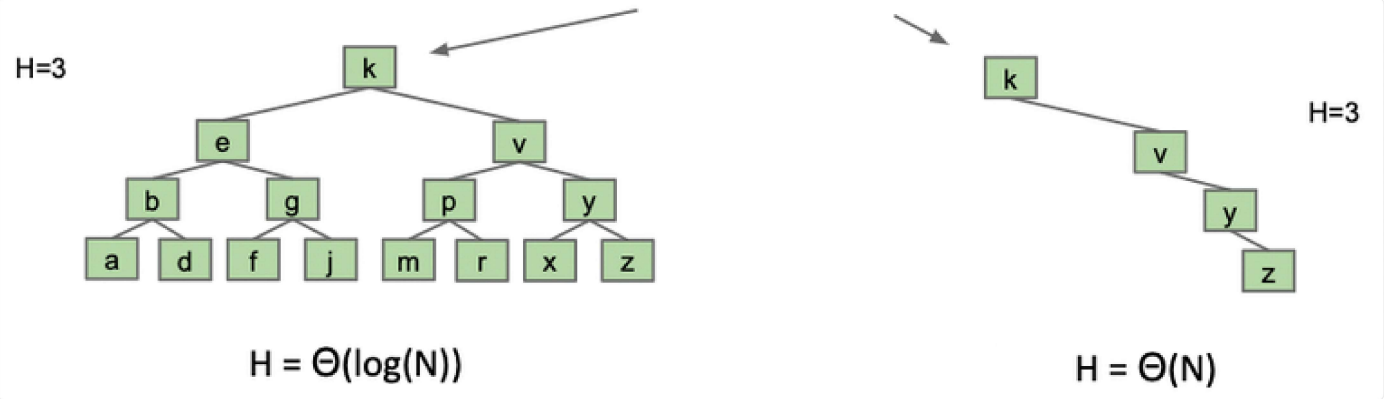
17.1 BST Performance

Tree Height

One unforunate feature of BSTs is that they range from a best-case "bushy" tree to a worst-case "spindly" tree.

In the best case, our tree will have height $\Theta(logN)$, whereas in the worst case our tree has a height of $\Theta(N)$, at which point it basically becomes a linked list. For example, `contains` on a "spindly" BST would take linear time.

Both trees below have a height H = 3, yet the left tree is able to hold many more items than the left.



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17.2 Big O vs. Worst Case

Last updated 1 year ago