

3318 Multiple Choice

Fully Intensive Testing, FIT, a major testing company, gives many different multiple choice exams. They are known for questions which give a group of *options* and then a number of *answers*, each of which is a combination of the options. A sample question of this sort is:

- What does Florida have lots of?
- | | |
|----------------|------------------|
| I. Snow | a) I |
| II. Tourists | b) II |
| III. Mountains | c) IV |
| IV. Mosquitoes | d) I, IV, and II |
| | e) II and IV |
| | f) III |

Here, FIT intends the correct answer to be e), but some test takers have argued that b) is also correct, since Florida has lots of tourists. (A similar argument can be made by those selecting c).)

To clarify their questions, FIT has decided to add the word “only” after any answer that is a subset of another answer. So, since answer b) is included as a subset of answer d) (and also answer e)), it should be changed to read “II only”. Answer e) is a subset of answer d), so it should be changed to read “II and IV only”. The question above should be rewritten as:

- What does Florida have lots of?
- | | |
|----------------|-------------------|
| I. Snow | a) I only |
| II. Tourists | b) II only |
| III. Mountains | c) IV only |
| IV. Mosquitoes | d) I, IV, and II |
| | e) II and IV only |
| | f) III |

Input

The input to this program will be one or more questions. Each question will consist of a stem, a blank line, *opt* options, a blank line, *ans* answers, and a blank line, with ($1 \leq opt \leq 10$, $1 \leq ans \leq 26$). The parts of a question are defined as:

- A blank line is one with no characters except possibly spaces.
- The stem will be 1 or more non-blank lines of text.
- Each options will be numbered in order using only Roman numerals (I, II, III, IV, V, VI, VII, VIII, IX, and X). The number will be the first thing on the line. Any characters may follow the Roman numeral.

- Each answer will be numbered in order using consecutive lowercase letters starting at ‘a’, followed by a right parenthesis and a single space. Each answer will be either
 - a single Roman numeral,
 - a pair of two different Roman numerals, separated by the word ‘and’, with exactly one blank before and after the word.
 - a group of three or more different Roman numerals, where all except the last are followed immediately by a comma and a single blank and the last two are separated by the word ‘and’, with exactly one blank after the word.
- Each of the Roman numerals in the answers will be one of the numbers used to number options (so if there are just 8 options, the Roman numerals IX and X will not be in the answers).
- No two answers will represent the same set of options.

End of input will be marked by end of file.

Output

The output from this program will be the input file repeated with one blank and the word ‘only’ added to answers when the answer is a proper subset of another answer.

Sample Input

What does Florida have lots of?

- I. Snow
- II. Tourists
- III. Mountains
- IV. Mosquitoes

- a) I
- b) II
- c) IV
- d) I, IV, and II
- e) II and IV
- f) III

How is the contest so far?

- I. Challenging
- II. Fun

- a) I and II
- b) II
- c) I

Sample Output

What does Florida have lots of?

- I. Snow

- II. Tourists
- III. Mountains
- IV. Mosquitoes

- a) I only
- b) II only
- c) IV only
- d) I, IV, and II
- e) II and IV only
- f) III

How is the contest so far?

- I. Challenging
- II. Fun

- a) I and II
- b) II only
- c) I only