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Expt.no: 2

Ex.name: Depth First Search

PROGRAM:

```
warehouse_graph =
{
    'A': ['B', 'C'],
    'B': ['D', 'E'],
    'C': ['F'],
    'D': [],
    'E': ['F'],
    'F': []
}


def dfs(graph, start, goal, visited=None, path=None):
    if visited is None:
```

```
visited = set()     if path is None:

path = []
```

```
    visited.add(start)
path.append(start)


    if start == goal:
return path
```

```
    for neighbor in graph[start]:
        if neighbor not in visited:
            result = dfs(graph, neighbor, goal, visited, path[:])
            if result:
                return result
    return None

start_node = 'A'
goal_node = 'F'
path_found = dfs(warehouse_graph, start_node, goal_node)

print(f"DFS path from {start_node}to {goal_node}: {path_found}")
```

OUTPUT:

```
= RESTART: C:/Users/yogee/AppData/Local/Programs/Python/Python312/dfs.py
DFS path from A to F: ['A', 'B', 'E', 'F']
```