**EX.NO.1(a)-BREADTH FIRST SEARCH - S.ARUNAGIRI-9062**

from collections import deque

def bfs(tree, start, target):

temp = False

visited = set()

queue = deque([start])

visited.add(start)

while queue:

node = queue.popleft()

print(node, end=' ')

if node == target:

print("\nTarget Node Found")

temp = True

break

for neighbor in tree[node]:

if neighbor not in visited:

queue.append(neighbor)

visited.add(neighbor)

if not temp:

print("\nTarget Node Not Found")

tree = {

'S': ['A', 'B'],

'A': ['C', 'D'],

'B': ['G', 'H'],

'C': ['E','F'],

'D': [],

'G': ['I'],

'H': [],

'E': ['K'],

'F': [],

'I': [],

'K': []

}

start\_node = 'S'

target = input("Enter Target Node:")

print("BFS traversal starting from node", start\_node, ":")

bfs(tree, start\_node,target)

**OUTPUT:**

Enter Target Node:K

BFS traversal starting from node S :

S A B C D G H E F I K

Target Node Found