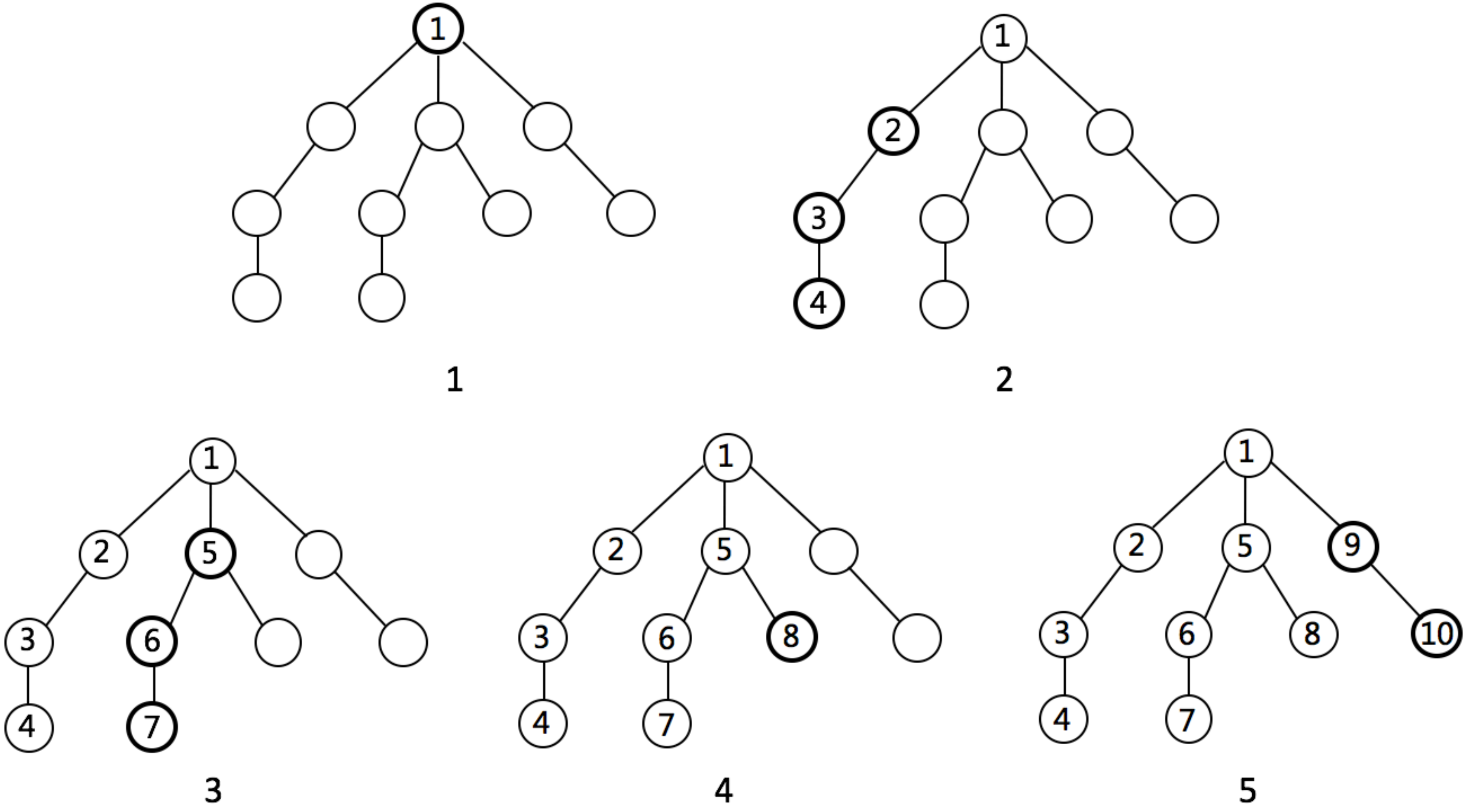
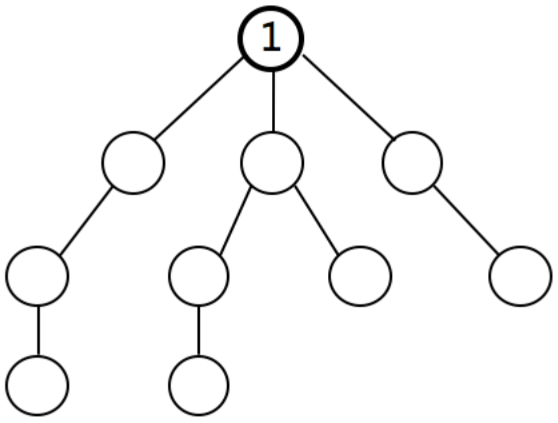
深度优先搜索(Depth-First-Search)

