

Task-6

The function `get_nth` is a recursive function that takes a list of integers `data`, two indices `l` and `r`, and an integer `k`. It returns the k -th smallest element in the sublist of `data` between indices `l` and `r`. If the indices `l` and `r` are equal, return the element at index `l`. Partition the sublist of `data` between indices `l` and `r` using the pivot element at index `r`. If the index of the pivot element is equal to `k`, return the element. If the index of the pivot element is greater than `k`, recursively call `get_nth` on the left sublist. Otherwise recursively call `get_nth` on the right sublist. ~~The~~ Partition is a helper function that takes a list of integers `data`, two indices `l` and `r`, and returns an index that partitions the sublist of `data` between indices `l` and `r`. The time complexity of this algorithm is $O(n)$.