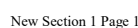


05 February 2025 08:39



mi ei

```

if(arr[p] <= arr[q]) {
    res_arr[k] = arr[p];
    p++;
    k++;
}
else {
    res_arr[k] = arr[q];
    q++;
    k++;
}

```

// left array is completed.

```

while (q <= ei) {
    res_arr[k] = arr[q];
    k++;
    q++;
}

```

// Right array is completed.

```

while (p <= mi) {
    res_arr[k] = arr[p];
    k++;
    p++;
}

```

// Modify the original array. (si, ei)

TC  $\rightarrow O(n \log n)$

SC  $\rightarrow O(n)$

Compare  
L[p], R[q].

L 

9	11	14	17
---	----	----	----

arr = k

R 

1	3	7	13
---	---	---	----

Res Arr

1	3	7	9	11	13	14	17
---	---	---	---	----	----	----	----