

1. Two Sum

Difficulty : Easy

<https://leetcode.com/problems/two-sum>

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 1:

Input: `nums = [2,7,11,15], target = 9`

Output: `[0,1]`

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

Example 2:

Input: `nums = [3,2,4], target = 6`

Output: `[1,2]`

Example 3:

Input: `nums = [3,3], target = 6`

Output: `[0,1]`

Constraints:

- $2 \leq \text{nums.length} \leq 10^4$
- $-10^9 \leq \text{nums}[i] \leq 10^9$
- $-10^9 \leq \text{target} \leq 10^9$
- **Only one valid answer exists.**

Follow-up: Can you come up with an algorithm that is less than $O(n^2)$ time complexity?