

Super Digit ★

Points: 553.1800000000001 Rank: 1150

Problem

Submissions

Leaderboard

Editorial

RATE THIS CHALLENGE



We define super digit of an integer x using the following rules:

- If x has only **1** digit, then its super digit is x .
- Otherwise, the super digit of x is equal to the super digit of the digit-sum of x . Here, digit-sum of a number is defined as the sum of its digits.

For example, super digit of **9875** will be calculated as:

```
super_digit(9875) = super_digit(9+8+7+5)
                   = super_digit(29)
                   = super_digit(2+9)
                   = super_digit(11)
                   = super_digit(1+1)
                   = super_digit(2)
                   = 2.
```

You are given two numbers n and k . You have to calculate the super digit of P .

P is created when number n is concatenated k times. That is, if $n = 123$ and $k = 3$, then $P = 123123123$.

Input Format

The first line contains two space separated integers, n and k .

Constraints

- $1 \leq n < 10^{100000}$
- $1 \leq k \leq 10^5$

Output Format

Output the super digit of P , where P is created as described above.

Sample Input 0

```
148 3
```

Sample Output 0

```
3
```

Explanation 0

Here $n = 148$ and $k = 3$, so $P = 148148148$.

```
super_digit(P) = super_digit(148148148)
               = super_digit(1+4+8+1+4+8+1+4+8)
               = super_digit(39)
               = super_digit(3+9)
               = super_digit(12)
               = super_digit(1+2)
               = super_digit(3)
```



= 3.

[Change Theme](#)

Language

Haskell



```
1  import Data.Char (digitToInt)
2  import Control.Monad
3
4  superDigit :: String -> Int -> String
5  superDigit xs i = super $ show $ (calc xs) * i
6      where super [c] = [c]
7              super cs = super $ show $ calc cs
8              calc [c] = digitToInt c
9              calc (c:cs) = digitToInt c + calc cs
10
11 main = do
12     [n,k] <- words <$> getLine
13     putStrLn $ superDigit n $ read k
14
15
```

Line: 15 Col: 1

Upload Code as File

☐ Test against custom input

Run Code

Submit Code

[Contest Calendar](#) | [Blog](#) | [Scoring](#) | [Environment](#) | [FAQ](#) | [About Us](#) | [Support](#) | [Careers](#) | [Terms Of Service](#) | [Privacy Policy](#) | [Request a Feature](#)

