

Task 1: In this task we learned syntax about how to open a text file. Then did some basic programming and printed output another, text' file.

Task2:

We used a flag to achieve the $\theta(n)$ for the best case Scenario. In the inner loop if any value of array gets swapped then flag becomes true which indicates loop is not sorted and outer loop will continue to execute. On the other hand, if the array is sorted already then the flag will remain false and it will terminate the outer Loop.

Task 3:

We use two selection sort. First one is to sort the marks in descending order and Second is to sort the ID to ascending order if the marks match.

Task 4: We used two selection sort. First one is to sort the train names in lexicographical orders. Also train times and the info of trains in Newarray: Second one is to sort the times of trains in descending order.