Subset Sum

ZPRAC-16-17-Lab9

SUBSET SUM [30 points]

ANNOUNCEMENT:
Up to 20% marks will be allotted for good programming practice. These include
- Comments for non trivial code
- Indentation: align your code properly

Up to 50% marks can be deducted if you do not use recursion

Given an array of n integers, print the number of its distinct subsets whose sum is equal to k. Two subsets are considered distinct if one of them has at least one element from a different index of the array.

Input Format:
The first line of input contains $n(\leq 20)$ and $k(\leq 1000000)$. The second line contains n space separated integers (≤ 100000).

Output Format:
Print the number of subsets with sum equal to k (Note that the null subset is also included, its sum is defined to be 0)

EXAMPLE:
Input:
5 5
1 2 3 1 2
Output:
5

Explanation:
The following subsets qualify:
1 2 2
1 3 1
2 3
3 2

2 1 2

Note that the first and last subsets are different, since their corresponding index in the original array is different.