

Problem C. Chess

Input file: `input.txt`
Output file: `output.txt`
Time limit: 2 seconds
Memory limit: 256 mebibytes

Your task is to determine for a given chess position if white are in check, white king is checkmated, there is a stalemate or nothing from this list is true.

It is guaranteed that:

1. There are no pawns on the chessboard.
2. There is exactly one white and exactly one black king.
3. White king has already made some moves and black king is not in check.
4. White is next to move.
5. Existence of sequence of moves which leads from initial chess position to the given one is **not guaranteed**.

Input

The first line contains one integer k ($1 \leq k \leq 50$), the number of game positions.

Then k descriptions of the positions follow. Each description starts with a blank line. After that follow 8 lines of 8 characters each, where '.' denotes an empty square, 'N' a white knight, 'B' a white bishop, 'R' a white rook, 'Q' a white queen, and 'K' a white king. Letters 'n', 'b', 'r', 'q' and 'k' denote black knight, bishop, rook, queen and king respectively.

Output

For each position, print the answer on a separate line. If the white king is in checkmate or stalemate, print "checkmate" or "stalemate" respectively. If white is in check, but not in checkmate, print "check". Otherwise, print "ok".

Example

<code>input.txt</code>	<code>output.txt</code>
2 RNBKQBNR rnbkqbnr K.....rr.k	ok checkmate