

It defines a function `get_kth` which takes four parameters, `data`, `l`, `r` and `k`. The func performs quicksort algo. on the array `data`, from index `l` to index `r`, and returns the `k`th smallest element. If `l` and `r` are equal it means the array has one element, so it returns that element as the `k`th smallest element. It calls another function called `partition`, which takes 3 parameters `data`, `l`, and `r`. It assigns the pivot element to the variable `pvt`. It initializes a variable `j` to `l-1`, which keeps track of the index of the last element that is smaller than or equal to the pivot. It loops from index `l` to index `real`, For each index `i`, if the element at index `i` is smaller than or equal to

the pivot, it increments  $j$  by one and sweeps the elements at index  $i$  and index  $j$ .

It increments  $j$  by one and sweeps the elements at index  $j+1$  and index  $r$ . It returns the value of  $j+1$ , which is the index of the pivot elem in the array. If  $k$  is equal to  $\text{prt}$ , pivot is the smallest elem. and returns it. If  $k$  is smaller than  $\text{prt}$ , it recursively calls the  $\text{qck\_sort}$  function with data,  $l$ ,  $\text{prt}-1$  and  $k$ , otherwise with data,  $\text{prt}+1$ ,  $r$  and  $k$ .