1542. Autocompletion

Time limit: 2.0 second
Memory limit: 64 MB

The Japanese are infinitely in love with machinery that surrounds them. They follow closely all technical innovations and try to use the most modern and clever of them. Den and Sergey have an ingenious plan: they want to create a text editor that will win the Japanese over. The most important feature of the editor will be the autocompletion function. If a user has typed first several letters of a word, then the editor will automatically suggest the most probable endings.

Den and Sergey have collected a lot of Japanese texts. For each Japanese word they counted the number of times it was found in the texts. For the first several letters entered by a user, the editor must show no more than ten words starting with these letters that are most commonly used. These words will be arranged in the order of decreasing encounter frequencies.

Help Sergey and Den to turn over the market of text editors.

Input

The first line contains the number of words found in the texts N ($1 \le N \le 10^5$). Each of the following N lines contains a word w_i and an integer n_i separated with a space, where w_i is a nonempty sequence of lowercase Latin letters no longer than 15 symbols, and n_i ($1 \le n_i \le 10^6$) is the number of times this word is encountered in the texts. The $(N + 2)$th line contains a number M ($1 \le M \le 15000$). In each of the next M lines there is a word u_i (a nonempty sequence of lowercase Latin letters no longer than 15 symbols), which is the beginning of a word entered by a user.

Output

For each of the M lines, output the most commonly used Japanese words starting with u_i in the order of decreasing encounter frequency. If some words have equal frequencies, sort them lexicographically. If there are more than ten different words starting with the given sequence, output the first ten of them. The lists of words for each u_i must be separated by an empty line.

Sample

input	output
5 kare 10 kanojo 20 karetachi 1 korosu 7 sakura 3 3 k ka kar	kanojo kare korosu karetachi kanojo kare karetachi kare karetachi

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