

$i1$
[[1, 2], [3, 5], [6, 7], [8, 10], [12, 16]] .

[4, 8] .

$i2$

if (isMergeNeeded) {

do merge

} else {

output.push(min($i1$, $i2$));

$i2 = \max(i1, i2)$

}