广度优先搜索(Breadth-First-Search)

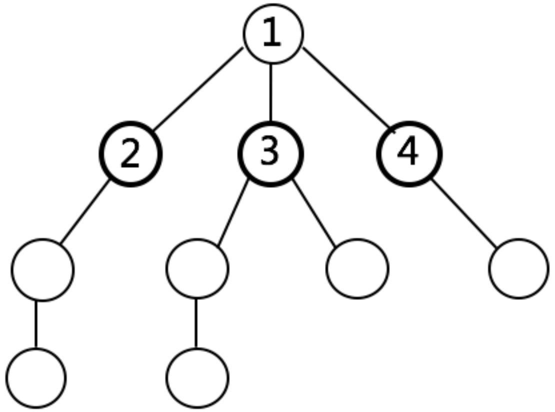
How a DFS Would Traverse This Tree



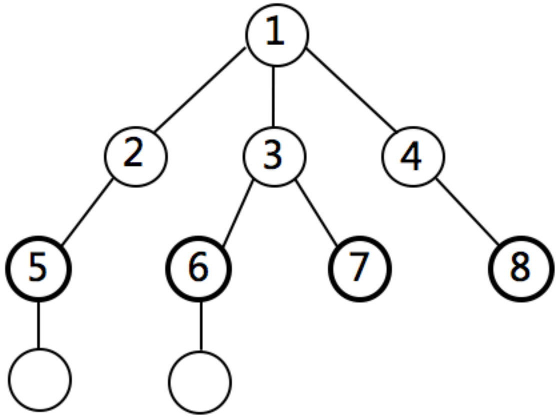
How a BFS Would Traverse This Tree



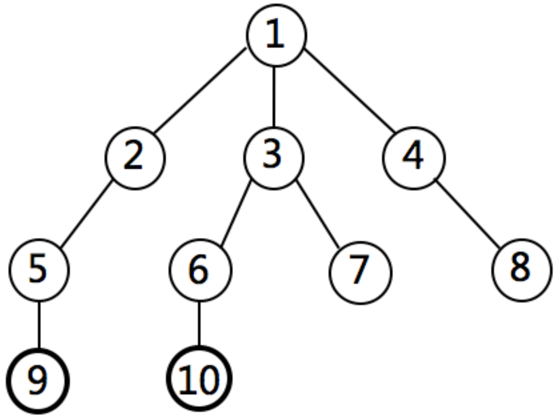
1



2

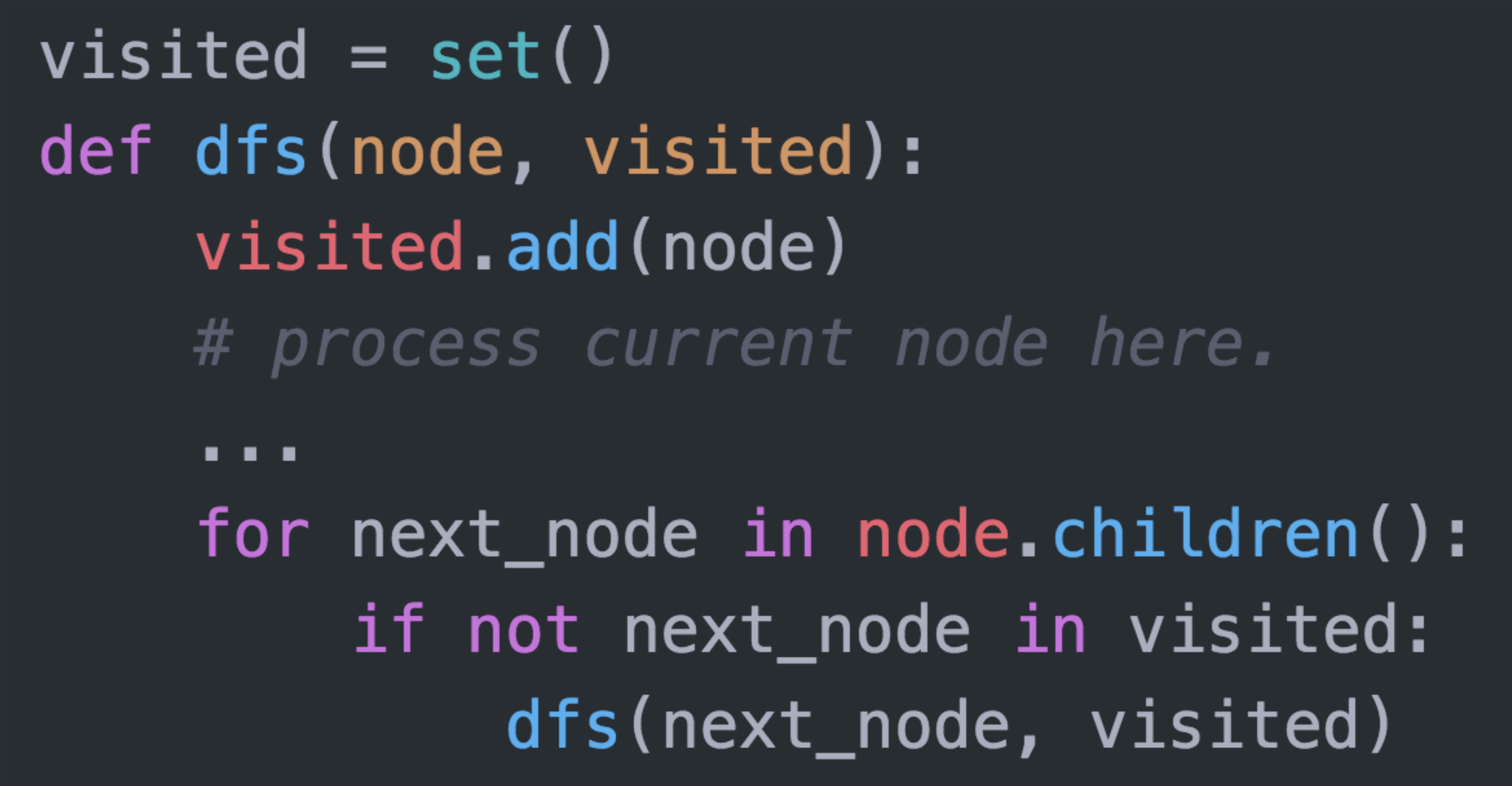


3



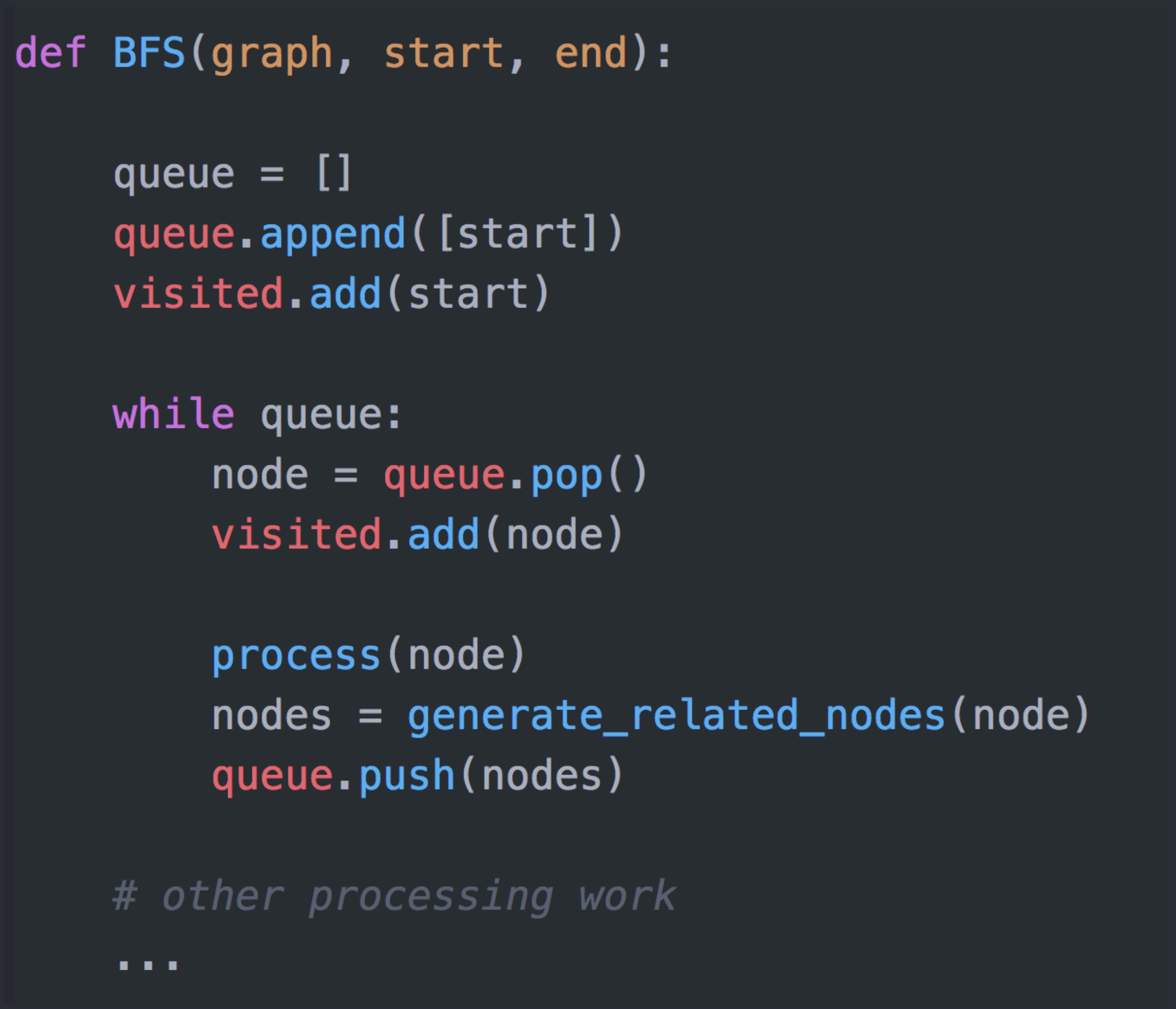
4

DFS代码 - 递归写法



```
visited = set()
def dfs(node, visited):
    visited.add(node)
    # process current node here.
    ...
    for next_node in node.children():
        if not next_node in visited:
            dfs(next_node, visited)
```

BFS代码



```
def BFS(graph, start, end):

    queue = []
    queue.append([start])
    visited.add(start)

    while queue:
        node = queue.pop()
        visited.add(node)

        process(node)
        nodes = generate_related_nodes(node)
        queue.push(nodes)

    # other processing work
    ...
```

实战题目

1. https://leetcode.com/problems/minimum-depth-of-binary-tree
2. https://leetcode.com/problems/maximum-depth-of-binary-tree
3. https://leetcode.com/problems/symmetric-tree/#/description
4. https://leetcode.com/problems/binary-tree-level-order-traversal/#/description
5. https://leetcode.com/problems/minimum-genetic-mutation/#/description
6. https://leetcode.com/problems/generate-parentheses/#/description
7. https://leetcode.com/problems/find-largest-value-in-each-tree-row/#/description

实战题目

1. https://leetcode.com/problems/word-ladder/description/
2. https://leetcode.com/problems/word-ladder-ii/description/
3. https://leetcode.com/problems/word-search/description/
4. https://leetcode.com/problems/course-schedule/#/description
5. https://leetcode.com/problems/course-schedule-ii/#/description
6. https://leetcode.com/problems/minesweeper/description/