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Section: 23

TASK 1:

This is a merge sort algorithm. Just the basic Divide and conquer Method was used here to sort it effieiently. To elaborate more, I recursively Divided the Given array into two parts until there were only one element left and during merging, I cheeked for the largest number and put it in the right position and continue until the list was readjourned.

Task 2

This one just used the idea of divide and conquer method to find the largest number in a fast or effielent way.

Task 3

This was about counting the pairs of aliens that stands next to each other in a way if the Indexing was denoted by 1, the right next to the alien would be j = i+1. The first condition is i<j and the other condition is the height of the i has to be less than the height of the ith indexed (Hi > Hj). If so, we will count how many of this situation is possible and print that.

Task 4

We have to find a pair that makes the maximum amount of number possible meeting those condition. The condition are : 1<=i<j<=N and A[i]+A[j] ^2. So, Used merge sort type method to break the array into two and then A and so on recursively the continued to find the best possible answer from those subsections. Finally connecting the subarrays and finding the ultimate solution possible.

Task 5

This is just a basic quick sort algorithm as shown in the question. By setting up a pivot (randomly would be the best thing to do but for this task the last value would be used. Comparing to the pivot point, if rearrangement were not, swapping those values on the left on the right accordingly.

Task 6

The more or less same logic from the previous one here, just keeping a counter of the lowest term and maintaining the order to find the serial of the lowest value for the rearranged question as done here extra.