



# STUDENT REPORT

## DETAILS

### Name

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### Roll Number

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## EXPERIMENT

### Title

### TARGET SUM

### Description

You are given a list of integers, and your task is to write a function that finds the two numbers in the list that add up to a specific target sum. You need to return the indices of these two numbers.

Write a function that takes a list of Integers and a target sum as input and returns a list of two indices (0-based) of the numbers that add up to the target sum. Assume that there is exactly one solution, and you cannot use the same element twice

### Sample Input:

2 7 11 15

9

### Sample Output:

[0, 1]

### Source Code:

```
def two_sum(nums, target):
    num_to_index = {} # Dictionary to hold number and its index

    for index, num in enumerate(nums):
        complement = target - num # Calculate the complement

        # Check if the complement is in the dictionary
        if complement in num_to_index:
            return [num_to_index[complement], index] # Return the indices

        # Store the number and its index in the dictionary
        num_to_index[num] = index

# Example usage
if __name__ == "__main__":
    import sys

    nums = list(map(int, sys.stdin.readline().strip().split())) # Read the list of integers
    target = int(sys.stdin.readline().strip()) # Read the target sum

    result = two_sum(nums, target)
    print(result)
```

RESULT

5 / 5 Test Cases Passed | 100 %