Problem 6—Wordle

Oppie has always been fascinated by 5-letter words. Words like BLAST or GAMMA or DEATH. It's only natural that Oppie would be drawn to that popular word game Wordle. In the game of Wordle, one player chooses a 5-letter word, and the other player guesses words until they get the correct word or they have used six guesses. Each letter in the guess is graded. It is graded GREEN if that letter is an exact match in both position and value to a letter in the correct word. It is graded YELLOW if the letter matches value (but not position) to a previously unmatched letter in the correct word. It is graded BLACK if it does not match value to a previously unmatched letter in the correct word. After the GREEN letters have been determined in the guess, the YELLOW letters are computed specifically from left to right in the guess.

For example, if the correct word is BERRY, and the guess is BRIAN, the grade would be GYBBB. The B in BRIAN exactly matches the B in BERRY, so that's GREEN. The R matches one of the R's in BRIAN (in value) so that's YELLOW. The I, A, and N don't match anything so they are BLACK.

On the other hand, if the correct word is BRIAN, and the guess is BERRY, the grade would be GBYBB. The B in BERRY matches the B in BRIAN so that is GREEN. The first R in BERRY matches the R in BRIAN, so that is YELLOW. The second R in BERRY doesn't match any unmatched letter in BRIAN (since the R has already been matched), so the second R is rated BLACK. The E and Y are also rated BLACK since they match nothing.

Given a dictionary of valid words, and a list of guesses and grades, you are to determine all possibilities for the correct answer.

INPUT SPECIFICATION. The input file begins with a dictionary. There is only one dictionary, and this will be used for all data cases. The dictionary will begin with an unsigned positive decimal integer representing the number of words n in the dictionary, followed by **<EOLN>**, and then n five-letter words, each followed by **<EOLN>**. The last word in the dictionary will be followed by an extra **<EOLN>**. The data cases follow the dictionary. Each data case begins with an unsigned positive decimal integer g representing the number of guesses made, followed by **<EOLN>**. There will then follow g guess/grade combinations, in the form of *guess***<EOLN>***grade***<EOLN>**. "0**<EOLN>**" will follow the last data case. It is not to be processed.

OUTPUT SPECIFICATION. The output cases should be processed in the same order as their respective input cases. Each output case should begin with "Case c:**<EOLN>**" where c is the case number. Following this, there should appear each possibility for the correct word, in the same order in which they appear in the dictionary, each followed by **<EOLN>**. An extra **<EOLN>** should follow the each output case. It is possible that no words match the grading.

SAMPLE INPUT.		SAMPLE OUTPUT.
	YBBBB**<EOLN>**	
	0**<EOLN>**	
2**<EOLN>**	**<EOF>**	Case·1:**<EOLN>**
HARRY**<EOLN>**		FRUIT**<EOLN>**
FRUIT**<EOLN>**		**<EOLN>**
<EOLN>		Case·2:**<EOLN>**
1**<EOLN>**		FRUIT**<EOLN>**
FRUIT**<EOLN>**		**<EOLN>**
GGGGG**<EOLN>**		Case·3:**<EOLN>**
1**<EOLN>**		HARRY**<EOLN>**
DOGGY**<EOLN>**		FRUIT**<EOLN>**
BBBBB**<EOLN>**		**<EOLN>**
1**<EOLN>**		**<EOF>**
ROLLO**<EOLN>**		