

LeetCode 1 (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.

EXAMPLE

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

Output: `[0, 1]` → BECOD2 ↴

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

SOLUTION

```
class Solution {  
    public int[] twoSum(int[] nums, int target) {  
        for (int i = 0; i < nums.length; i++) {  
            for (int j = i + 1; j < nums.length; j++) {  
                if (nums[j] == target - nums[i]) {  
                    return new int[] {i, j};  
                }  
            }  
        }  
        return null; // Agar koi solution nahi hota toh  
                    // null return krengey!  
    }  
}
```

Handwritten notes for the code:

- `i = 0`
- `j = i + 1 = 1`
- `7 = 9 - 2` ← (when `i=0, j=1`)
- `7 = 7`
- ↓
- `[0, 1]`

⇒ Humne 2 parameters pass krey, ek nums array aur ek target.
⇒ Hum (i) ko 0 se end tak chalaya, (j) ko i+1 se end tak.
⇒ Fir, ~~Agar~~ Humne if condition lagai,
Agar nums[j] equal hota hai target - nums[i] ke toh
hum ek new int array return krengey usme (i) aur (j) ki
value bhi return krengey, jo humarey indices hai!