CODECON

Memory Limit: 1024 MB
Time Limit: 5 s

Mystery Message (150 points)

Introduction

Matt manages the daily pantry treat selection. Every Monday he writes down that week's treat names on a public ledger for accounting purposes, but he doesn't want everyone to be able to tell what the treats are, otherwise there will be overcrowding.

As such, every week he picks a random number **X**, where **1 ≤ X ≤ 25**, and uses that in a Caesar cipher(https://en.wikipedia.org/wiki/Caesar_cipher (https://en.wikipedia.org/wiki/Caesar_cipher)) to encode the treat names. For example if **X = 9**, "Scones" becomes "Blxwnb". He then uses that **X** to encode that week's five treat names.

You want to know what the treat will be ahead of time, so you decide to write a program that will figure out what that week's **X** is. You wait until you find out what Monday's treat is and use that to help yourself figure out the other treats.

Input Specifications

Your program must read from STDIN:-

N lines, each containing a string that lists that week's treat names for each weekday, each name separated by a space. At the end of the line is Monday's treat, decrypted.

Output Specifications

Based on the input, print out the value of **X** for each week.

Sample Input/Output

Input

```
Zhssvaf Pbbxvrf Oernq Pubpbyngr Byvirf Muffins
```

Output

```
13
```

Explanation

We figure out that X is 13.

Input

```
Blxwnb Qdvvdb Yrn Hdv hdvb Scones
```

Output

```
9
```

Explanation

We figure out that X is 9.