Telephone keyboard input recognition
(IEEExtreme Programming Contest)

http://www.ieee.org/web/membership/students/scholarshipsawardscontests/ieeextreme.html

Value rank: 60

On a standard telephone, the numbers 1-9 can be used to correspond to a set of letters:

1: space	2: ABC	3: DEF	4: GHI	5: JKL
6: MNO	7: PQRS	8: TUV	9: WXYZ	

Using the keypad, you can 'spell' words by entering the digits that correspond to each letter of the word. For example, 'words' is spelled 96737.

INPUT

For this problem, we are given a dictionary with no more than 100,000 words, one per line, sorted in alphabetical order. Each word is comprised of no more than 18 characters, all lowercase letters from the phone keypad. After the words of the dictionary, there will be up to 1,000 strings of digits (from 2 to 9, *not* using 1 as space). Each of these strings of digits will be between 1 and 18 digits long. For example,

```
cappuccino
chocolate
cinnamon
coffee
latte
vanilla
22222
3333
626
```

OUTPUT

Your program should find the words in the dictionary whose spellings contain the string of consecutive digits anywhere within the word. For each of the strings of digits, your program should output according to the following table:
• If there are no matches, print the string 'No matches'
• If there is one match, print the matching word.
• If there are n>1 matches, print the string 'n matches:' followed by the matching words, one per line, in alphabetical order.

Place a blank line after each case. Thus, the correct output for the above input is

No matches

coffee

2 matches:
chocolate
cinnamon

NOTE: To make it easier to read the examples above, these are the 'spellings' of the dictionary words, in digits:

cappuccino: 2277822466
chocolate: 246265283
cinnamon: 24662666
coffee: 263333
latte: 52883
vanilla: 8264554