

The Sums of Powers

Task

Find the number of ways that a given integer, X , can be expressed as the sum of the N^{th} power of unique, natural numbers.

Input Format

The first line contains an integer X .

The second line contains an integer N .

Constraints

- $1 \leq X \leq 1000$
- $2 \leq N \leq 10$

Output Format

Output a single integer, the answer to the problem explained above.

Sample Input 1

```
10
2
```

Sample Output 1

```
1
```

Sample Input 2

```
100
3
```

Sample Output 2

```
1
```

Sample Input 3

```
100
2
```

Sample Output 3

```
3
```

Explanation

Sample 1

If $X = 10$ and $N = 2$, we need to find the number of ways that **10** can be represented as the sum of squares of unique numbers.

$$10 = 1^2 + 3^2$$

This is the only way in which **10** can be expressed as the sum of unique squares.

Sample 2

100 can be expressed as the sum of the cubes of **1, 2, 3, 4**.

(1 + 8 + 27 + 64 = 100). There is no other way to express **100** as the sum of cubes.

Sample 3

$$100 = 10^2 = 6^2 + 8^2 = 1^2 + 3^2 + 4^2 + 5^2 + 7^2$$