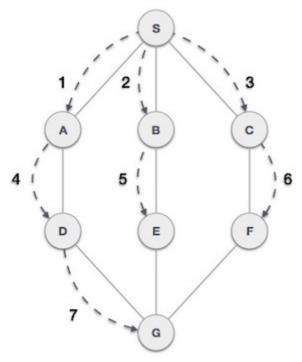


## Data Structure - Breadth First Traversal

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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.



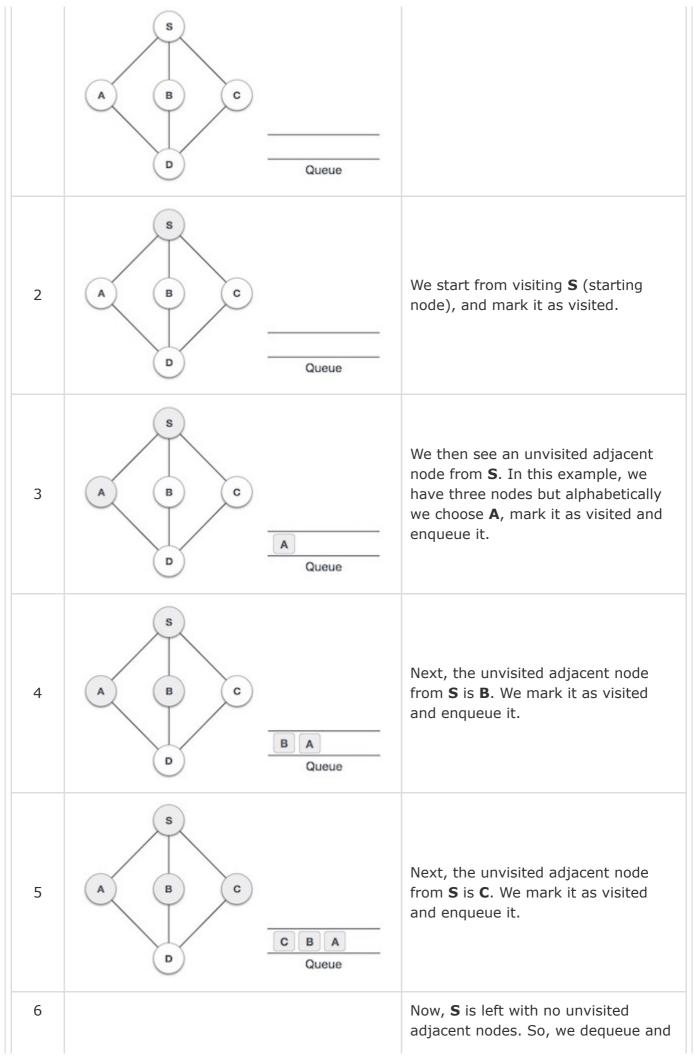
As in the example given above, BFS algorithm traverses from A to B to E to F first t  $\equiv$  to C and G lastly to D. It employs the following rules.

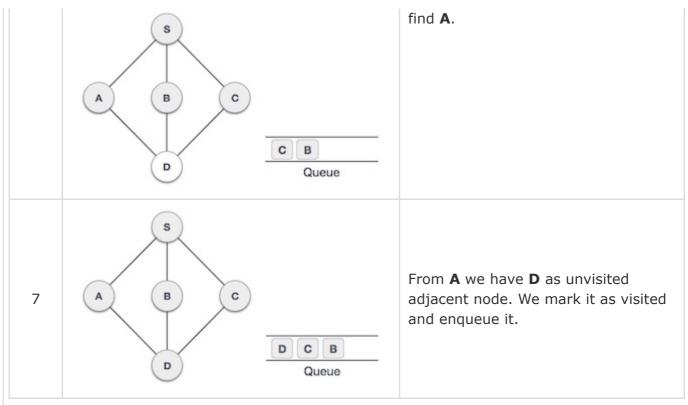
**Rule 1** - Visit the adjacent unvisited vertex. Mark it as visited. Display it. Insert it in a queue.

**Rule 2** – If no adjacent vertex is found, remove the first vertex from the queue.

**Rule 3** – Repeat Rule 1 and Rule 2 until the queue is empty.

Step	Traversal	Description
1		Initialize the queue.



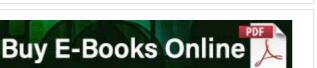


At this stage, we are left with no unmarked (unvisited) nodes. But as per the algorithm we keep on dequeuing in order to get all unvisited nodes. When the queue gets emptied, the program is over.

The implementation of this algorithm in C programming language can be seen here

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