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Help Mr. Blobsworth Be A Star!





by wre01

Problem

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Help Mr. Blobsworth go from being just a small town blob to a world wide star. His master plan for accomplishing this is to win the Olympic gold medal for wriggling. Wriggling is a sport which involves contorting ones body to move quickly through a narrow maze to reach a goal. Fortunately, Mr. Blobsworth, being an amorphous blob, is a natural born wriggler. A particular wriggling course can be represented as an n by n grid, of which Blobsworth's body takes up m squares. Blobsworth body can take on any shape, so long as his body remains connected through adjacent grid cells (diagonals don't count).

Mr. Blobsworth measures time in blips and has two moves: sliding and stretching. Sliding takes one blip and translates every cell of Blobsworth's body up, down, left or right. For example, if Blobsworth body looks like

He can slide to

Stretching takes Blobsworth two blips and involves moving one square of his body so that his whole body remains connected. This allows Blobsworth to change his shape and move around tight corners. For example, if Blobsworth's body looks like

He can stretch to

	or or	
B_	B_	_B
B_	_BB_	_BB_
B_		

Input Format

The first lines contains n and the second line contains m. The next n lines each have n characters corresponding to the grid of a particular wriggling course. The character "_" denotes an empty cell. The chacter "B" denotes a cell in which Blobsworth's body starts. The character "*" denotes a cell which contains an obstacle. The character "G" denotes the goal cell.

Constraints

```
1 \le n \le 10
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$$1 \le m \le 10$$

Output Format

The output should be a single line, which contains the minimum number of blips in which Blobsworth can reach his goal.

Sample Input 0

5 3 BB___ _B__ _****

Sample Output 0

13

Explanation 0

The following link shows shortest sequence which brings Mr. Blobsworth to the goal, along with corresponding time in blips

Pastebin Link

Sample Input 1

5 1 B____ ----------G

Sample Output 1

8



Submissions: 0 Max Score: 100 Difficulty: Hard

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