

Assignment - 07

(Week - 12)

Binary Search Tree 2

Write a java code that supports the following requirements:

Question 1:

BFS(G,s):

Parameters:

- G: Take a graph in adjacency matrix form, G
- s: Take a source s

Problem:

Apply BFS with starting source s, update G accordingly. Use this pseudocode of the book:

```
BFS(G, s)
1  for each vertex u ∈ G.V − {s}
2      u.color = WHITE
3      u.d = ∞
4      u.π = NIL
5  s.color = GRAY
6  s.d = 0
7  s.π = NIL
8  Q = ∅
9  ENQUEUE(Q, s)
10 while Q ≠ ∅
11     u = DEQUEUE(Q)
12     for each v ∈ G.Adj[u]
13         if v.color == WHITE
14             v.color = GRAY
15             v.d = u.d + 1
16             v.π = u
17             ENQUEUE(Q, v)
18     u.color = BLACK
```

Question 2:

Path (G,s,d)

Parameters:

- G: Take a graph in adjacency matrix form, G
- s: Take a source s
- d: destination

Problem:

take G, apply BFS starting from source s, and print the path from s to d.