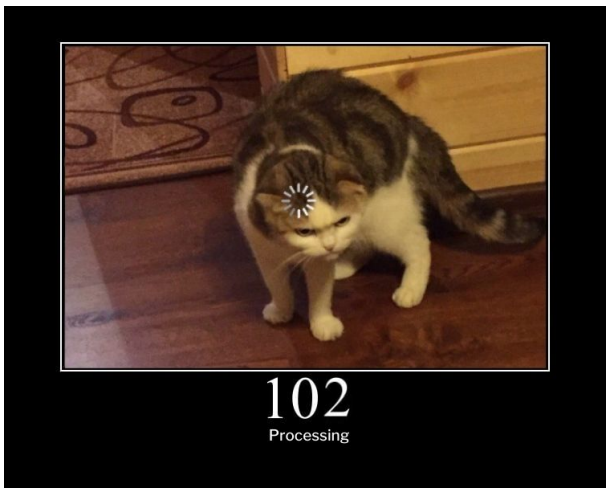
Meow SQL

Input file:	`standard input`
Output file:	`standard output`
Time limit:	1 second
Memory limit:	256 megabytes



Source: `https://http.cat/102`

Mewzammir is a database engineer. Due to a generator explosion caused by improper diesel measurements, all of Meow Corps compute servers have been taken down. While his coworker meows are busy applying for other jobs, Mewzammir decides his CV isn't strong enough and wants to boost his CV by processing all queries coming to the database manually.

Each query takes a number of computer power equal to the number of characters in the query. (This is not how real databases work.) In order to increase the efficiency of his work, Mewzammir will store the results of queries that he has already run into a cache. If a query arrives that he has already run before, he will use the result in the cache to answer the query which saves him compute power.

Queries in SQL do not care about capitalization. So two queries are requesting the same thing as long as they contain the same characters ignoring capitalization.

e.g. SELECT az FROM meow WHERE district='K L'; = select az from meow where district='k l';

Note that different inline spacing will result in different queries.

e.g. SELECT az FROM meow WHERE district = 'K L'; $\neq$ select az from meow where district='k l';

Mewzammir has an infinite amount of cache memory so he can cache an infinite amount of results.

As his previous benefactor, Juggernaut Meow, has gone into debt, Mewzammir must take out a loan to buy compute power from Meow Cloud Service. Help Mewzammir calculate how much compute power he will need to process all the queries.

Input

The first line of input contains an integer, $N(1 \leq N \leq 10^5)$ — the number of queries Mewzammir has to process.

The subsequent N lines contain a string with maximum length of 100 characters each, containing the i^{th} query.

Output

Output a single integer, the amount of compute power required to process all the queries.

Example

standard input	standard output
6 SELECT a FROM meow; select b from meow; select a from meow; DELETE FROM WOOF WHERE district = 'Batu Pahat'; drop table meow; select B from meow;	101

Note

The 1st and 2nd query costs 19 compute.

The 3rd query can be retrieved from cache.

The 4th query costs 47 compute.

The 5th query costs 16 compute.

The 6th query can be retrieved from cache.

The total compute is $19 + 19 + 47 + 16 = 101$