Ceng-310 Homework-10

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1. DFS and BFS

Depth-first Search

Algorithm

```
DFS(G, a)
For each node x adjacent to a
   If x is not visited
      Mark x visited
      DFS(G, x)
```

Output

a
b
c
h
g
i
d
e
f

Breadth-first Search

Algorithm

```
BFS(G,a)
Q = Queue()
Mark a visited
Q.enqueue(a)
   While Q is not empty:
      x = Q.dequeue()
      for each vertex y adjacent to x:
         If y is not visited
            Mark y visited
            Q.enqueue(y)
```

Node Visited	Queue (Front to back)
a	a
	empty
b	b
d	bd
	d
c	dc
h	dch
	ch
e	che
f	chef
	hef
	ef
	f
	empty
g	g
i	gi
	i
	empty