

Contest Duration: 2025-04-27(Sun) 08:00 (<http://www.timeanddate.com/worldclock/fixedtime.html?iso=20250427T2100&p1=248>) - 2025-04-27(Sun) 09:40 (<http://www.timeanddate.com/worldclock/fixedtime.html?iso=20250427T2240&p1=248>) (local time) (100 minutes)

[Back to Home \(/home\)](/home)

[🏠 Top \(/contests/abc403\)](/contests/abc403)

[☰ Tasks \(/contests/abc403/tasks\)](/contests/abc403/tasks)

[❓ Clarifications \(/contests/abc403/clarifications\)](/contests/abc403/clarifications)

[🚀 Submit \(/contests/abc403/submit?taskScreenName=abc403\\_e\)](/contests/abc403/submit?taskScreenName=abc403_e)

[☰ Results ▼](#)

[🏆 Standings \(/contests/abc403/standings\)](/contests/abc403/standings)

[🏆 Virtual Standings \(/contests/abc403/standings/virtual\)](/contests/abc403/standings/virtual)

[🔧 Custom Test \(/contests/abc403/custom\\_test\)](/contests/abc403/custom_test)

[📖 Editorial \(/contests/abc403/editorial\)](/contests/abc403/editorial)

[💬 Discuss \(https://codeforces.com/blog/entry/142272\)](https://codeforces.com/blog/entry/142272)



# E - Forbidden Prefix

[Editorial \(/contests/abc403/tasks/abc403\\_e/editorial\)](/contests/abc403/tasks/abc403_e/editorial)

[🇯🇵 / 🇬🇧](#)

Time Limit: 2 sec / Memory Limit: 1024 MB

Score : 500 points

## Problem Statement

There are two multisets of strings,  $X$  and  $Y$ , both initially empty.

You are given  $Q$  queries to process in order. In the  $i$ -th query, you receive an integer  $T_i$  and a string  $S_i$ . If  $T_i = 1$ , insert  $S_i$  into  $X$ ; if  $T_i = 2$ , insert  $S_i$  into  $Y$ .

After processing each query, print this value:

- the number of strings in  $Y$  that have no element of  $X$  as a prefix.

## Constraints

- $Q$  is an integer between 1 and  $2 \times 10^5$ , inclusive.
- $T_i \in \{1, 2\}$
- Each  $S_i$  is a string of length between 1 and  $5 \times 10^5$ , inclusive, consisting of lowercase English letters.
- $\sum_{i=1}^Q |S_i| \leq 5 \times 10^5$

2025-04-27 (Sun)  
17:39:06 -04:00

## Input

The input is given from Standard Input in the following format:

```
Q
T1 S1
T2 S2
⋮
TQ SQ
```

## Output

Print  $Q$  lines. The  $i$ -th line ( $1 \leq i \leq Q$ ) should contain the count after processing the  $i$ -th query.

### Sample Input 1

[Copy](#)

```
4
1 at
2 watcoder
2 atcoder
1 wa
```

[Copy](#)

### Sample Output 1

[Copy](#)

```
0
1
1
0
```

[Copy](#)

The counts after processing the queries for  $i = 1, 2, 3, 4$  are as follows.

- $i = 1$ :  $Y$  is empty, so the count is 0.
- $i = 2$ : watcoder has no element of  $X$  as a prefix, so the count is 1.
- $i = 3$ : watcoder has no element of  $X$  as a prefix, while atcoder has at as a prefix, so the count is 1.
- $i = 4$ : watcoder has wa as a prefix, and atcoder has at as a prefix, so the count is 0.

### Sample Input 2

[Copy](#)

2025-04-27 (Sun)  
17:39:06 -04:00

```
10
1 w
1 avko
2 atcoder
1 bzginn
2 beginner
1 atco
2 contest
1 ntxcdg
1 atc
1 contest
```

## Sample Output 2

Copy

```
0
0
1
1
2
1
2
2
2
2
1
```

Copy

### Language

Python (CPython 3.11.4) ▼

### Source Code



Open File



Customize

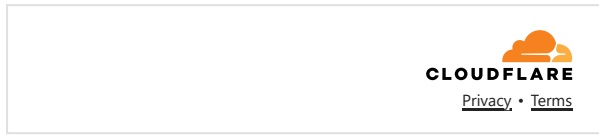
Toggle Editor

Auto Height

1 |

\* at most 512 KiB

\* Your source code will be saved as `Main.extension`.



Submit

'#telegram)

url=https%3A%2F%2Fatcoder.jp%2Fcontests%2Fabc403%2Ftasks%2Fabc403\_e%3Flang%3Den&title=E%20-

---

[Rule \(/contests/abc403/rules\)](/contests/abc403/rules) [Glossary \(/contests/abc403/glossary\)](/contests/abc403/glossary)

[Terms of service \(/tos\)](/tos) [Privacy Policy \(/privacy\)](/privacy) [Information Protection Policy \(/personal\)](/personal) [Company \(/company\)](/company)  
[FAQ \(/faq\)](/faq) [Contact \(/contact\)](/contact)

Copyright Since 2012 ©AtCoder Inc. (<http://atcoder.co.jp>) All rights reserved.

2025-04-27 (Sun)  
17:39:06 -04:00