

# 56. Merge Intervals

## Difficulty : Medium

<https://leetcode.com/problems/merge-intervals>

Given an array of intervals where  $\text{intervals}[i] = [\text{start}_i, \text{end}_i]$ , merge all overlapping intervals, and return *an array of the non-overlapping intervals that cover all the intervals in the input*.

### Example 1:

**Input:** `intervals = [[1,3],[2,6],[8,10],[15,18]]`

**Output:** `[[1,6],[8,10],[15,18]]`

**Explanation:** Since intervals `[1,3]` and `[2,6]` overlap, merge them into `[1,6]`.

### Example 2:

**Input:** `intervals = [[1,4],[4,5]]`

**Output:** `[[1,5]]`

**Explanation:** Intervals `[1,4]` and `[4,5]` are considered overlapping.

### Constraints:

- $1 \leq \text{intervals.length} \leq 10^4$
- $\text{intervals}[i].\text{length} == 2$
- $0 \leq \text{start}_i \leq \text{end}_i \leq 10^4$