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: $[W_1, W_2, \ldots, W_D]$.

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
```