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1570. Dot Product of Two Sparse Vectors Premium

Medium

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Hint

Given two sparse vectors, compute their dot product.

Implement class `SparseVector`:

- `SparseVector(nums)` Initializes the object with the vector `nums`
- `dotProduct(vec)` Compute the dot product between the instance of `SparseVector` and `vec`

A **sparse vector** is a vector that has mostly zero values, you should store the sparse vector **efficiently** and compute the dot product between two `SparseVector`

Follow up: What if only one of the vectors is sparse?

Example 1:

Input: `nums1 = [1,0,0,2,3]`, `nums2 = [0,3,0,4,0]`
Output: 8
Explanation: `v1 = SparseVector(nums1)` , `v2 = SparseVector(nums2)`
`v1.dotProduct(v2) = 1*0 + 0*3 + 0*0 + 2*4 + 3*0 = 8`

Example 2:

Input: `nums1 = [0,1,0,0,0]`, `nums2 = [0,0,0,0,2]`
Output: 0
Explanation: `v1 = SparseVector(nums1)` , `v2 = SparseVector(nums2)`
`v1.dotProduct(v2) = 0*0 + 1*0 + 0*0 + 0*0 + 0*2 = 0`

Example 3:

Input: `nums1 = [0,1,0,0,2,0,0]`, `nums2 = [1,0,0,0,3,0,4]`
Output: 6

Constraints:

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