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Python DFS simple solution checking a cycle

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```
def minimumSemesters(self, N, relations):
    """
    :type N: int
    :type relations: List[List[int]]
    :rtype: int
    """
    n = N
    d = collections.defaultdict(list)
    visited = [0 for _ in range(n + 1)]
    depth = [1 for _ in range(n + 1)]
    for x, y in relations:
        d[y].append(x)
    for i in range(1, n + 1):
        if not self.dfs(i, d, visited, depth, 1):
            return -1
    return max(depth)

def dfs(self, i, d, visited, depth, cnt):
    if visited[i] == 1:
        return False
    if visited[i] == 2:
        return True
    visited[i] = 1
    for j in d[i]:
        depth[i] = max(depth[i], depth[j] + 1)
        if not self.dfs(j, d, visited, depth, cnt):
            return False
    visited[i] = 2
    return True
```