In [1]:
```
import time
import queue
import networkx as nx
import matplotlib.pyplot as plt
```

In [2]:
```
# Breadth-First Search (BFS) Order
def order_bfs(graph, start_node):
    visited = set()
    q = queue.Queue()
    q.put(start_node)
    order = []

    while not q.empty():
        vertex = q.get()
        if vertex not in visited:
            order.append(vertex)
            visited.add(vertex)
            for node in graph.neighbors(vertex):  # Use graph.neighbors()
                if node not in visited:
                    q.put(node)
    return order
```

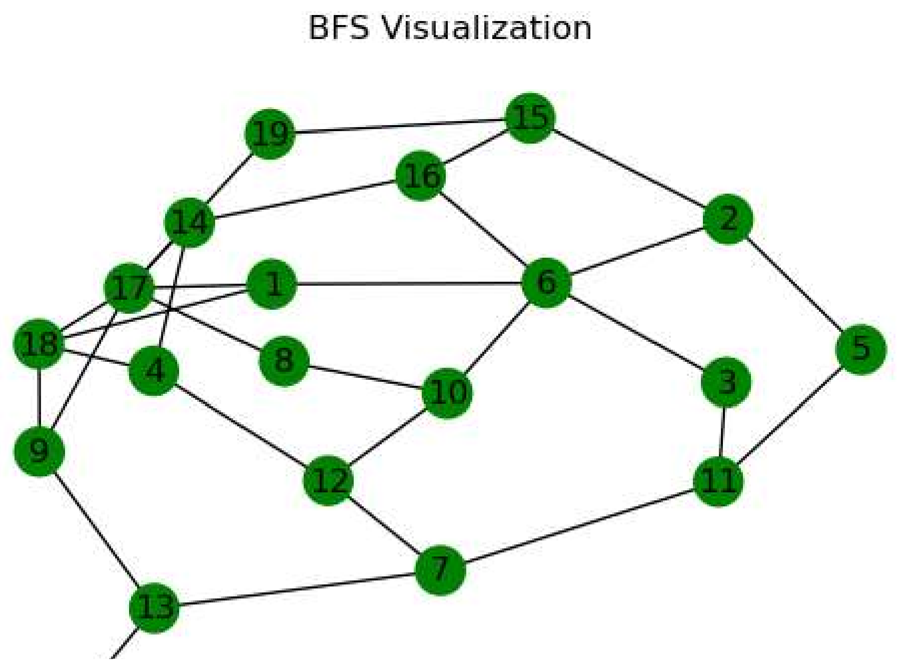
In [3]:
```
# Depth-First Search (DFS) Order
def order_dfs(graph, start_node, visited=None):
    if visited is None:
        visited = set()

    order = []

    if start_node not in visited:
        order.append(start_node)
        visited.add(start_node)
        for node in graph.neighbors(start_node):  # Use graph.neighbors()
            if node not in visited:
                order.extend(order_dfs(graph, node, visited))

    return order
```

In [4]:
```
# Visualization Function
def visualize_search(order, title, G, pos):
    plt.figure()
    plt.title(title)
    for i, node in enumerate(order, start=1):
        plt.clf()
        plt.title(title)
        nx.draw(G, pos, with_labels=True, node_color=['r' if n == node els
        plt.draw()
        plt.pause(0.5)
    plt.show()
    time.sleep(0.5)
```

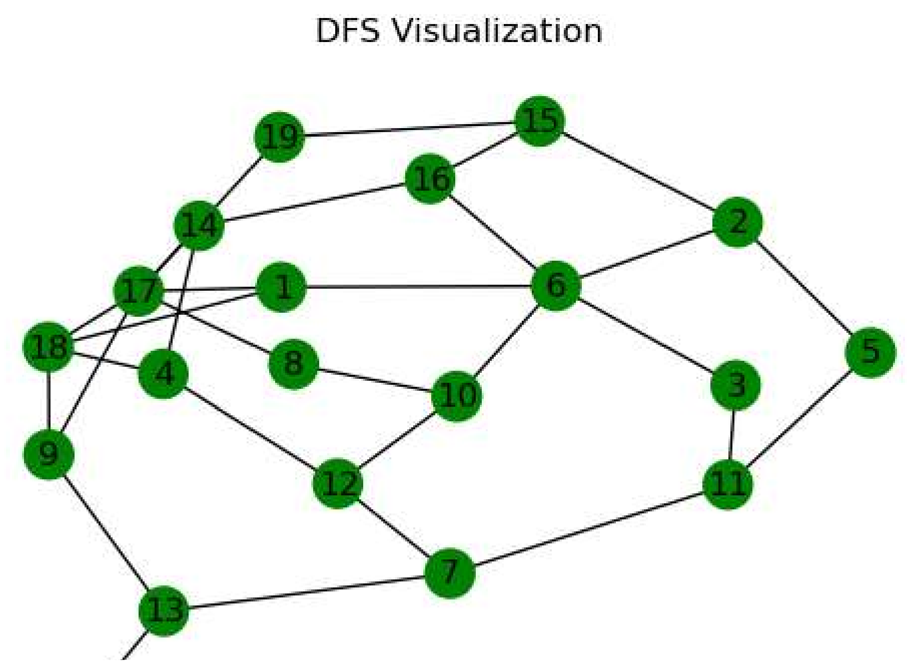
In [5]:
```python
def generate_connected_random_graph(n, m):
    while True:
        G = nx.gnm_random_graph(n,m)
        if nx.is_connected(G):
            return G
```

In [6]:
```python
# Create Graph
G = generate_connected_random_graph(n=20, m=30)
pos = nx.spring_layout(G)
```

In [7]:
```python
# Run BFS and Visualize
bfs_order = list(nx.bfs_tree(G, source=0))
visualize_search(bfs_order, title='BFS Visualization', G=G, pos=pos)
```



In [8]:
```python
# Run DFS and Visualize
dfs_order = list(nx.dfs_preorder_nodes(G, source=0))
visualize_search(dfs_order, title='DFS Visualization', G=G, pos=pos)
```


DFS Visualization
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