Experiment no 3:

Aim- Write a Merge-Sort algorithm using the concept of Divide-and-Conquers to arrange the elements in ascending orders. Use all the operations of divide and conquers as functions.

In [2]:

```
def merge(l):
    if len(l)>1:
        mid = len(l)//2
        left = l[:mid]
        right = l[mid:]

        mergeSort(left)
        mergeSort(right)
        i=j=k=0
        #i-left, j-right, k-temp
        while i<len(left) and j<len(right):
            if left[i]<right[j]:
                l[k]=left[i]
                i=i+1
                k=k+1
            else:
                l[k]=right[j]
                j=j+1
                k=k+1

        while i<len(left):
            l[k]=left[i]
            i=i+1
            k=k+1

        while j<len(right):
            l[k]=right[j]
            j=j+1
            k=k+1
```

In [3]:

```
l = []
n = int(input("Enter the number of elements in the array"))
for i in range(0,n):
    li=int(input())
    l.append(li)
merge(l)
```

```
Enter the number of elements in the array6
35
0
-1
7
9
2
```

In [5]:

```
print("Sorted array: ",l)
```

```
Sorted array:  [-1, 0, 2, 7, 9, 35]
```

In [ ]:

```

```