## Problem 2 - Mirror words

Problem for exam preparation for the [Programming Fundamentals Course @SoftUni](https://softuni.bg/courses/programming-fundamentals-csharp-java-js-python).

Submit your solutions in the SoftUni judge system at [https://judge.softuni.org/Contests/Practice/Index/2307#1](https://judge.softuni.org/Contests/Practice/Index/2307" \l "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 recive 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#poOl##loOp#wl@@bong&song%4very$long@thong#Part##traP##@@leveL@@Level@##car#rac##tu@pack@@ckap@#rr#sAw##wAs#r#@w1r | |
| **Output** | **Comments** |
| 5 word pairs found!  The mirror words are:  Part <=> traP, leveL <=> Level, sAw <=> wAs | There are 5 green and yellow pairs that meet all requirements and thus are valid.  #poOl##loOp# is valid and looks very much like a mirror words pair, but it isn`t because the casings don`t match.  #car#rac# "rac" spelled backward is "car", but this is not a valid pair because there is only one "#" between the words.  @pack@@ckap@ is also valid, but "ckap" backward is "pakc" which is not the same as "pack", so they are not mirror words. |
| **Input** | |
| #po0l##l0op# @bAc##cAB@ @LM@ML@ #xxxXxx##xxxXxx# @aba@@ababa@ | |
| **Output** | **Comments** |
| 2 word pairs found!  No mirror words! | "xxxXxx" backward is not the same as "xxxXxx"  @aba@@ababa@ is a valid pair, but the word lengths are different - these are definitely not mirror words |
| **Input** | |
| #lol#lol# @#God@@doG@# #abC@@Cba# @Xyu@#uyX# | |
| **Output** | **Comments** |
| No word pairs found!  No mirror words! |  |