23. BFS (Breadth-First Search)

from collections import deque

def bfs(graph, start, goal):

visited = set()

queue = deque([(start, [start])])

while queue:

node, path = queue.popleft()

if node == goal:

return path

visited.add(node)

for neighbor in graph[node]:

if neighbor not in visited:

queue.append((neighbor, path + [neighbor]))

return None

graph = {

'A': ['B', 'C'],

'B': ['D', 'E'],

'C': ['F'],

'D': [], 'E': [], 'F': []

}

print("BFS Path:", bfs(graph, 'A', 'F'))

OUTPUT:

