Hangman

Input file:	`mosa.in`
Output file:	`stdout`
Time limit:	15 seconds
Memory limit:	1024 megabytes

Ahmed Adel Badr Mohamed El=Sayed, Marwan Mostafa Fahmy Naggar and Mohamed Ossama Saleh Ahmed (AKA Badr, Marwan and Mosa are contestants in Bugs Factory team that qualified to ACM=ICPC World Finals in Ekaterinburg, Russia 2014, and the first two are interns in Facebook) were playing with each other hangman. Hangman is a paper and pencil guessing game. One player thinks of a word and the other tries to guess it by suggesting letters. The word to guess is represented by a row of dashes, giving the number of letters. If the guessing player suggests a letter, which occurs in the word, the other player writes it in all its correct positions. If the suggested letter does not occur in the word, the other player draws one element of the hanged man stick figure.

The following example game illustrates a player trying to guess the word hangman.

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+====================+====================+====================+====================+
|Word:  * * * * * * * |Word:  * * * * * * * |Word:  * * * * * * * |Word:  * A * * * A * |
|Guess: E             |Guess:               |Guess: A             |Guess: O             |
|Misses:              |Misses: e            |Misses: e            |Misses: e            |
|  +===+              |  +===+              |  +===+              |  +===+              |
|  |   |              |  |   |              |  |   |              |  |   |              |
|      |       0      |  O   |      1       |  O   |     2        |  O   |    3         |
|      |              |      |              |  |   |              |  |   |              |
|      |              |      |              |      |              |      |              |
|      |              |      |              |      |              |      |              |
|=======              |=======              |=======              |=======              |
+====================+====================+====================+====================+
|Word:  * A * * * A * |Word:  * A * * * A * |Word:  * A * * * A * |Word:  * A N * * A N |
|Guess: I             |Guess: S             |Guess: N             |Guess: H             |
|Misses: e,o          |Misses: e,i,o        |Misses: e,i,o,s      |Misses: e,i,o,s      |
|  +===+              |  +===+              |  +===+              |  +===+              |
|  |   |              |  |   |              |  |   |              |  |   |              |
|  O   |      4       |  O   |      5       |  O   |      6       |  O   |     7        |
| /|   |              | /|\  |              | /|\  |              | /|\  |              |
|      |              |      |              | /    |              | /    |              |
|      |              |      |              |      |              |      |              |
|=======              |=======              |=======              |=======              |
+====================+====================+====================+====================+
|Word:  H A N * * A N |Word:  H A N * * A N |
|Guess: R             |Guess:               |
|Misses: e,i,o,s      |Misses: e,i,o,r,s    |
|  +===+              |  +===+              |
|  |   |              |  |   |              |
|  O   |     8        |  O   |    9         |
| /|\  |              | /|\  |              |
| /    |              | / \  |              |
|      |              |      |              |
|=======              |=======              |
+====================+====================+
Guesser loses =  the answer was HANGMAN.
```

The game is over when:

1. The guessing player completes the word, or guesses the whole word correctly.

2. The other player completes the diagram.

Mosa told them enough playing let's start training, but Badr and Marwan challenged him to write a program to simulate the game of Hangman: Given the secret word of hangman and the sequence of guessed letters, it outputs the final state of hangman using ASCII art as shown in the diagrams above. Can you help Mosa write this program?

Input

Your program will be tested on one or more test cases. The first line of the input will be a single integer **T**, the number of test cases ($1 \leq \mathbf{T} \leq 100$). Each test case consists of two lines. The first line is the word itself with length **A** ($7 \leq \mathbf{A} \leq 20$). The second line is the sequence of guessed characters with length **B** ($1 \leq \mathbf{B} \leq 100$). Input consists only of lowercase alphabets. It's guaranteed that the string of guessed characters doesn't continue after the game ends.

Output

Follow the output format in the output section. Separate between test cases by empty line

Examples

mosa.in	stdout
2 hangman cbnahe entkhbo el	+=====================+ |Word: h a n * * a n | |Misses: c,b,e | | +===+ | | | | | | O | | | /| | | | | | | | | |======= | +=====================+ +=====================+ |Word: e * * * * * * | |Misses: l | | +===+ | | | | | | O | | | | | | | | | | | |======= | +=====================+