MWC '15 #1 P5: Love Guru

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

Hypnova is a love guru. He has a mathematical way to determine the compatibility of two people. His method is as follows:

1. Take the names of the two people and perform the following process:
   - Take the value of each letter (a = 1, b = 2, c = 3, etc.) and put it to the power of its position in the name (starting from 1).
   - Sum these values together and mod the number by 10 into the range $[1, 10]$.
2. Add these two values together to get the compatibility out of 20.

Hypnova needs you to make a program that calculates two people's compatibility based on the criterion described above. The program should not be case sensitive.

Input Specification

Given names A and B, find their compatibility out of 20. The names are guaranteed to consist of only latin letters and L $(1 \leq L \leq 10^6)$ letters in length.

Subtask 1 [10%]

$1 \leq L \leq 6$

Subtask 2 [20%]

$1 \leq L \leq 20$

Subtask 3 [70%]

$1 \leq L \leq 10^6$

Output Specification

A number in the range $[2, 20]$.

Sample Input

```
Romeo
Juliet
```

Sample Output

```
15
```

Explanation for Sample Output

Romeo: $18^1 + 15^2 + 13^3 + 5^4 + 15^5 = 762\,440 \equiv 10 \pmod{10}$
Juliet: $10^1 + 21^2 + 12^3 + 9^4 + 5^5 + 20^6 = 64\,011\,865 \equiv 5 \pmod{10}$
Compatibility: $10 + 5 = 15$