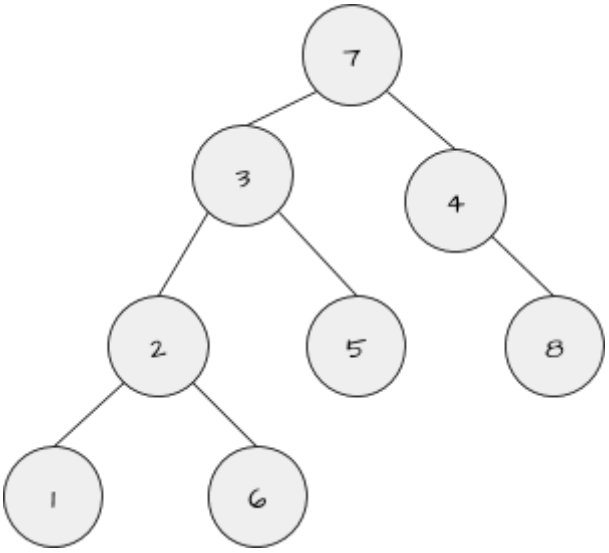
Assignment 2 - Ancestors

If anything in the assignment is unclear, you have two options. You can ask for clarifications in the #assignments channel on Slack. It is also great if you can also make assumptions: real-world problems are always unclear, and as engineers we want to move on and make progress, even if we need to re-adjust later. If you do make assumptions, please try to identify them and document them as comments in your code.

Q1 - Print Ancestors

Given a binary tree and a key, write a function that prints all the ancestors of the key in the given binary tree.

Example: For the key 6 and the following tree we should print: 2, 3, 7.



Note: the tree is NOT a binary search tree (where the keys are ordered), but an arbitrary binary tree. You should implement your own data structure to store the binary tree.

Q2 - Common Ancestor

Design an algorithm and write code to find the lowest common ancestor of two nodes in a binary tree. Avoid storing additional nodes in a data structure.