

# The Power Sum

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

For example, if  $X = 13$  and  $N = 2$ , we have to find all combinations of unique squares adding up to  $13$ . The only solution is  $2^2 + 3^2$ .

## Function Description

Complete the `powerSum` function in the editor below. It should return an integer that represents the number of possible combinations.

`powerSum` has the following parameter(s):

- $X$ : the integer to sum to
- $N$ : the integer power to raise numbers to

## 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 number of possible combinations caclulated.

## Sample Input 0

```
10
2
```

## Sample Output 0

```
1
```

## Explanation 0

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 Input 1

```
100
2
```

### Sample Output 1

```
3
```

### Explanation 1

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

### Sample Input 2

```
100
3
```

### Sample Output 2

```
1
```

### Explanation 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.