

Q1.

Given an array of integers `nums` and an integer `target`, return indices of the two numbers such that they add up to `target`.

You may assume that each input would have exactly one solution, and you may not use the same element twice.

You can return the answer in any order.

Example: Input: `nums = [2,7,11,15]`, `target = 9` Output: `[0,1]`

Explanation:

Because `nums[0] + nums[1] == 9`, we return `[0, 1]`

Approach:

- Create an empty hashmap to store the elements and their indices.
- Iterate through the array, using a loop with an index variable `i`.
- For each element at index `i`, calculate the complement as `target - nums[i]`.
- Check if the complement exists in the hashmap:
- If it does, return the indices `[hashmap[complement], i]`.
- If it doesn't, continue to the next element.
- If no solution is found after iterating through the entire array, return an empty array.

Time complexity: $O(n)$ > We will iterate thru' the array (len of `n`) only once.

Space Complexity: $O(n)$ --> Need to store all the elements of the array into the hashmap!