Problem F
Sums

Input File: F.DAT
Program Source File: F.PAS or F.C or F.CPP

A text file contains sets of data, each set with the format N A_1 A_2 ... A_N, where $1 \leq N \leq 500$ and $0 \leq A_i \leq 1000$, $i = 1, N$, are integers. We note:

- A the collection of the elements $A_1, A_2, \ldots, A_N$;

- $Sets(N)$ the set of all sets, including the empty set $\varnothing$, which can be constructed with the numbers $1, 2, \ldots, N$;.

- $Sum(A,S) = \sum_{i \in S} A_i$ the sum of the elements in the collection A indexed by the numbers of the set $S \in Sets(N)$. By convention, $Sum(A, \varnothing) = 0$;

- $Sums(A) = \{Sum(A,S) \mid S \in Sets(N)\}$ the set of sums that can be computed with the elements of the collection A indexed by the numbers of each set from $Sets(N)$.

Write a program that for each data set N A_1 A_2 ... A_N read from a text file computes the number of elements in the set $Sums(A)$. Each result is printed on the standard output on a separate line, as illustrated in figure 1. White spaces (spaces, tabs and line breaks) can be used freely in the input. Input data are guaranteed correct.
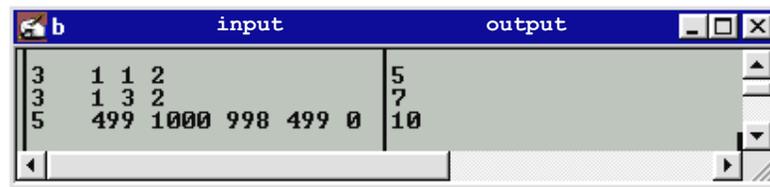

Figure 1. An example of program input and output

As a simple example, consider the first data set from figure 1: $N=3$, $A_1=1$, $A_2=1$, $A_3=2$, and $A=\{A_1, A_2, A_3\}$.

$S \in Sets(N)$	$\varnothing$	{1}	{2}	{3}	{1,2}	{1,3}	{2,3}	{1,2,3}
$Sum(A,S)$	0	A_1	A_2	A_3	A_1+A_2	A_1+A_3	A_2+A_3	$A_1+A_2+A_3$
	0	1	1	2	2	3	3	4

Therefore, $Sums(A)=\{0,1,2,3,4\}$ and the result of the program for the data set is 5: the number of elements in the set $Sums(A)$.