

Time complex when insert:

- BST: $O(n)$ (worst case)/ $O(\log n)$ (average)
- AVL: $O(\log n)$
- Max heap: $O(\log n)$

Time complex when search:

- First element:
 - + BST: $O(1)$
 - + AVL: $O(1)$
 - + Max heap: $O(1)$
- Middle element:
 - + BST: $O(\log n)$
 - + AVL: $O(\log n)$
 - + Max heap: $O(n/2)$
- Last element:
 - + BST: $O(\log n)$ (balanced) / $O(n)$ (unbalanced)
 - + AVL: $O(\log n)$
 - + Max heap: $O(n)$
- Random value:
 - + BST: $O(\log n)$ (balanced) / $O(n)$ (unbalanced)
 - + AVL: $O(\log n)$
 - + Max heap: $O(n)$
- Non-exist value:
 - + BST: $O(\log n)$ (balanced) / $O(n)$ (unbalanced)
 - + AVL: $O(\log n)$
 - + Max heap: $O(n)$