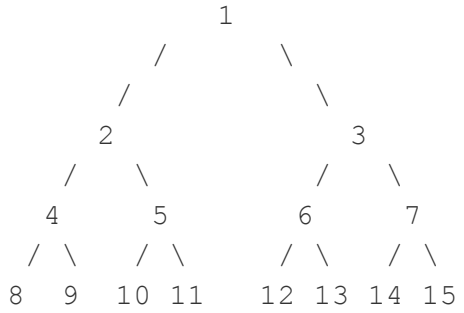
Problem

1. Given a complete infinite binary tree(depth can go to infinite level. For reference, a tree uptill level 4 has been shown)
2. Level Order traversal is always sorted.
3. Given x and y(integers)

Find the length of the shortest path between the two nodes(distance is the total edges connected from x to y)



Examples:
x= 4, Y = 6, Output = 4 [path: 4 -> 2 -> 1 -> 3 -> 6]

X = 2, y = 3 , output = 2

X = 4, y = 11, output = 3

Task:

1. Write the problem description for the above problem.
2. List down and write all the approaches possible for the given problem along with the time and space complexities for each of the approaches.
3. Write the solution code to all the approaches.

Note:

You are required to share a link to the directory kept in the google drive.

Instructions:

- The solutions to the coding questions need to be submitted in a separate file (1 file per approach). We request that you send your codes in the appropriate formats (e.g. cpp file for CPP, py/ipynb file for python, etc)

- For the coding questions, you can use any programming language (out of CPP, Java and Python) that you are comfortable with but we request that you choose only one language and stick to it for answering all coding questions

- The answers to the non-coding questions need to be typed in a separate document.

- For the non-coding questions, you can use as much typing space as you want but stick to using the same font and font size as the one already set.

- Make sure about plagiarism. Write your own code and approach. Don’t copy from anywhere.

- Last but not the least, relax and keep calm! It’s just an evaluation.