

1498. Number of Subsequences That Satisfy the Given Sum Condition

Hint 

Medium

 3.2K 286 Companies

You are given an array of integers `nums` and an integer `target`.

Return the number of **non-empty** subsequences of `nums` such that the sum of the minimum and maximum element on it is less or equal to `target`. Since the answer may be too large, return it **modulo** $10^9 + 7$.

Example 1:

Input: `nums = [3,5,6,7]`, `target = 9`

Output: 4

Explanation: There are 4 subsequences that satisfy the condition.

[3] -> Min value + max value <= target (3 + 3 <= 9)

[3,5] -> (3 + 5 <= 9)

[3,5,6] -> (3 + 6 <= 9)

[3,6] -> (3 + 6 <= 9)

Example 2:

Input: `nums = [3,3,6,8]`, `target = 10`

Output: 6

Explanation: There are 6 subsequences that satisfy the condition. (`nums` can have repeated numbers).

[3] , [3] , [3,3] , [3,6] , [3,6] , [3,3,6]

Example 3:

Input: `nums = [2,3,3,4,6,7]`, `target = 12`

Output: 61

Explanation: There are 63 non-empty subsequences, two of them do not satisfy the condition ([6,7], [7]).

Number of valid subsequences (63 - 2 = 61).

Constraints:

- $1 \leq \text{nums.length} \leq 10^5$
- $1 \leq \text{nums}[i] \leq 10^6$

- $1 \leq \text{target} \leq 10^6$

Accepted **90.9K**Submissions **202.1K**Acceptance Rate **45.0%**