You are given a list of non-negative integers, a1, a2, ..., an, and a target, S. Now you have 2 symbols + and -. For each integer, you should choose one from + and - as its new symbol.

Find out how many ways to assign symbols to make sum of integers equal to target S.

**Example 1:**

**Input:** nums is [1, 1, 1, 1, 1], S is 3.

**Output:** 5

**Explanation:**

-1+1+1+1+1 = 3

+1-1+1+1+1 = 3

+1+1-1+1+1 = 3

+1+1+1-1+1 = 3

+1+1+1+1-1 = 3

There are 5 ways to assign symbols to make the sum of nums be target 3.

**Constraints:**

* The length of the given array is positive and will not exceed 20.
* The sum of elements in the given array will not exceed 1000.
* Your output answer is guaranteed to be fitted in a 32-bit integer.