# Lab 4

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## Problem statement

Merge sort is an efficient, general-purpose, and comparison-based sorting algorithm defined as a sorting algorithm that works by dividing an array into smaller subarrays, sorting each subarray, and then merging the sorted subarrays back together to form the final sorted array.

## Code flow

1. Input the size of the array
2. Input the elements of the array
3. Create the first major thread and call merge_sort
4. If low < high continue logic else return from thread
5. calculate middle of the array
6. create two threads for each half of the array
7. call merge_sort for each
8. repeat until one thread per element
9. merge each of the threads in reverse order of calls
10. Print the sorted array

## Sample Runs