Given an array of integers A sorted in non-decreasing order, return an array of the squares of each number, also in sorted non-decreasing order.

**Example 1:**

**Input:** [-4,-1,0,3,10]

**Output:** [0,1,9,16,100]

**Example 2:**

**Input:** [-7,-3,2,3,11]

**Output:** [4,9,9,49,121]

**Note:**

1. 1 <= A.length <= 10000
2. -10000 <= A[i] <= 10000
3. A is sorted in non-decreasing order.