

```

arr = { 7, 2, 3, -5, 3, 5, 2, 4, 1 }
MergeSort(arr, 0, 8) {
    middle = 4;
    MergeSort(arr, 0, 4) {
        middle = 2;
        MergeSort(arr, 0, 2) {
            middle = 1;
            MergeSort(arr, 0, 1) {
                middle = 0;
                MergeSort(arr, 0, 0) { }
                MergeSort(arr, 1, 1) { }
                Merge(arr, 0, 0, 1) { // Merges arr[0..0] with arr[1..1]
                    {7} and {2} become {2, 7}
                    arr = { 2, 7, 3, -5, 3, 5, 2, 4, 1 }
                }
            }
            MergeSort(arr, 2, 2) { }
            Merge(arr, 0, 1, 2) { // Merges arr[0..1] with arr[2..2]
                {2, 7} and {3} become {2, 3, 7}
                arr = { 2, 3, 7, -5, 3, 5, 2, 4, 1 }
            }
        }
        MergeSort(arr, 3, 4) {
            middle = 3;
            MergeSort(arr, 3, 3) { }
            MergeSort(arr, 4, 4) { }
            Merge(arr, 3, 3, 4) { // Merges arr[3..3] with arr[4..4]
                {-5} and {3} become {-5, 3}
                arr = { 2, 7, 3, -5, 3, 5, 2, 4, 1 }
            }
        }
        Merge(arr, 0, 2, 4) { // Merges arr[0..2] with arr[3..4]
            {2, 3, 7} and {-5, 3} become {-5, 2, 3, 3, 7}
            arr = { -5, 2, 3, 3, 7, 5, 2, 4, 1 }
        }
    }
    MergeSort(arr, 5, 8) {
        middle = 6;
        MergeSort(arr, 5, 6) {
            middle = 5;
            MergeSort(arr, 5, 5) { }
            MergeSort(arr, 6, 6) { }
            Merge(arr, 5, 5, 6) { // Merges arr[5..5] with arr[6..6]
                {5} and {2} become {2, 5}
                arr = { -5, 2, 3, 3, 7, 2, 5, 4, 1 }
            }
        }
        MergeSort(arr, 7, 8) {
            middle = 7;
            MergeSort(arr, 7, 7) { }
            MergeSort(arr, 8, 8) { }
            Merge(arr, 7, 7, 8) { // Merges arr[7..7] with arr[8..8]
                {4} and {1} become {1, 4}
                arr = { -5, 2, 3, 3, 7, 2, 5, 1, 4 }
            }
        }
        Merge(arr, 5, 6, 8) { // Merges arr[5..6] with arr[7..8]
            {2, 5} and {1, 4} become {1, 2, 4, 5}
            arr = { -5, 2, 3, 3, 7, 1, 2, 4, 5 }
        }
    }
    Merge(arr, 0, 4, 8) { // Merges arr[0..4] with arr[5..8]
        {-5, 2, 3, 3, 7} and {1, 2, 4, 5} become {-5, 1, 2, 2, 3, 3, 4, 5, 7}
        arr = { -5, 1, 2, 2, 3, 3, 4, 5, 7 }
    }
}

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