A - Siggy's sum

Source file name: `siggysum.py`
Time limit: 20 seconds

Siggy and Otto are two friends that always like to play games, this time Siggy is challenging her friend Otto with a Math problem (Siggy thinks that he is not good for this type of problems).

Siggy wants to know how a number N can be expressed as the sum of the P^{th} power of unique natural numbers.

Input

The first line contains an integer N , followed by a second line that line contains an integer P.

The input finishes when N is 0.

Output

Output a single integer with the answer.

Sample Input

```
10
2
100
2
100
3
0
```

Sample Output

```
1
3
1
```

Exmplanation Case 1

If $N = 10$ and $P = 2$, Otto needs to find the number of ways that 10 can be represented as the sum of squares of unique numbers

$10 = 1^2 + 3^2$

So Otto has only one way in which 10 can be represented as the sum of unique powers of 2