The worst case: we have n elements in our set and n have binary representation 11..11( all 1). And we put one more element – n+1 will present as 10…01 – that means that we need to merge all arrays (k).

For each array we will call InsertMany() and all InsertMany will take 2\*I – where I – size of array.

All size of array – 2 in some power. Finally, O(n \* log2(n)).