
11. Words

Program Name: Words.java

Input File: words.dat

Words is a popular game that people play with others on their smart phones. Since you have been playing this game, you have found many lists of words that you can use to help you win. However, this is not the easiest way to find the word you need. One problem with your list is that the words are not in alphabetical order and they are written across the page with many words on the same line. Another problem is that when you need a word that, for example, has 5 letters and ends in the letter *n*, the list is hard to read. Since you already have a database of words, you are going to write a program that will create an alphabetical list of words that meet the criteria that you need at a given point in the game.

Input

The first line of input will contain a single integer *n* that indicates the number of lines of words in your “dictionary”. Each of the next *n* lines will contain an alphabetical list of words with a single space between words. The next line will contain a single integer *m* that indicates the number of lists that you will generate. Each of the next *m* lines will contain an integer *r*, $2 \leq r \leq 7$, that indicates the length of the word that you need and a space followed by the last letter of the word that you need.

Output

In alphabetical order and one word per line, you will print the words from your dictionary that meet the criteria input. Print NONE if there are no words that meet the criteria given. Print a blank line after each list.

Example Input File

```
12
BEEBEE BEEFED BEEPED BEEPER BEETLE BEEVES BEEZER BENDEE BESEEM
BEWEEP BREEZE CHEESE CREESE DECREE DEEDED DEEMED DEEPEN DEEPER
DEGREE DELETE EELIER EERIER EFFETE EKUELE ELEVEN EMCEED EMCEES
EMEERS EMERGE EMESES EMEUTE ENTRÉE EPEE GAGED GAGER GAGES GANGS
GAUGE GIGAS GIGHE GIGOT GIGUE GLOGG GLUGS GOGOS GOING GONGS
GORGE GOUGE GREGO GRIGS GROGS GULAG GURGE HOGGS JAGGS JAGGY
LEGGY LOGGY MIGGS MOGGY MUGGS MUGGY NAGGY NOGGS UREA UVEA ZOEAE
RAGGY SAGGY SOGGY VUGGS VUGGY WIGGY YEGGS AGOG EGGS EGGY GAGA
GAGE GAGS GANG GIGA GIGS GLEG GLUG GOGO GONG GRIG GROG HOGG JAGG
MIGG MUGG NOGG VUGG YEGG EGG GAG GIG BEE CEE DEE EEL EKE EME ERE
EVE EWE EYE FEE INBY INCH INFO INIA INKS INKY INLY INNS INRO
INTI INTO INK INN INS EAU AA AE AI OE RAIA ROUE
2
4 Z
5 Y
```

Example Output to Screen

```
NONE

JAGGY
LEGGY
LOGGY
MOGGY
MUGGY
NAGGY
RAGGY
SAGGY
SOGGY
VUGGY
WIGGY
```