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.

Output Format
Print the answer corresponding to the test case.

Constraints
$10 \le N \le 10^6$
$2 \le K \le 9$

Sample Input

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10 2
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Sample Output

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25
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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 $1+3+5+7+9 = 25$