

MERGE SORT

Sorted
Array

1 2 3 4 5 6 7 8 9



2 4 7 8

1 3 5 6 9



4 7

2 8

1 3

5 6 9



7 4

2 8

3 1

5 6 9

7 4

2 8

3 1

5 6 9

7 4 2 8

3 1 5 6 9

7 4 2 8

3 1 5 6 9

7 4 2 8 3 1 5 6 9

Unsorted
Array

Running Time)
 $O(n \log(n))$