Problem 5—Scrabble

Arthur Dent is never bored as he travels throughout the galaxy on the *Heart of Gold* because he brought his pocket Scrabble set with him in the pocket of his dressing gown. Scrabble is a game played by assigning point values to letters. The point values are as follows:

(1 point)-A, E, I, O, U, L, N, S, T, R;
(2 points)-D, G; (3 points)-B, C, M, P;
(4 points)-F, H, V, W, Y;
(5 points)-K;
(8 points)- J, X;
(10 points)-Q, Z

For this problem, we're not playing the entire game of Scrabble on the board with tiles (and the blank tiles play no part in this problem). Given a group of letters, you are to find the highest-scoring word that can be found from those letters.

INPUT SPECIFICATION, The input file begins with an unsigned decimal integer followed by **<EOLN>** representing the number of words in the Scrabble dictionary. Then the words in the dictionary follow, one per line, each followed by **<EOLN>**. After the dictionary words follow the various data cases, one per line, each followed by **<EOLN>**. Each data case is a collection of Scrabble tiles (the letters A-Z) not separated by spaces or anything else. The last line in the file is the last data case. The data ends at **<EOF>**.

OUTPUT SPECIFICATION. The output cases should be processed in the same order as their corresponding input cases. Each output case is "Case *cs*: *word*" where *cs* is the case number and *word* is the highest scoring word that can be selected from the tiles in the input case. In the event that more than one word ties for highest score, the alphabetically first word is the word that should be selected. Each output case should be followed by **<EOLN><EOLN>**. It will *always* be possible to make at least one valid word from the tiles, so don't worry about that.

SAMPLE INPUT.

4**<EOLN>**
DOG**<EOLN>**
CAT**<EOLN>**
BAT**<EOLN>**
RAT**<EOLN>**
GOD**<EOLN>**
CGAOTD**<EOLN>**
TARCB**<EOLN>**
<EOF>

SAMPLE OUTPUT.

Case·1:·DOG**<EOLN>**
<EOLN>
Case·2:·CAT**<EOLN>**
<EOLN>
Case·3:·BAT**<EOLN>**
<EOLN>
<EOF>