

Problem 2 - Mirror words

Problem for exam preparation for the [Programming Fundamentals Course @SoftUni](#).

Submit your solutions in the SoftUni judge system at <https://judge.softuni.org/Contests/Practice/Index/2307#1>.

The SoftUni Spelling Bee competition is here. But it's not like any other Spelling Bee competition out there. It's different and a lot more fun! You, of course, are a participant, and you are eager to show the competition that you are the best, so go ahead, learn the rules and win!

On the first line of the input, you will be given a **text string**. To win the competition, you have to find all hidden **word pairs**, read them, and mark the ones that are **mirror images** of each other.

First of all, you have to **extract the hidden word pairs**. Hidden word pairs are:

- Surrounded by "@" or "#" (only one of the two) in the following pattern **#wordOne##wordTwo#** or **@wordOne@@wordTwo@**
- At least **3 characters long each (without the surrounding symbols)**
- Made up of **letters only**

If the second word, **spelled backward**, is the **same as the first word and vice versa (casing matters!)**, they are a **match**, and you have to store them somewhere. **Examples** of mirror words:

#Part##traP# @level@@Level@ #sAw##wAs#

- If you don't find any valid pairs, print: **"No word pairs found!"**
- If you find valid pairs print their count: **"{valid pairs count} word pairs found!"**
- If there are no mirror words, print: **"No mirror words!"**
- If there are mirror words print:

"The mirror words are:

{wordOne} <=> {wordtwo}, {wordOne} <=> {wordtwo}, ... {wordOne} <=> {wordtwo}"

Input / Constraints

- You will receive a string.

Output

- Print the proper output messages in the proper cases as described in the problem description.
- If there are pairs of mirror words, print them in the end, each pair separated by ", ".
- Each pair of mirror word must be printed with " <=> " between the words.

Examples

Input		
@mix#tix3dj#po0l##loOp#wl@@bong&song%4very\$long@thong#Part##traP##@level@@Level@##car#rac##tu@pack@@ckap@rr#sAw##wAs#r#@w1r		
Output	Comments	

<p>5 word pairs found!</p> <p>The mirror words are:</p> <p>Part <=> traP, level <=> Level, sAw <=> wAs</p>	<p>There are 5 green and yellow pairs that meet all requirements and thus are valid.</p> <p>#poOl##loOp# is valid and looks very much like a mirror words pair, but it isn't because the casings don't match.</p> <p>#car#rac# "rac" spelled backward is "car", but this is not a valid pair because there is only one "#" between the words.</p> <p>@pack@@ckap@ is also valid, but "ckap" backward is "palc" which is not the same as "pack", so they are not mirror words.</p>
Input	
#po0l##l0op# @bAc##cAB@ @LM@ML@ #xxxXxx##xxxXxx# @aba@@ababa@	
Output	Comments
<p>2 word pairs found!</p> <p>No mirror words!</p>	<p>"xxxXxx" backward is not the same as "xxxXxx"</p> <p>@aba@@ababa@ is a valid pair, but the word lengths are different - these are definitely not mirror words</p>
Input	
#lol#lol# @God@@doG@# #abC@@Cba# @Xyu@#uyX#	
Output	Comments
<p>No word pairs found!</p> <p>No mirror words!</p>	

JS Examples

Input	
<pre>['@mix#tix3dj#po0l##loOp#wl@@bong&song%4very\$long@thong#Part##traP##@level@Level@## car#rac##tu@pack@@ckap@#rr#sAw##wAs#r#@w1r']</pre>	
Output	Comments

<p>5 word pairs found!</p> <p>The mirror words are:</p> <p>Part <=> traP, level <=> Level, sAw <=> wAs</p>	<p>There are 5 green and yellow pairs that meet all requirements and thus are valid.</p> <p>#poOl##loOp# is valid and looks very much like a mirror words pair, but it isn't because the casings don't match.</p> <p>#car#rac# "rac" spelled backward is "car", but this is not a valid pair because there is only one "#" between the words.</p> <p>@pack@@ckap@ is also valid, but "ckap" backward is "palc" which is not the same as "pack", so they are not mirror words.</p>
Input	
['#po0l##l0op# @bAc##cAB@ @LM@ML@ #xxxXxx##xxxXxx# @aba@@ababa@']	
Output	Comments
<p>2 word pairs found!</p> <p>No mirror words!</p>	<p>"xxxXxx" backward is not the same as "xxxXxx"</p> <p>@aba@@ababa@ is a valid pair, but the word lengths are different - these are definitely not mirror words</p>
Input	
['#l0l#l0l# @#God@@doG@# #abC@@Cba# @Xyu@#uyX#']	
Output	Comments
<p>No word pairs found!</p> <p>No mirror words!</p>	