

① Talk About Excm

② Merge Sort

i Don't index out of bounds!

a: 1, 3, 6, 7, 8, 12, 15

b: 2, 4, 5, 20, 22, 25

Merge n n
n m

p 1, 2, 3, 4, 5, 6, 7, 8, 12, 15, 20, 22, 25
k

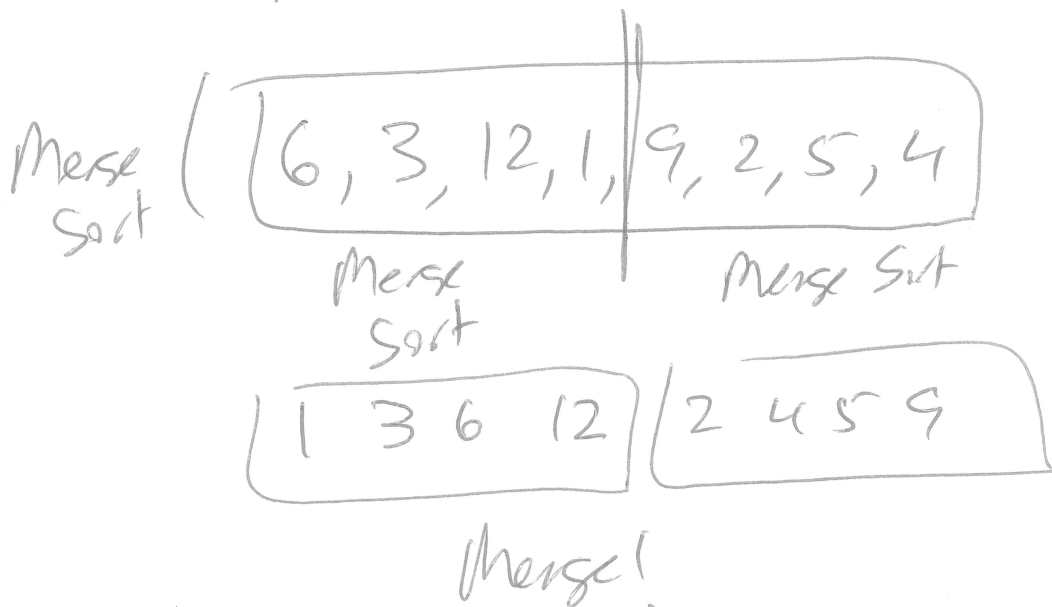
if $(a[i] < b[j])$
 $c[k++] = a[i++]$

else
 $c[k++] = b[j++]$

Run-time = $O(n)$,

SOLUTION
MINUS
Array out of
bound

$O(n+m)$
 $O(\max(n, m))$



```

mergesort(int* arr, int low, int high) {
    if (low >= high) return;
    int mid = (low + high) / 2;
    mergesort(arr, low, mid); // sort left
    mergesort(arr, mid+1, high); // sort right
    merge(arr, low, mid, high);
}

```

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