Easy Script

Reading English text is sometimes challenging. You read to the end of a line, then you have to jump back to the start of the next line to continue reading. It would be more efficient to alternate lines, so that one goes left-to-right and the next goes right-to-left. Of course, there is evidence that people read words as a whole, not one letter at a time. To take advantage of this, we'll keep the letters of each word in its left-to-right order. We'll define a word as a sequence of upper- and lower-case letters. When a line is reversed, the order of words, spaces and punctuation will be reversed, but the letters in each individual word will always remain in the usual left-to-right order. We'll call this new format for printing text Easy Script.

The first line of each Easy Script paragraph always goes in the usual left-to-right direction. After this, lines alternate between right-to-left and left-to-right. To make it easy to read, each line of text needs to start at a predictable location. We will justify our text so that left-to-right lines always start in the first column. Within a paragraph, right-to-left lines will all start in the same column. The starting column for the right-to-left lines should be as close to the left as possible while permitting all the right-to-left lines to fit. Also, when moving from a left-to-right line down to a subsequent right-to-left line, the reader should never have to look to the left for the start of the line; the right-to-left line should start either immediately below the end of the previous line or below and to the right.

Input

Input will consist of several paragraphs of text, each followed by a blank line. Paragraphs will contain spaces, and letters and other, non-whitespace characters. Anything that is not a space or a letter is considered punctuation. No lines begin or end with a space. Input will end at the end of file.

Output

For every input print out the paragraph in Easy Script. In justifying your text, you may add extra spaces to the start of lines, but you should not add extra space characters to the ends of lines. Print one blank line after each input paragraph.

Sample Input

My new way of writing text is
great. You can just keep reading
without having to go back to
the start of the line all the
time.

Are you kidding?! Reading like this is
kind of difficult. Sure, you can read
individual words O.K., but it's kind
of hard to follow the text when half
the lines go backward. Plus, I kind of
liked reading the 'old way'. It gave
me a chance to rest while my eyes
were going back to the start of a
line.

Sample Output

My new way of writing text is
reading keep just can You .great
without having to go back to
the all line the of start the
time.

Are you kidding?! Reading like this is
read can you ,Sure .difficult of kind
individual words O.K., but it's kind
half when text the follow to hard of
the lines go backward. Plus, I kind of
gave It .'way old' the reading liked
me a chance to rest while my eyes
a of start the to back going were
line.