maybe you'll be the first?

easy normal hard extreme

easy normal hard extreme

Add

Implementation difficulty

Recommend!

Own tags

Tag name

Concept difficulty

simple mathematical skill to determine what minimum strength he needs to start with to collect the Sorcerer's Stone. Please help him once again.

## Input

The first line contains the number of test cases T. T cases follow. Each test case consists of R C in the first line followed by the description of the grid in R lines, each containing C integers. Rows are numbered 1 to R from top to bottom and columns are numbered 1 to C from left to right. Cells with S[i][j] < 0 contain dragons, others contain magic potions.

#### Output

Output T lines, one for each case containing the minimum strength Harry should start with from the cell (1, 1) to have a positive strength through out his journey to the cell (R, C).

## Constraints

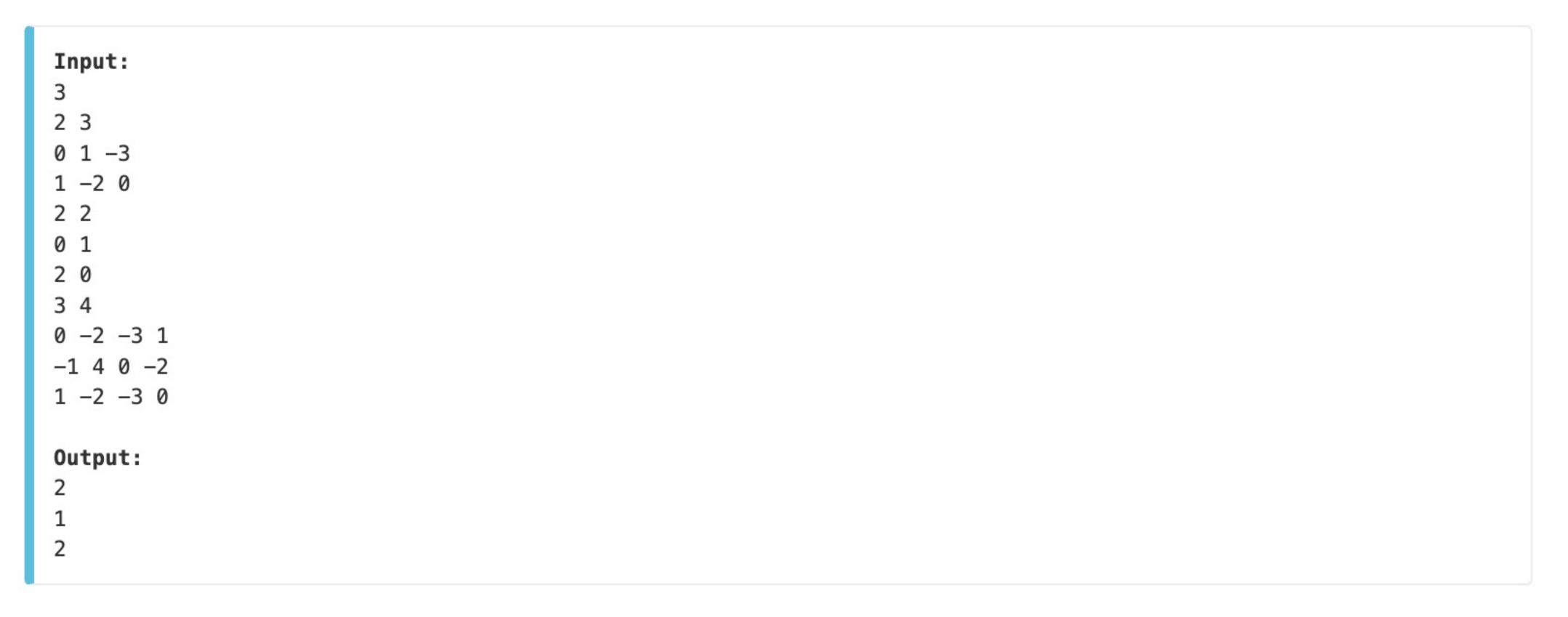
 $1 \le T \le 5$ 

 $2 \le R, C \le 500$ 

 $-10^3 \le S[i][j] \le 10^3$ 

S[1][1] = S[R][C] = 0

### Sample



### Explanation:

Case 1: If Harry starts with strength = 1 at cell (1, 1), he cannot maintain a positive strength in any possible path. He needs at least strength = 2 initially.

