CCC '17 J2 - Shifty Sum

Time limit: 1.0s   **Memory limit:** 256M

Canadian Computing Competition: 2017 Stage 1, Junior #2

Suppose we have a number like 12. Let's define *shifting a number* to mean adding a zero at the end. For example, if we shift that number once, we get the number 120. If we shift the number again we get the number 1200. We can shift the number as many times as we want.

In this problem you will be calculating a *shifty sum*, which is the sum of a number and the numbers we get by shifting. Specifically, you will be given the starting number N and a non-negative integer k. You must add together N and all the numbers you get by shifting a total of k times.

For example, the shifty sum when N is 12 and k is 1 is: $12 + 120 = 132$. As another example, the shifty sum when N is 12 and k is 3 is $12 + 120 + 1\,200 + 12\,000 = 13\,332$.

Input Specification

The first line of input contains the number N $(1 \le N \le 10\,000)$. The second line of input contains k, the number of times to shift N $(0 \le k \le 5)$.

Output Specification

Output the integer which is the shifty sum of N by k.

Sample Input

```
12
3
```

Sample Output

```
13332
```