

Step 1: Ask ChatGPT



Certainly! Here's a Python program that uses a `for` loop to solve the Two Sum problem on LeetCode with the given test case:

python

Copy code

```
def twoSum(nums, target):
    num_indices = {}
    for i, num in enumerate(nums):
        complement = target - num
        if complement in num_indices:
            return [num_indices[complement], i]
        num_indices[num] = i
    return []

# Test case
nums = [2, 7, 11, 15]
target = 9

result = twoSum(nums, target)
if result:
    print("Indices:", result)
    print("Numbers:", nums[result[0]], nums[result[1]])
else:
    print("No solution found.")
```

When you run this program, it will output:

makefile

Copy code

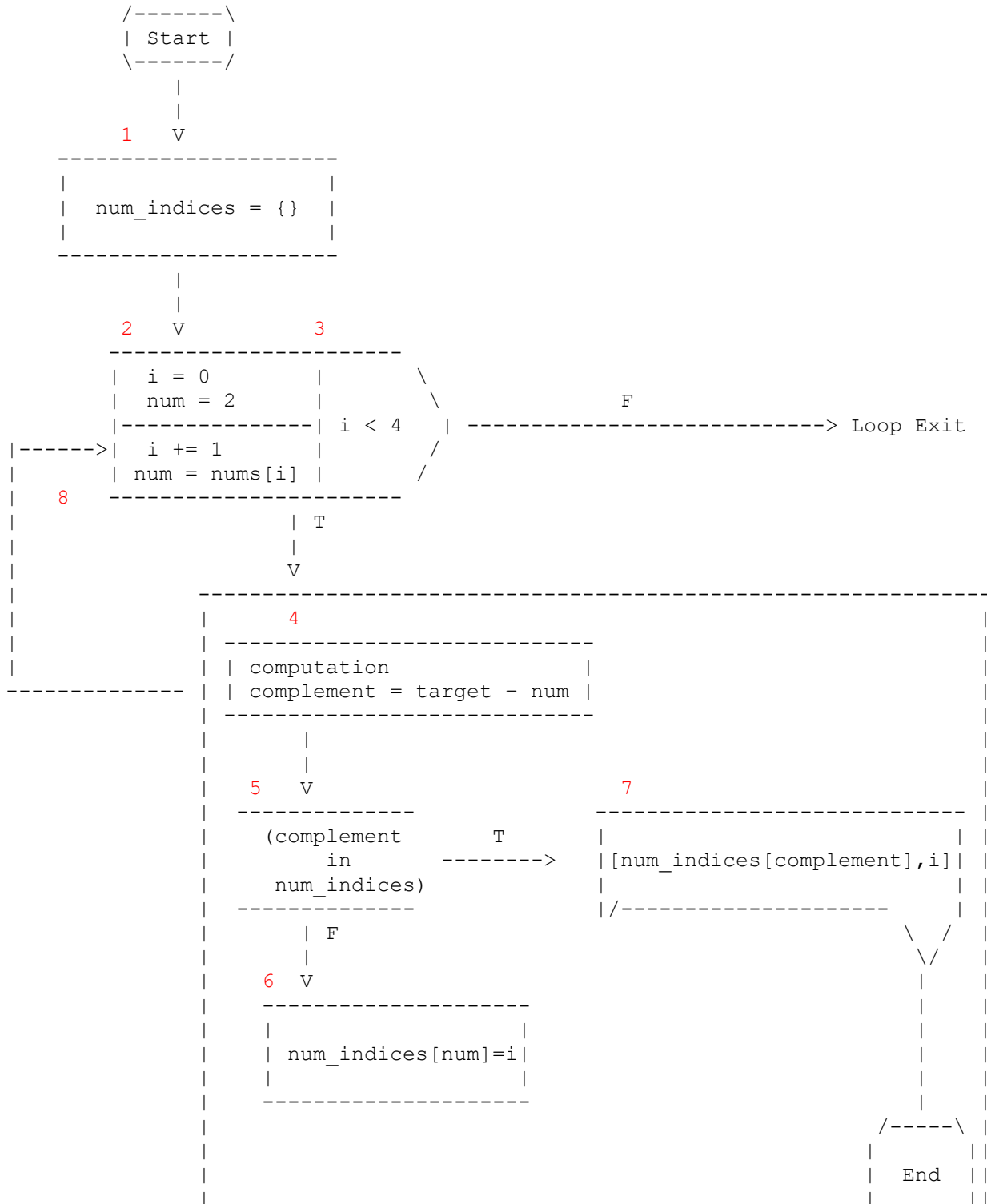
```
Indices: [0, 1]
Numbers: 2 7
```

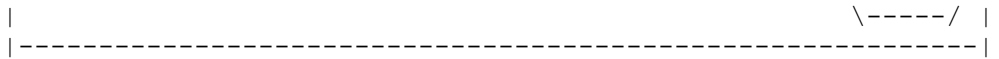
Step 2: Study ChatGPT's Python code and explanation.

The program will loop over the list number by number. If the target - number does not exist in the dictionary that has the number and its position in it, the program will save the number and its position to the dictionary; otherwise, the program will retrieve the

corresponding position of the target - number and return it together with the position of the number.

Step 3: Convert ChatGPT's Python code into a flowchart.





Step 4: Verify your flowchart with a trace table.

Step	RAM						screen
	i	num	i < 4	complement	complement in num_indices	num_indices	
1						{}	
2	0	2					
3			T				
4				7			
5					F		
6						{2:0}	
8	1	7					
3			T				
4				2			
5					T		
7							[0, 1]

Step 5: Using any Python IDE to test the Python code with the following test cases:

