Meow Does Not Dream of Killer Bunny Senpai

Input file:	`standard input`
Output file:	`standard output`
Time limit:	3 seconds
Memory limit:	256 megabytes

Once upon a time, there was a kingdom full of musical cats that just played covers of popular songs all day. The urban planner for the kingdom modeled the geography of the kingdom using a tessellation (A tiling of a flat surface covering a plane using one or more geometric shapes, called tiles, with no overlaps and no gaps.) of hexagons. Because hexagons are the bestagons. To protect the musical cats from unwanted invasion, an outer wall was built around the kingdom.

The days passed and the cats played their covers much to the amusement of their online fanbase. That was until the killer bunny order attacked. The killer bunny order, envious of the musical cats' success, parachute into the kingdom with chainsaws, hoping to destroy all the cats' musical instruments.

However, all is not lost. Due to an old prophecy passed down in the killer bunny order, they cannot go near someone if they are playing bongos. The musical cats decide that they will protect themselves by playing bongos to ward off the killer bunny order. However, as they still need to keep producing other music, they would like to commit the least amount of bongo cats while still protecting them all.

The killer bunnies can only traverse to a hexagon tile that touches one of the sides of the hexagon tile they are currently standing on. The killer bunnies cannot traverse into a hexagon tile containing a bongo cat.

Determine the least number of bongo cats required to protect all the musical cats.

Input

The first line of input contains two integers, $R, C (1 \leq R, C \leq 1000)$, the number of rows in the tessellation and the number of hexagon tiles in each row respectively.

The following R lines each contain a string of C characters, denoting what is on the tile. Each character is one of the following: m,b or '.'.

'm' denotes the presence of a musical cat, 'b' denotes the presence of a killer bunny, and '.' denotes an empty tile.

Output

Output a single integer, the least number of bongo cats required to protect all the musical cats.

Example

standard input	standard output
6 6 ..... .m.b.. ..mmm. b.m.mm ..mmm. m.....	10

Note

In the sample test case, only 1 of the musical cats does not need to play the bongo. The other 10 are required to keep all the musical cats protected.