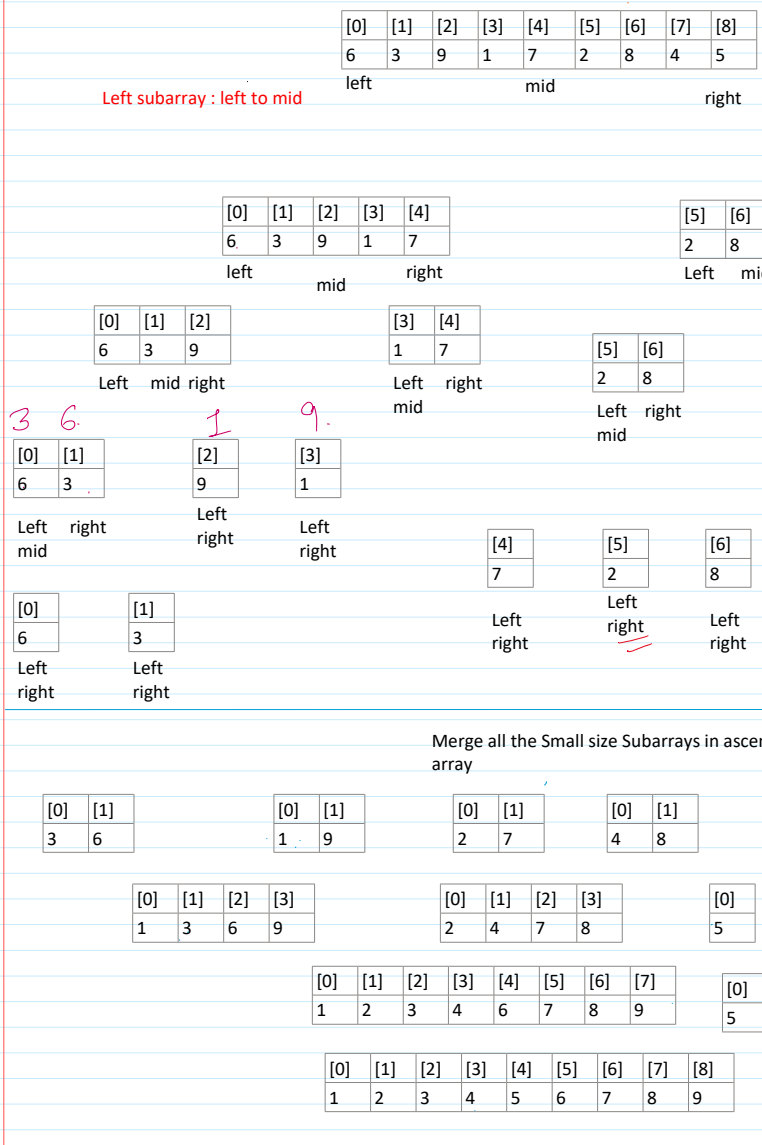


```
void merge_sort(int arr[SIZE],int left,int right)
{
    int mid = (left + right) / 2;
    if(left >= right)
        return;
    merge_sort(arr,left,mid); // left sub array
    merge_sort(arr,mid+1,right); // right sub array
    // merge the sub array in a sorted order in a temp array
    int temp_size = right-left + 1;
    int *ptr = malloc(sizeof(int)*temp_size);
    int i = left, j = mid+1, k = 0;
    while(i<= mid && j <= right)
    {
        // ptr[k++] = arr[i] < arr[j] ? arr[i++] : arr[j++];
        if(arr[i] < arr[j])
        {
            ptr[k] = arr[i];
            i++; k++;
        }
        else
        {
            ptr[k] = arr[j];
            j++; k++;
        }
    }
    while(i <= mid)
    {
        ptr[k++] = arr[i++];
    }

    while(j <= right)
    {
        ptr[k++] = arr[j++];
    }
    // copy the sorted data of temp array into the main array
    for(int i = 0; i < temp_size;i++)
    {
        arr[left + i] = ptr[i]; // 5
    }
    free(ptr);
    ptr = NULL;
}
```

Merge all the Small size Subarrays in ascending order in temp array