Merge Sort

Merge sort is based on Divide and conquer method. It takes the list to be sorted and divide it in half to create two unsorted lists. The two unsorted lists are then sorted and merged to get a sorted list. The two unsorted lists are sorted by continually calling the merge-sort algorithm; we eventually get a list of size 1 which is already sorted. The two lists of size 1 are then merged.

Algorithm:

This is a divide and conquer algorithm. This works as follows –

1. Divide the input which we have to sort into two parts in the middle. Call it the left part and right part.

Example: Say the input is -10 32 45 -78 91 1 0 -16 then the left part will be -10 32 45 -

78 and the right part will be 91 1 0 6.

2. Sort each of them separately. Note that here sort does not mean to sort it using some other method. We use the same function recursively.

3. Then merge the two sorted parts.

