Title: Queens

Problem Statement:

Timmy is playing chess with his brother, Jimmy. Unfortunately, both of them do not know the rules of chess, except the fact that the queen piece can move and attack horizontally, vertically or diagonally from its own position. They decide to play on a n x n chessboard.

Jimmy has initially placed m queens on the board, with none of them attacking each other. Timmy needs to place the remaining n-m queens on the board such that no queens attack each other. Help him find out whether it is possible to do so.

Input:

On the first line, 2 space separated integers, n and m. (1 <= n <= 12) (0 <= m < n).

The next n lines contain either **“.”** or **“Q”**, which represents either an empty space or a queen, respectively.

Output:

In a single line, output “true” if Timmy is able to place the remaining queens. Otherwise, output “false”.

Examples:

Sample Input 1:

```
4 1
Q...
....
....
....
```

Sample Output 1:

```
false
```

Sample Input 2:

```
4 1
....
...Q
....
....
```

Sample Output 2:

```
true
```

Explanation:

For Sample Input 1, it is not possible for Timmy to place the remaining 3 queens such that they do not attack each other.

For Sample Input 2, Timmy can place the queens in this way:

```
.Q..
...Q
Q...
..Q.
```