CSE 374: Algorithms I (Spring 2020)

Coding Homework #1 Merge Sort

Grading Rubric:

1. The main purpose of this homework is to help you learn the merge sort. The program MUST use merge sort, any other sort method will be assigned zero. Even if it is better than merge sort.
2. The program submitted for this homework must pass the necessary base case test(s) in order to qualify for earning any score at all. Programs that do not meet base case requirements will be assigned zero!
3. The code should be well formatted and commented on. The basic requirement is the code is understandable for a person who has basic coding knowledge.
4. There is some additional test case will be used for grading. Your code must complete it correctly and efficiently

Requirements:

Given a collection of intervals, merge all overlapping intervals after sorting the intervals based on the first number.

Example 1:
Input: [[1,3],[2,6],[8,10],[15,18]]
Output: [[1,6],[8,10],[15,18]]
Explanation: Since intervals [1,3] and [2,6] overlaps, merge them into [1,6].

Example 1-1:
Input: [[1,3],[2,6],[15,18],[8,10]]
Output: [[1,6],[8,10],[15,18]]
Explanation: Since intervals [1,3] and [2,6] overlaps, merge them into [1,6].

Example 2:
Input: [[1,4],[4,5]]
Output: [[1,5]]
Explanation: Intervals [1,4] and [4,5] are considered overlapping.

Example 3:
Input: [[1,2],[4,5]]
Output: [[1,2],[4,5]]
Explanation: There isn’t any overlapping