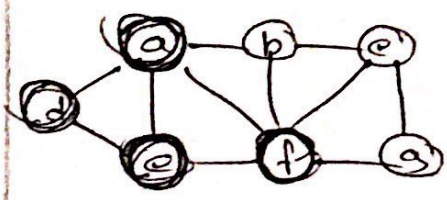


Step-4:

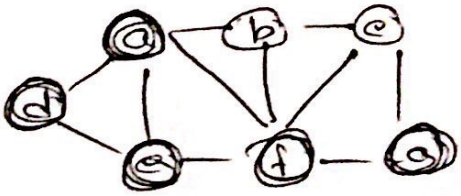




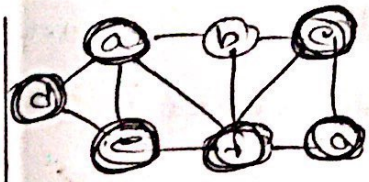
Step-5:

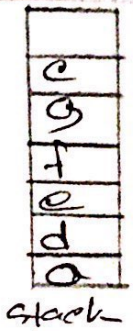


Step:-5

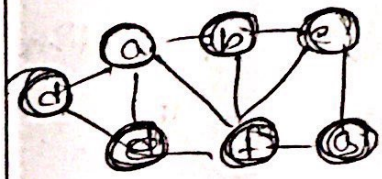


Step-6:

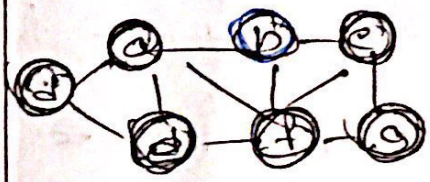




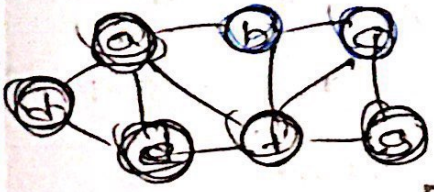
Step-7:

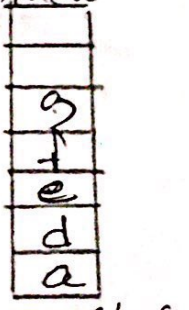


Step:-8:

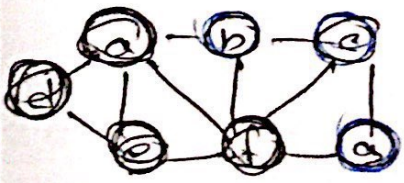


Step-9

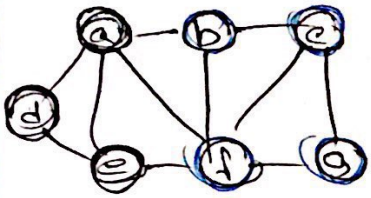


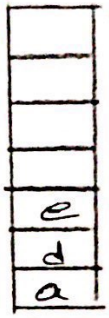


Step-10:



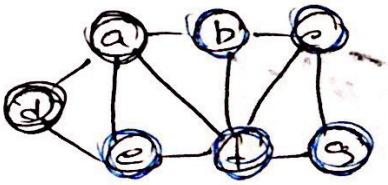
Step-11:





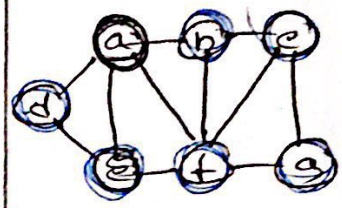
Stack

Step-12:



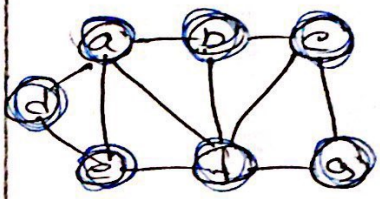
Stack

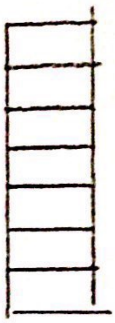
Step-13:



Stack

Step-14:





Stack