Approach

Firstly, we need to understand that for each nums[i] we need to find a number which is either equal to it or a number just greater than it , or just smaller than it in the case when nums[i] is the greatest among all numbers iterated till now.

Suppose we are currently on nums[i], so to find a number which would have least absolute difference between nums[i] and any other number in nums, we could greedily choose a number such that the number is just greater or just smaller or equal to nums[i].

So, this could be done with the help of set and lower bound.

Set will help us to keep the sorted order of values iterated till now and then we could easily apply lower bound to it.