1) Write following functions body. A nested dictionary is passed as parameter. You need to print all keys with their depth.

Sample Input:

```
a = {
        “key1”: 1,
        ”key2”: {
                “key3”: 1,
                “key4”: {
                        “key5”: 4
                }
        }
}
```

Sample Output:

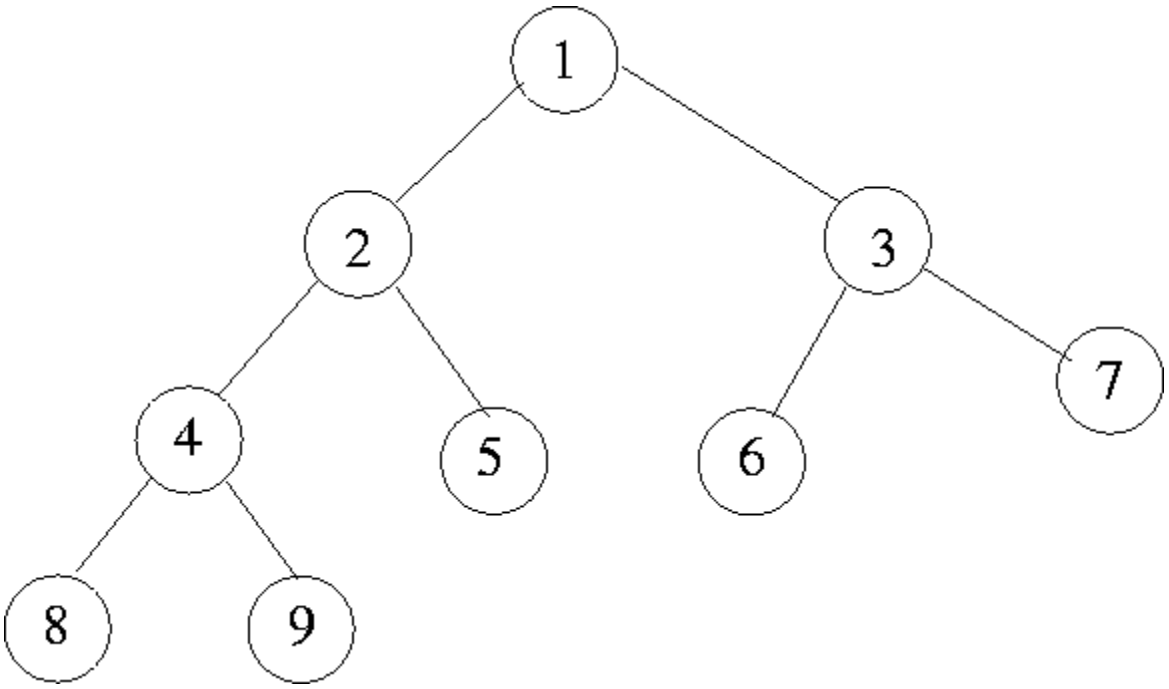
```
key1 1
key2 1
key3 2
key4 2
key5 3
```

```
def print_depth(data):
        # Write function body
```

You may write additional function.

2) Write following functions body. 2 Nodes are passed as parameter. You need to find Least Common Ancestor and print its value. Node structure are as following:

```
class Node{
        value;
        parent;
}
```



Ancestor Definition:

1. Any node falls under parent chain till root node.
2. A node is ancestor of itself.

For example: if we consider Node 7 it's ancestors will be 1, 3, and 7.

All nodes values are unique for this tree.

You function needs to find least common ancestor (closest common ancestor).

```
def lca(node1, node2):
        # Write function body
```

You may write additional function.

Explain Algorithm Complexity (Runtime) and Memory requirement for your solution.