

## 630 Anagrams (II)

One of the preferred kinds of entertainment of people living in final stages of XX century is filling in the crosswords. Almost every newspaper and magazine has a column dedicated to entertainment but only amateurs have enough after solving one crossword. Real professionals require more than one crossword for a week. And it is so dull - just crosswords and crosswords - while so many other riddles are waiting out there. For those are special, dedicated magazines. There are also quite a few competitions to take part in, even reaching the level of World Championships. Anyway - a lot.

You were taken on by such a professional for whom riddle solving competing is just a job. He had a brilliant idea to use a computer in work not just to play games. Somehow anagrams found themselves first in the line. You are to write a program which searches for anagrams of given words, using a given vocabulary, tediously filled with new words by yours employer.

### Input

The structure of input data is given below:

```
<number of words in vocabulary>
<word 1>
.....
<word N>
<test word 1>
.....
<test word k>
END
```

<number of words in vocabulary> is an integer number  $N < 1000$ . <word 1> up to <word N> are words from the vocabulary. <test word 1> up to <test word k> are the words to find anagrams for. All words are lowercase (word END means end of data - it is NOT a test word). You can assume all words are not longer than 20 characters.

### Output

For each <test word> list the found anagrams in the following way:

```
Anagrams for: <test word>
<No>) <anagram>
.....
```

<No> should be printed on 3 chars.

In case of failing to find any anagrams your output should look like this:

```
Anagrams for: <test word>
No anagrams for: <test word>
```

### Sample Input

```
8
atol
lato
microphotographics
rata
rola
tara
tola
pies
tola
kola
aatr
photomicrographics
END
```

### Sample Output

```
Anagrams for: tola
  1) atol
  2) lato
  3) tola
Anagrams for: kola
No anagrams for: kola
Anagrams for: aatr
  1) rata
  2) tara
Anagrams for: photomicrographics
  1) microphotographics
```