

Project Euler #36: Double-base palindromes

This problem is a programming version of [Problem 36](#) from [projecteuler.net](#)

The decimal number, $585 = 1001001001_2$ (binary), is palindromic in both bases.

Find the sum of all natural numbers, less than N , which are palindromic in base 10 and base K .

(Please note that the palindromic number, in either base, may not include leading zeros.)

Input Format

Input contains two integers N and K .

Constraints

$$10 \leq N \leq 10^6$$

$$2 \leq K \leq 9$$

Output Format

Print the answer corresponding to the test case.

Sample Input

```
10 2
```

Sample Output

```
25
```

Explanation

These numbers are palindromic in their decimal as well as base $K(= 2)$ representation:
 $1(1_2), 3(11_2), 5(101_2), 7(111_2), 9(1001_2)$. Their sum is $1 + 3 + 5 + 7 + 9 = 25$