**Merge Sort on Doubly Linked List:-**

Given Pointer/Reference to the head of a doubly linked list of N nodes, the task is to **Sort the given doubly linked list using Merge Sort**in both **non-decreasing** and **non-increasing** order.

**Example 1:**

**Input:**

N = 8

value[] = {7,3,5,2,6,4,1,8}

**Output:**

1 2 3 4 5 6 7 8

8 7 6 5 4 3 2 1

**Explanation:** After sorting the given

linked list in both ways, resultant

matrix will be as given in the first

two line of output, where first line

is the output for non-decreasing

order and next line is for non-

increasing order.

**Example 2:**

**Input:**

N = 5

value[] = {9,15,0,-1,0}

**Output:**

-1 0 0 9 15

15 9 0 0 -1

**Explanation:** After sorting the given

linked list in both ways, the

resultant list will be -1 0 0 9 15

in non-decreasing order and

15 9 0 0 -1 in non-increasing order.

**Your Task:**  
The task is to complete the function **sortDoubly**() which sorts the doubly linked list. The **printing**is done **automatically**by the**driver code**.