75 Days of Code
Day 50
Problem no : 2336..
Problem Title :Smallest Number in Infinite Set

You have a set which contains all positive integers [1, 2, 3, 4, 5, ...].

Implement the SmallestInfiniteSet class:

SmallestInfiniteSet() Initializes the SmallestInfiniteSet object to contain all positive integers.
int popSmallest() Removes and returns the smallest integer contained in the infinite set.
void addBack(int num) Adds a positive integer num back into the infinite set, if it is not already in the infinite set.

Example 1:

Input
["SmallestInfiniteSet", "addBack", "popSmallest", "popSmallest", "popSmallest", "addBack", "popSmallest", "popSmallest", "popSmallest"]
[[], [2], [], [], [], [1], [], [], []]
Output
[null, null, 1, 2, 3, null, 1, 4, 5]

Explanation
SmallestInfiniteSet smallestInfiniteSet = new SmallestInfiniteSet();
smallestInfiniteSet.addBack(2); // 2 is already in the set, so no change is made.

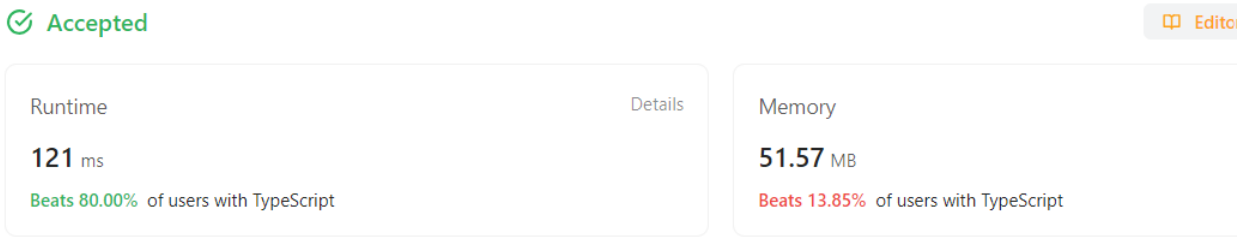
smallestInfiniteSet.popSmallest(); // return 1, since 1 is the smallest number, and remove it from the set.
smallestInfiniteSet.popSmallest(); // return 2, and remove it from the set.
smallestInfiniteSet.popSmallest(); // return 3, and remove it from the set.
smallestInfiniteSet.addBack(1); // 1 is added back to the set.
smallestInfiniteSet.popSmallest(); // return 1, since 1 was added back to the set and
// is the smallest number, and remove it from the set.
smallestInfiniteSet.popSmallest(); // return 4, and remove it from the set.
smallestInfiniteSet.popSmallest(); // return 5, and remove it from the set.

```typescript
class SmallestInfiniteSet {
    currentSmall: number = 1
    addedList: number[] = []

    popSmallest(): number {
      if (this.addedList.length) {
        return this.addedList.shift()
      } else {
        this.currentSmall = this.currentSmall + 1
        return this.currentSmall - 1
      }
    }

    addBack(num: number): void {
      if (num < this.currentSmall) {
        if(!this.addedList.includes(num)) {
          this.addedList.push(num)

          this.addedList = this.addedList.sort((a,b) => a - b)
        }
      }
    }
  }
```



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