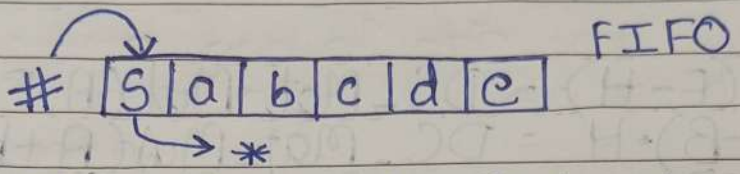
* Breath-First Search Implementation

- We will use queue data structure



For adding the vertex, it has to be unexplored and the neighbour of an explored vertex. For deleting the vertex, it should have no unexplored neighbours.

- General Algorithm

```
BFS(G,S)
Mark S as 'explored'
Q ← queue initialised by S.
while Q ≠ ϕ
   remove from front of Q the vertex 'v'.
   for each edge (v,w)
      if w is unexplored
         mark w as explored
         Add w to Q.
```

- Complexity Analysis

We are using two arrays which are both traver-sed only once. Hence we will run the program in linear time.

$$O(m+n)$$