

These are all worst-case

operation	Sorted List	Tree
search	$O(\log n)$	$O(n)$
insert	$O(n)$	$O(1)$
delete	$O(n)$	$O(n)$

BST worst case | best case

$O(n)$

$O(\log n)$

insert

$O(n)$

$O(1)$

$O(n)$

$O(\log n)$

delete

$O(n)$

$O(n)$

$O(n)$

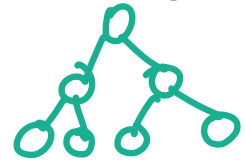
$O(\log n)$

Tree insertion could be $O(1)$, depending on how we do it. Eg, we could pick a child + put the new node between it and the root.

In Lab 8, we asked you to write it in a way that is $O(n)$ in the worst case.



a "lightning bolt" tree



a balanced tree