

Problem A - Dictionary Compression

You are the editor of a new online dictionary. The language has many words. You know very good text compressing techniques based on replacing repeated pattern (e.g. LZ77). Your idea is to replace repeated prefixes in your dictionary by special characters to compress this multiple used prefix. Therefore, you need to know which prefixes are popular or unpopular in your dictionary.

Input

The input consists out of:

- One line with $1 \leq n \leq 100.000$ for the number of strings
- n lines with each one string, each string has 1 to 32 characters

Output

For each word, output an integer representing how many of the previous words began with or were equal to that word.

Sample Input 1	Sample Output 1
10	0
histories	0
adventure	0
history	2
his	1
ad	3
hi	1
advent	0
mouse	0
cat	3
his	