Power Arrays

2 integers N and K are given.

Print the number of arrays of size N and having sum K.

The only condition is that each element of the formed arrays can be either 0 or a power of 2.

Since the number of such arrays can be large, print result modulo 109+7.

Function Description

In the provided code snippet, implement the provided powerArrays(...) method using the variables to print the array of size N satisfying the given conditions. You can write your code in the space below the phrase “WRITE YOUR LOGIC HERE”.

There will be multiple test cases running so the Input and Output should match exactly as provided.

Input Format

The input contains two space-separated integers N and K.

Sample Input

2 4 -- Denotes the size of array and sum of all elements in the array respectively

Constraints

0 <= N <= 103

0 <= K <= 103

Output Format

The output contains the number of arrays of size N having element sum equal to K and satisfying the condition mentioned above.

Sample Output

3

Explanation

N = 2

We need to form arrays with size 2 and since K = 4, the array sum should be 4.

It is given in the problem statement that all the elements in the array can be either 0 or a power of 2.

Arrays that satisfy the above conditions are:

1. [4, 0]

2. [0, 4]

3. [2, 2]

The output is 3. Note that [1, 3] is not possible because 3 is not a power of 2.

**public** **class** Main {

**static** **int** powerOfArray(**int** N, **int** K) {

**int**[] C = **new** **int**[K + 1];

C[0] = 1;

**for** (**int** i = 1; i <= N; i++) {

**for** (**int** j = Math.*min*(i, K); j > 0; j--)

C[j] = C[j] + C[j - 1];

}

**return** C[K];

}

**static** **int** printArray(**int** N, **int** K) {

**return** *powerOfArray*(K - 1, N - 1);

}