section-22 | Lab-2 | 1830125K

Task 1-1

the code needs input and write output from the input file then it reads the first line of the file and converts them to integers then, it reads second line and converts them integers. It will check if the sum of numbers is equal to b exists. If yes then it shows it in the output.txt file and else print impossible. TC-$O(n^2)$

Task 1-2

To get $O(n \log n)$ we solved it using merge sort algorithm on the list of tuples based on the numbers who sum is equal to b. It basically uses binary search. If result exists then it print the result otherwise print impossible

Task 2.1

Reading the first number and convert them to integer. The program will basically merge the two list and creates a new list and write it to the output $Tc = O(n)$

Task 2.2

It performs merge sort on two list and merge the sort lists. The sorted and the merged result will then be to the f2 file.

Task 3

First read the inputs. Just like the the max tasks done from finds the max number of no overlapping tasks

Task 4

In this approach ~~the~~ the merge sort function performs the divide and conquer ~~rules~~ method. It calculate the max number of tasks that can be completed by m people by merging sorted subarrays and counting the number of inversions. The count of inversions represent the number of tasks that cannot be scheduled simultaneously. The merge function helps in merging and counting inversions ~~while~~ while merging.