@LeetCode

Given the head of a graph, return a deep copy (clone) of the graph. Each node in the graph contains a label (int) and a list (List[UndirectedGraphNode]) of its neighbors. There is an edge between the given node and each of the nodes in its neighbors.

OJ's undirected graph serialization (so you can understand error output):

Nodes are labeled uniquely.

We use # as a separator for each node, and , as a separator for node label and each neighbor of the node.

As an example, consider the serialized graph $\{0, 1, 2#1, 2#2, 2\}$.

The graph has a total of three nodes, and therefore contains three parts as separated by #.

- 1. First node is labeled as 0. Connect node 0 to both nodes 1 and 2.
- 2. Second node is labeled as 1. Connect node 1 to node 2.
- 3. Third node is labeled as 2. Connect node 2 to node 2 (itself), thus forming a self-cycle.

Visually, the graph looks like the following:

```
1
/ \
/ \
/ \
0 --- 2
/ \
/ \
```

Note: The information about the tree serialization is only meant so that you can understand error output if you get a wrong answer. You don't need to understand the serialization to solve the problem.