BFS

[abbr]

Breadth-First Search

[attr]

(1)

(2)

(3)

[initialize]

[step]

1. initialize
2. start at source vertex s.
3. For the vertex s, set its color as gray and its distance as 0. its π as NIL.
4. Put vertex as into queue Q.
5. Select a vertex called u from queue Q.
6. Search all adjacency vertices for vertex u and do the following.
7. If v is undiscovered, then set its color as gray and set its distance as distance of u plus 1, then set its π as u.
8. The set color of u as black.
9. If the queue is NOT empty, jump to step (5).

[analysis]

[theorem]

(1)

[pf]

[pseudo code]