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1146. Snapshot Array

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Implement a SnapshotArray that supports the following interface:

• SnapshotArray(int length) initializes an array-like data structure with the given length. Initially, each element equals 0.

• void set(index, val) sets the element at the given index to be equal to val.

• int snap() takes a snapshot of the array and returns the snap\_id: the total number of times we called snap() minus 1.

• int get(index, snap\_id) returns the value at the given index, at the time we took the snapshot with the given snap\_id

Example 1:

Input: ["SnapshotArray","set","snap","set","get"]

[[3],[0,5],[],[0,6],[0,0]]

Output: [null,null,0,null,5]

Explanation:

SnapshotArray snapshotArr = new SnapshotArray(3); // set the length to be 3

snapshotArr.set(0,5); // Set array[0] = 5

snapshotArr.snap(); // Take a snapshot, return snap\_id = 0

snapshotArr.set(0,6);

snapshotArr.get(0,0); // Get the value of array[0] with snap\_id = 0, return 5

Constraints:

• 1 <= length <= 5 \* 10<sup>4</sup>

• 0 <= index < length

• 0 <= val <= 10<sup>9</sup>

• 0 <= snap\_id < (the total number of times we call snap())

• At most 5 \* 10<sup>4</sup> calls will be made to set, snap, and get.

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class SnapshotArray {

public SnapshotArray(int length) {

}

public void set(int index, int val) {

}

public int snap() {

}

public int get(int index, int snap\_id) {

}

}

/\*\*

\* Your SnapshotArray object will be instantiated and called as such:

\* SnapshotArray obj = new SnapshotArray(length);

\* obj.set(index,val);

\* int param\_2 = obj.snap();

\* int param\_3 = obj.get(index,snap\_id);

\*/

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