**Question 3**

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**First, sort the array A incrementally using a merge sort algorithm.**

**We start by setting to the largest integer in the array A. We need to traverse the array A with a different . Starting with the first integer in array A, add one to the answer for each separation greater than or equal to . Finally, check if you have chosen enough , subtract from if there are less than , add to if there are more than , then re-traverse the array and update the answer。Until is no longer divisible, return the answer.**

**The first step of sorting requires a time complexity of . The second step requires two nested loops, based on and respectively. The time complexity of the outer layer's m-based loop is , and then the time complexity of each inner layer's n-based loop is** **, so the total time complexity is . Then because is larger than n, the time complexity of these two steps together is .**