

# I: Puzzle

|   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| <p>You are given a board with a partially completed puzzle that has only one missing piece. You are also given a single puzzle piece. Your goal is to determine whether the given piece will complete the puzzle by filling all positions. You may not rotate or flip the given piece. Suppose the existing board looks like the one on the right, with four empty positions:</p> | <table border="1"> <tr><td>X</td><td>X</td><td>X</td><td>X</td><td>X</td></tr> <tr><td>X</td><td>X</td><td>.</td><td>.</td><td>X</td></tr> <tr><td>X</td><td>.</td><td>.</td><td>X</td><td>X</td></tr> <tr><td>X</td><td>X</td><td>X</td><td>X</td><td>X</td></tr> <tr><td>X</td><td>X</td><td>X</td><td>X</td><td>X</td></tr> </table> | X | X | X | X | X | X | X | . | . | X | X | . | . | X | X | X | X | X | X | X | X | X | X | X | X |
| X   | X   | X | X | X |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |
| X   | X   | . | . | X |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |
| X   | .   | . | X | X |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |
| X   | X   | X | X | X |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |
| X   | X   | X | X | X |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |
| <p>Next, suppose the given puzzle piece looks like the one shown to the right. Because this piece cannot be rotated and matched to the pattern of empty positions in the board, the program would print "NO".</p>   | <table border="1"> <tr><td>X</td><td>.</td></tr> <tr><td>X</td><td>X</td></tr> <tr><td>.</td><td>X</td></tr> </table>   | X | . | X | X | . | X |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |
| X   | .   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |
| X   | X   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |
| .   | X   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |
| <p>On the other hand, if the given puzzle piece were the one shown on the right, the answer would be "YES".</p>   | <table border="1"> <tr><td>.</td><td>X</td><td>X</td></tr> <tr><td>X</td><td>X</td><td>.</td></tr> </table>   | . | X | X | X | X | . |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |
| .   | X   | X |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |
| X   | X   | . |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |

## Input

Input consists of several test cases. The first line contains T, the number of test cases. On the following lines, each test case will start with two integers H and W, the height and width, respectively, of the board. This is followed by H lines, each containing one row of the board. Each board position contains (.) if the square is empty, or (X) if it is occupied. Next is a line containing two integers N and M, the height and width respectively, of the missing piece. Next, N lines follow, each with M characters describing the missing puzzle piece, using the same notation as the board. Constraints:  $1 \leq N, M \leq 1000$ , and  $N \leq H \leq 2000$ , and  $M \leq W \leq 2000$ .



## Output

Print 'YES' if the piece completes the puzzle. Otherwise print 'NO'

| Sample Input   | Sample Output                       |
|--|-------------------------------------|
| <pre> 2 4 6 xxx.xx ...xx xx.xxx xxxxxx 3 4 ..x. xxxx ...x 5 5 xxxxx xx..x x..xx xxxxx xxxxx 2 3 .xx xx.                 </pre> | <pre> NO YES                 </pre> |