

Advanced Programming Lab (CS6140)

IN LAB 2 Sorting

1. What is time complexity of algorithm.(Explain in 2 lines)

-> sortfun() sort numbers of ith place using counting sort and rotate the array of numbers using new index. Its time complexity is $O(n)$.

-> main function will call sortfun() ' ms ' + 1 times where ms = number of digit in maximum number. Here $1 \leq ms \leq 10$. So it will be constant.

-> So time complexity: $O(n)$.

2. What is space complexity of algorithm.(Explain in 2 lines)

-> **index** integer array to store new index of n numbers.

-> So space complexity: $O(n)$.