

Problem B

The Journey of the King

You are very close to becoming the King of Games. The only thing left to do is to win in a card game against the incarnation of the King of Nusantara, *Anda*, whose soul resides inside you as your split personality.

Each player has a deck of cards, each card contains a word. **Within each deck**, there are no two cards containing the same word. There is also a dictionary consisting of D **distinct** words: $[W_1, W_2, \dots, W_D]$.

The game consists of N turns. In turn i , *Anda* will play a card with the word A_i . Then, you can either match his card with one of your remaining cards or skip this turn. Two cards, a and b , match if either the words $a + b$ or $b + a$ exist in the dictionary. The operator $+$ represents the concatenation operation. For instance, the concatenation of words AU and RA is $AU + RA = AURA$. Once you match a card, you cannot use that card for the rest of the game.

Your deck has M cards (numbered from 1 to M); card j contains word B_j . You want to maximize the number of turns in which you successfully match *Anda*'s card.

Input

The first line consists of an integer D ($1 \leq D \leq 200\,000$).

Each of the next D lines consists of a string W_k . String W_k consists of only uppercase English letters. The sum of length of W_k does not exceed 200 000. It is guaranteed that $W_k \neq W_{k'}$ for $1 \leq k < k' \leq D$.

The following line consists of an integer N ($1 \leq N \leq 100\,000$).

Each of the next N lines consists of a string A_i . String A_i consists of only uppercase English letters. The sum of length of A_i does not exceed 100 000. It is guaranteed that $A_i \neq A_{i'}$ for $1 \leq i < i' \leq N$.

The following line consists of an integer M ($1 \leq M \leq 100\,000$).

Each of the next M lines consists of a string B_j . String B_j consists of only uppercase English letters. The sum of length of B_j does not exceed 100 000. It is guaranteed that $B_j \neq B_{j'}$ for $1 \leq j < j' \leq M$.

Output

Output a single integer representing the maximum number of turns you match *Anda*'s card.

Sample Input #1

```
3
AURA
AURORA
LAURA
3
RA
REO
RORA
2
AU
LAU
```

Sample Output #1

```
2
```

Explanation for the sample input/output #1

During turn 1, you match RA with LAU to create LAURA.

During turn 2, you skip this turn.

During turn 3, you match RORA with AU to create AURORA.

Sample Input #2

```
3
HARTA
TAHTA
HARU
3
HAR
TAH
HA
3
TA
RU
ARU
```

Sample Output #2

```
2
```

Explanation for the sample input/output #2

During turn 1, you match HAR with TA to create HARTA.

During turn 2, you skip this turn.

During turn 3, you match HA with RU to create HARU.

Sample Input #3

```
1
AAA
3
A
AA
AAA
2
A
AA
```

Sample Output #3

```
2
```

Sample Input #4

```
1
INDONESIA
1
NATIONAL
1
CONTEST
```

Sample Output #4

```
0
```