

For this algorithm, the for loop in line 2 runs k times and the for loop in line 3 runs n times. And for lines 5~9, there's a while loop within a for loop. The for loop in line 5 would run k times only, as for the while loop, it would run as long as $B[i]$ is not empty. Since the total number of elements in A is n , which means the sum of all $B[i]$ s for i from 1 to k is n . Hence, the running-time of SortRange would be $O(n + k)$, and since k is just a constant, so in $\theta(\cdot)$ notation as a function of n would be $\theta(n)$.