Challenge: Implement Merge Sort

The mergeSort function should recursively sort the subarray **array[p..r]** i.e. after calling mergeSort(array,p,r) the elements from index p to index r of array should be sorted in ascending order.

To remind you of the merge sort algorithm:

-If the subarray has size 0 or 1, then it's already sorted, and so nothing needs to be done.

-Otherwise, merge sort uses divide-and-conquer to sort the subarray.

Use **merge(array, p, q, r)** to merge sorted sub arrays **array[p..q]** and **array[q+1..r]**.