Super Digit

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.
```

Contest ends in an hour

Submissions: 0
Max Score: 20
Difficulty: Medium

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Scala

```scala
object Solution {

    def main(args: Array[String]) {
        val inputed = scala.io.StdIn.readLine();
        var arrayed = inputed.split(' ');  // println(arrayed.mkString(" ")) to show array
        var n = sum(arrayed(0));
        var k = arrayed(1).toInt
        var results=(for (i <- 1 to k) yield n).mkString("");
        println(sum(results)) ;
    }
        def sum(n:Any):Any ={ // Outside of main so it executes first.
            if (n.toString.length == 1) {
                n
            }
            else {
                sum(n.toString.map(_.asDigit).sum);
            }
        }
}
```

Line: 9 Col: 36

Upload Code as File Test against custom input Run Code Submit Code

Testcase 0 ✔

Congratulations, you passed the sample test case.

Click the **Submit Code** button to run your code against all the test cases.

Compile Message

```
warning: 1 deprecation (since 2.13.0); re-run with -deprecation for details
```

Compile Time

Input (stdin)

```
148 3
```

Run Time

Your Output (stdout)

```
3
```

Expected Output

```
3
```