

Ah, the chaffy grain beneath the thresher's flail. Harvest time amongst *The Endians* brings hard work, merriment, and the opportunity for the enterprising farmer to sell all manner of fine seeds to neighbouring villages.

Since different stockists throughout the region restrict the size of seed packets that they will sell, when it comes to dividing up seed careful thought goes in to how it might be distributed amongst packets. The order of the packets does not matter as, once the packaged seeds are sent out, they might go anywhere. In these times of austerity farmers are careful not to discard any seeds.

For example, if packets are allowed to contain 1, 2, 6 or 7 seeds, it is possible to distribute 8 seeds in 8 different ways: $7+1$, $6+2$, $6+1+1$, $2+2+2+2$, $2+2+2+1+1$, $2+2+1+1+1+1$, $2+1+1+1+1+1+1$ and $1+1+1+1+1+1+1+1$.

SAMPLE INPUT

```
8 4
1
6
2
7
```

Write a program to determine the number of different ways seeds can be packaged. The first line of the input will contain two integers, n ($1 \leq n \leq 2^{14}$) indicating the number of seeds, followed by p ($1 \leq p \leq 64$) the number of different package sizes. This will be followed by p lines, each indicating a valid packet size (between 1 and 2^{14} inclusive). No packet size will be repeated.

You should output a single integer, the number of ways the seeds can be distributed in to packets of the given sizes. You will not be required to produce an answer larger than 2^{63} .

SAMPLE OUTPUT

```
8
```