

**Coding Arena**

Time Left

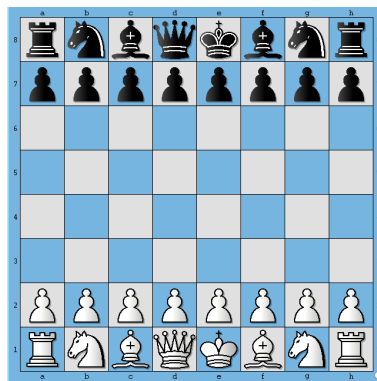
**05 22 05**  
 hr min sec

A B C D E F G H

**Problem : Mate In One****Background**

A Chess board position is accurately captured by Forsyth-Edwards notation and is abbreviated as FEN. A FEN "record" defines a particular game position, all in one line of text and using only the ASCII character set. A FEN record consists of six fields. A complete description of the FEN format to represent Chess positions can be found [here](#)

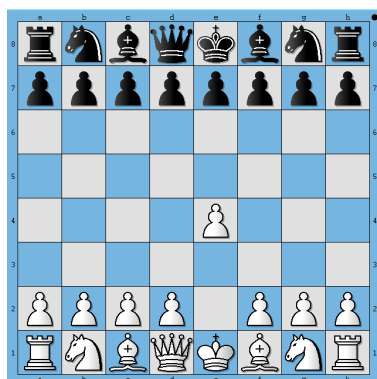
For the purpose of this problem, only consider first of the six fields of FEN. Before we describe the problem, let us look at how FEN maps to a board position. The following 5 images show board positions and its corresponding FEN representation.

**Rules & Regulations****Launch Code Editor****Figure 1.**

This board position depicts initial position before any side has made a move. In FEN format this board position is represented as

```
rnbgkbnr/pppppppp/8/8/8/PPPPPPPP/RNBQKBNR
```

Let's say, White plays e4. Then the board position looks like shown below

**Figure 2.**

This board position depicts the Chess board after White has played e4. In FEN format this board position is represented as

```
rnbgkbnr/pppppppp/8/8/4P3/PPPP1PPP/RNBQKBNR
```

Similarly, 3 more half-moves are depicted in following diagrams

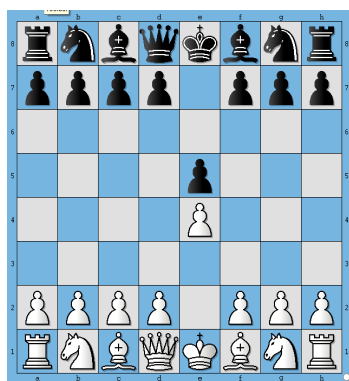


Figure 3.



Figure 4.

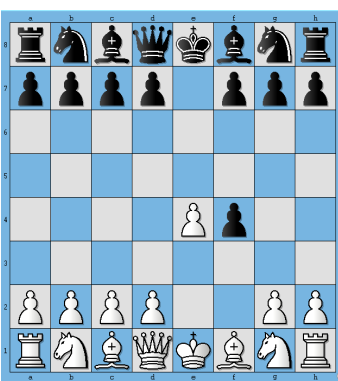


Figure 5.

The FENs corresponding to Figure 3, 4 and 5 are represented as

3. rnbqkbnr/pppp1ppp/8/4p3/4P3/8/PPPP1PPP/RNBQKBNR
4. rnbqkbnr/pppp1ppp/8/4p3/4PP2/8/PPPP2PP/RNBQKBNR
5. rnbqkbnr/pppp1ppp/8/8/4Pp2/8/PPPP2PP/RNBQKBNR

#### Wikipedia describes first field of FEN format as follows

Piece placement (from white's perspective). Each rank is described, starting with rank 8 and ending with rank 1; within each rank, the contents of each square are described from file "a" through file "h". Following the [Standard Algebraic Notation](#) (SAN), each piece is identified by a single letter taken from the standard English names (pawn = "P", knight = "N", bishop = "B", rook = "R", queen = "Q" and king = "K"). [1] White pieces are designated using upper-case letters ("PNBRQK") while black pieces use lowercase ("pnbrqk"). Empty squares are noted using digits 1 through 8 (the number of empty squares), and "/" separates ranks

#### Statement

Given a board position in FEN format, your task is to find out all move(s) that lead to a forced mate. White to play and win in 1 move.

#### Input Format:

1. First line contains single FEN record, which corresponds to a particular board position
2. Second line contains -1 which indicates the end of input

#### Output Format:

1. The output must be printed as follows
  - a. A string "Mating moves " followed by "[<move format>]"
  - b. Where <move format> is move represented in format "[Piece][fromSquare]-[Piece][toSquare]"
  - c. If a mating move involves a capture then represent it as "[Piece][fromSquare]-[Piece]x[toSquare]"
  - d. If the Piece inflicting a mate is a pawn represent it only as [fromSquare]-[toSquare]
  - e. If there is more than one mating move, then follow the rules given below
    - i. Moves must be sorted alphabetically according to their ascii values
    - ii. Two moves must be separated by a comma followed by a white space characters
    - iii. Between the last move and terminating "]" character there should be no space or comma
2. See Example section for better understanding of output format

#### Constraints:

1. The board position will always be White to move and mate in 1
2. Since we focus on only first part of the FEN, we are essentially ignoring possibility of Castling being a mating move. **Hence our test cases don't contain FENs which give rise to such positions.**
3. There is no need to handle [En Passant](#) positions. There are no test cases involving *En Passant* moves.
4. No need to implement [pawn promotion](#) rules. Our test cases do not contain positions which will lead to a pawn getting promoted and inflicting a mate.
5. There are no test cases in which capture by a white pawn leads to a mate.

#### Sample Input and Output

SNo.	Input	Output
1	3k4/8/3p4/7B/3Q4/2R1R3/8/5K2 -1	Mating moves [Qd4-Qxd6]
2	8/R7/3k4/8/2Q1P1B1/8/8/2K1R3 -1	Mating moves [Qc4-Qc7, Qc4-Qd5, e4-e5]

**Explanation:**

**Board position for sample input 1:**

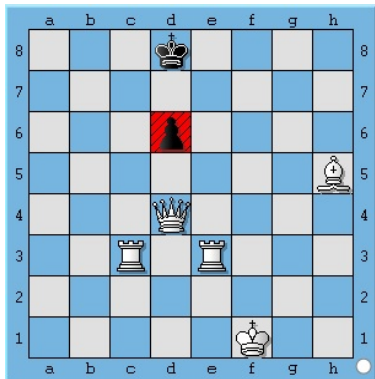


Figure 6.

**Board position for sample input 2:**

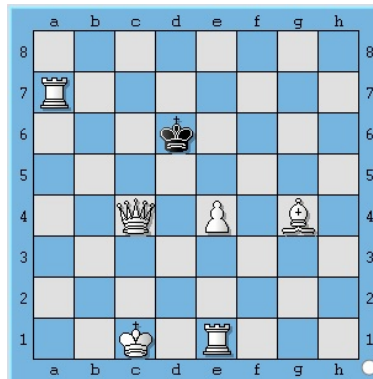


Figure 7.

**Note:**

Please do not use package and namespace in your code. For object oriented languages your code should be written in one class.

**Note:**

Participants submitting solutions in C language should not use functions from <conio.h> / <process.h> as these files do not exist in gcc

**Note:**

For C and C++, return type of main() function should be int.

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