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DIV-B

BFS

Problem Statement:

Implement Breadth First Algorithm, use an undirected graph and develop a recursive algorithm for searching all the vertices of a graph or tree data structure.

Code:

```
graph = {
    'A': ['B', 'C', "D"],
    'B': ['E', "F"],
    'C': ['G', "I"],
    'D': ["I"],
    'E': [],
    "F": [],
    'G': [],
    "I": []
}


def bfs(visit_complete, graph, current_node):
    visit_complete.append(current_node)
```

```
    queue = []
    queue.append(current_node)

    while queue:
        s = queue.pop(0)
        print(s)

        for neighbour in graph[s]:
            if neighbour not in visit_complete:
                visit_complete.append(neighbour)
                queue.append(neighbour)

bfs([], graph, 'A')
```

Output: