Sum of Powers

Problem ID: a04p05sumofpowers

Write a program that, given k and a sequence $x = (x_1, x_2, \ldots, x_n)$ of length n, finds the sum of a series of the form

$$k^{x_1} + k^{x_2} + \cdots + k^{x_n} = \sum_{i=1}^{n} k^{x_i}$$

For example, if $k = 2$, $n = 3$, and $x = (3, 4, 7)$, then the sum would be $2^3 + 2^4 + 2^7 = 152$.

Input

The first line contains an integer k, where $-100 \leq k \leq 100$. The second line contains n, the length of the sequence x, where $1 \leq n \leq 100$. Then n lines follow, the i-th of which contains one integer, x_i, where $0 \leq x_i \leq 2\,000$.

Output

Output consists of one line with one integer, the sum of the series.

Sample Input 1

```
2
4
5
3
6
1
```

Sample Output 1

```
106
```

Sample Input 2

```
1
5
0
5
1231
8
4
```

Sample Output 2

```
5
```

Sample Input 3

```
10
4
0
1
2
3
```

Sample Output 3

```
1111
```

Sample Input 4

```
-5
5
2
4
6
8
10
```

Sample Output 4

```
10172525
```

Sample Input 5	Sample Output 5
-5 5 1 3 5 7 9	-2034505