

Intersection of Two Arrays

Problem condition:

Given two integer arrays `nums1` and `nums2`, return *an array of their intersection*.

Each element in the result must be **unique** and you may return the result in **any order**.

The intersection of two arrays is defined as the set of elements that are present in both arrays.

Algorithm:

At first create an empty array that we will return at the end (`resultArray = []`)

Then we have to go through the entire array `nums1` and check two conditions:

1) Element of `nums1` must be in the `nums2` array

2) Element of `nums1` must not be in the result array

If both conditions are true, then we add current element of `nums1` to result array and check next element

Example `nums1 = [1, 2, 3, 3, 4]`, `nums2 = [3, 5, 4]`:

Iterations:

1) `nums1[i] = 1`

Element of `nums1` must be in the `nums2` array - **false**

Element of `nums1` must not be in the result array - **false**

Do nothing, `resultArray = []`

2) `nums1[i] = 2`

Element of `nums1` must be in the `nums2` array - **false**

Element of `nums1` must not be in the result array - **false**

Do nothing, `resultArray = []`

3) `nums1[i] = 3`

Element of `nums1` must be in the `nums2` array - **true**

Element of `nums1` must not be in the result array - **true**

Add 3 to the result array, `resultArray = [3]`

4) `nums1[i] = 3`

Element of `nums1` must be in the `nums2` array - **true**

Element of `nums1` must not be in the result array - **false**

Do nothing, `resultArray = [3]`

5) `nums1[i] = 4`

Element of `nums1` must be in the `nums2` array - **true**

Element of `nums1` must not be in the result array - **true**

Add 4 to the result array, `resultArray = [3, 4]`

The array `nums1` has ended, return `resultArray`