Problem D. Faulty Keyboard

Input file:	*standard input*
Output file:	*standard output*
Time limit:	2 seconds
Memory limit:	256 mebibytes

Little Polina is learning to type fast using a computer keyboard. She decided to type the English translation of "War and Peace", in order to become the fastest typist in English!

Currently, Polina is training to type without errors: although slowly so far, she presses the right keys in the right order, the right number of times. Polina is a very patient girl, but the keyboard can not stand the load. One of the keys responsible for the letters is faulty: each time Polina presses this key, with probability 50%, it is typed, and with probability 50%, it is not, independently of all previous presses. All other keys work perfectly so far. Surely, the letter can go missing as either uppercase or lowercase.

Polina finally wanted to ask "how to fix the keyboard key ..." to a search engine, but, coincidentally, the key just decided to ignore her a few times in a row. Then Polina wondered: can the piece of text she just typed on her faulty keyboard be used to learn which key works only about half the time?

Solve a generalized version of Polina's problem. Given a piece of text of the English translation of "War and Peace" where one of the English letters randomly disappeared from each position with probability 50%, find out which letter it was.

You can **download the whole text** for local use via the link supplied by the contest system. This text is taken from the site of Project Gutenberg and modified for its use in the problem. But during execution of your solution, it won't have access to the text. And the source code of a solution to this problem, as to any other, can be no longer than 262 144 bytes.

Input

The input consists of several lines. Some lines may start and end with a space. Blank lines may also be present.

Each test is generated as follows. First, we choose the letter ε which will disappear in about half the cases, and also some consecutive lines of the source text. After that, in each of these lines, each ε, be it uppercase or lowercase, disappears with a probability of 50% independently of all other such letters. Finally, if the resulting lines contain from 100 000 to 200 000 bytes, not counting the line breaks, these lines constitute a test.

Output

Print one line with one letter on it: the letter which disappears with a probability of 50%.

Example

standard input
prisoner?" each ws thinking. But the French officer was evidently more inclined to think he hd been tken prisoner because Pierre's strong ... (3125 more lines) ... their orderlies were to be seen. They were ll looking t the count nd
standard output
a

Note

Only a small part of the example is shown. The full example can be downloaded via the link supplied by the contest system.