Problem E: Frugal Search

Source file: `frugal.{c, cpp, java}`
Input file: `frugal.in`

For this problem you will write a search engine that takes a query, searches a collection of words, and finds the lexicographically smallest word that matches the query (*i.e.*, the matching word that would appear first in an English dictionary). A *query* is a sequence of one or more terms separated by single vertical bars ("|"). A *term* is one or more letters followed by zero or more signed letters. A *signed* letter is either *+s* ("positive" *s*) or *−s* ("negative" *s*), where *s* is a single letter. All letters are lowercase, and no letter will appear more than once within a term. A query will not contain spaces. A term matches a word if the word contains at least one of the unsigned letters, all of the positive letters, and none of the negative letters; a query matches a word if at least one of its terms matches the word.

Input: The input consists of one or more test cases followed by a line containing only "#" that signals the end of the input. Each test case consists of 1–100 words, each on a line by itself, followed by a line containing only "*" that marks the end of the word list, followed by one or more queries, each on a line by itself, followed by a line containing only "**" that marks the end of the test case. Each word will consist of 1–20 lowercase letters. All words within a test case will be unique. Each query will be as defined above and will be 1–79 characters long.

Output: For each query, output a single line containing the lexicographically smallest word *within that test case* that matches the query, or the word `NONE` if there is no matching word. At the end of each test case, output a dollar sign on a line by itself.

Example input:	**Example output:**
elk cow bat * ea acm+e nm+o|jk+l ** debian slackware gentoo ubuntu suse fedora mepis * yts cab-e+n r-e|zjq|i+t|vs-p+e-u-c ** #	bat NONE elk $ gentoo ubuntu NONE $

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