Problem F: Product of Digits

Filename: `product`
Timelimit: `4 seconds`

Let P(x) be a function that returns the product of digits of x. For example P(935) = 9*3*5 = 135. Now let us define another function $P_{repeat}(x)$:

```
int P_repeat(int x){
      if(x < 10) return x
      return P_repeat(P(x))
}
```

Using 935 as an example once more, $P_{repeat}(935) = P_{repeat}(135) = P_{repeat}(15) = P_{repeat}(5) = 5$. Given a range from ***a*** to ***b*** and a target value ***v,*** count all integers x ($\boldsymbol{a} \leq x \leq \boldsymbol{b}$) such that $P_{repeat}(x) = \boldsymbol{v}$.

Input

The input has a single line with 3 space separated integers: ***a*** ($1 \leq \boldsymbol{a} \leq 10^{13}$), ***b*** ($\boldsymbol{a} \leq \boldsymbol{b} \leq 10^{13}$), and ***v*** ($0 \leq \boldsymbol{v} \leq 9$), referring to the values stated above.

Output

On a line by itself, output a single integer *k,* the count of all integers x in between a and b inclusive, such that $P_{repeat}(x) = \boldsymbol{v}$.

Samples

Input	Output
935 953 5	2
1 20 2	2
50 59 0	7
1 1000 7	6
33333 99999 1	0
1 10000000000000 9	455