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# Experiment 1: Implementation of Uninformed Search Strategies:  
from collections import deque  
  
graph = {  
    'A': ['B', 'C'],  
    'B': ['A', 'D', 'E'],  
    'C': ['A', 'F'],  
    'D': ['B'],  
    'E': ['B', 'F'],  
    'F': ['C', 'E']  
}  
  
def dfs(graph, start, goal, path=[]):  
    path = path + [start]  
    if start == goal:  
        return path  
    for node in graph[start]:  
        if node not in path:  
            newpath = dfs(graph, node, goal, path)  
            if newpath:  
                return newpath  
    return None  
  
def bfs(graph, start, goal):  
    visited = set()  
    queue = deque([[start]])  
    while queue:  
        path = queue.popleft()  
        node = path[-1]  
        if node == goal:  
            return path  
        if node not in visited:  
            for neighbor in graph[node]:  
                new_path = list(path)  
                new_path.append(neighbor)  
                queue.append(new_path)  
                visited.add(node)  
    return None  
  
start = input("Enter start node: ").upper()  
goal = input("Enter goal node: ").upper()  
  
print("DFS Path:", dfs(graph, start, goal))  
print("BFS Path:", bfs(graph, start, goal))
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PS C:\Users\ROG STRIX\Downloads\omkar> & "C:/Users/ROG STRIX/AppData/Local/Microsoft/WindowsApps/python3.13.exe" "c:/Users/ROG STRIX/Downloads/python/from collections import deque.py"
Enter start node: A
Enter goal node: F
DFS Path: ['A', 'B', 'E', 'F']
BFS Path: ['A', 'C', 'F']
PS C:\Users\ROG STRIX\Downloads\omkar> █
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