To write a Python Program to perform Merge sort.

Python

```
def merge_sort(alist, start, end):
    '''Sorts the list from indexes start to end - 1 inclusive.'''
    if end - start > 1:
        mid = (start + end) // 2
        merge_sort(alist, start, mid)
        merge_sort(alist, mid, end)
        merge_list(alist, start, mid, end)

def merge_list(alist, start, mid, end):
    left = alist[start:mid]
    right = alist[mid:end]
    k = start
    i = 0
    j = 0
    while start + i < mid and mid + j < end:
        if left[i] <= right[j]:
            alist[k] = left[i]
            i = i + 1
        else:
            alist[k] = right[j]
            j = j + 1
        k = k + 1
    while start + i < mid:
        alist[k] = left[i]
        i = i + 1
        k = k + 1
    while mid + j < end:
        alist[k] = right[j]
        j = j + 1
        k = k + 1

alist = input('Enter the list of numbers: ').split()
```

```
alist = [int(x) for x in alist]
merge_sort(alist, 0, len(alist))
print('Sorted list:', end=" ")
print(alist)
```

OUTPUT:

Enter the list of numbers: 1 3 2 4 5 6 7 9 8

Sorted list: [1, 2, 3, 4, 5, 6, 7, 8, 9]

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