GetAhead - Interview Practice 3

Longest path in Tree

Write a function that computes the length of the longest path of consecutive integers in a tree.

A node in the tree has a value and a set of children nodes. A tree has no cycles and each node has exactly one parent. A path where each node has a value 1 greater than its parent is a path of consecutive integers (e.g. 1,2,3 not 1,3,5).

A few things to clarify:

* Integers are all positive
* Integers appear only once in the tree

Test Cases

Note that there may be other valid answers.

For the tree on the left, the length of the longest path is 2, for that on the right, it's 4



## Testing

An important part of solving any technical problem is testing it. Remember to test not only the most generic cases, like the one presented in the example, but also various corner cases. Test your code thoroughly before calling it complete. During an interview, it is often a good idea to define the test cases before even starting the implementation. This not only shows a solid problem-solving approach, but might even help you find ideas for an optimal solution.

## Submission Instructions

The due date for this question is: Sunday, June 9 11:59pm BST

**When you are confident about your solution, please follow these two steps to submit your solution:**

1 - **Create a new document in Google Drive**, copy and paste your code in it. If you found something particularly challenging, or if you have any question, feel free to add those to the document as comments.

2 - When done, click on the "**Turn In**" button, and check back in soon for our solution and the TA's feedback.