

CS2023 - Data Structures and Algorithms

In-class Lab Exercise

Week 4

You are required to answer the below questions and submit a PDF to the submission link provided under this week lab section before end of the session time (no extensions will be provided). You can either write / type your answers, but either way your answers should be readable.

Question

- Implement Recursive-Merge Sort algorithm.

```
MergeSort(arr, left, right):  
    if left > right  
        return  
    mid = (left+right)/2  
    mergeSort(arr, left, mid)  
    mergeSort(arr, mid+1, right)  
    merge(arr, left, mid, right)  
end
```

- Implement Iterative-Merge Sort algorithm (non-recursive).
Use the following link for non-recursive merge sort: <https://www.baeldung.com/cs/non-recursive-merge-sort>
- Compare the time between iterative and non-iterative merge sort implementation.
- Plot the time graph for iterative and non-iterative merge sort.
- Upload the answers as a PDF file named, "In<no>_IndexNO.pdf"