Case 2: Note that to start from (1, 1) he needs at least strength = 1.

Submit solution!

# hide comments





Sushovan Sen: 2022-02-01 13:21:51

@vidz\_1

23

Consider Case:

0 - 52

2 -5 24

3 -1 0

Check whether your approach gives correct result.



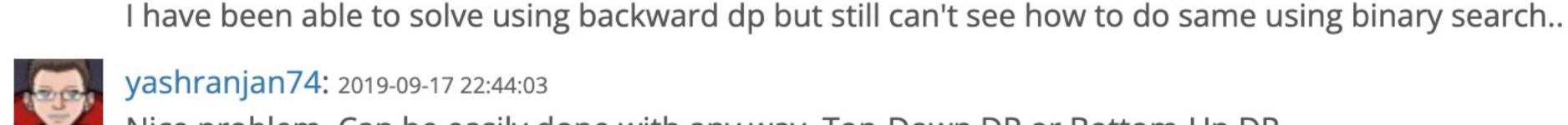
vidz\_1: 2020-09-24 14:46:48

Why can't we just do normal forward dp and make the table. Later we go from last block to initial block always going to the best path(max(dp[i-1][j],dp[i][j-1]) because that's how the table would be built, find the min value and return mod(min)+1 as the answer? Can someone please help, I am getting a WA.



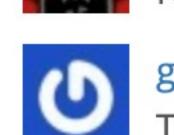
tokyoghoul1993: 2019-12-29 10:12:16

Can someone plz explain how binary search is used here?



yashranjan74: 2019-09-17 22:44:03

Nice problem. Can be easily done with any way, Top-Down DP or Bottom-Up DP.



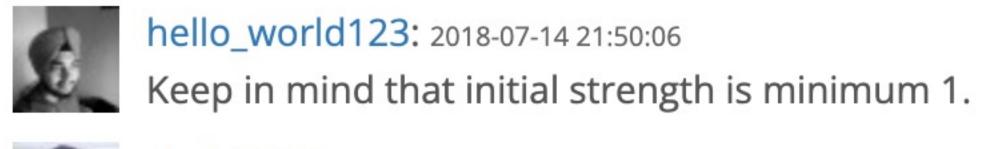
geekymanas\_: 2019-07-29 14:17:17

There are two ways to do this. First is moving forward dp with Binary Search, second moving backward just dp Last edit: 2019-07-29 18:57:29



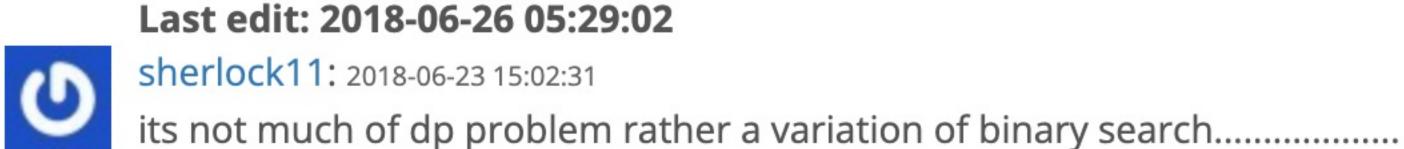
Asokan R: 2019-01-04 21:47:39

Bottom up DP in Java gives TLE, but same code in c++ is accepted

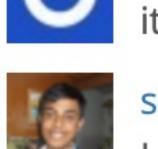


Last edit: 2019-01-04 21:47:55 hello\_world123: 2018-07-14 21:50:06

shahi9935: 2018-06-26 05:28:32 Thanks @sherlock11



Last edit: 2018-06-26 05:29:02 sherlock11: 2018-06-23 15:02:31



shivam\_2296: 2017-12-26 19:09:40 Huh! Not just a beginner level DP problem.

**Publish** 

Leave a Comment

Notes:

- 1. Don't post any source code here.
- 2. Please be careful, leave short comments only. Don't spam here.
- 3. For more discussion (hints, ideas, solutions) please visit our forum.

4. Authors of the problems are allowed to delete the post and use html code here (e.g. to provide some useful links).