## DWITE '08 R4 #5 - Blow your mind with 4th D

**Time limit:** 1.0s **Memory limit:** 64M

## **DWITE Online Computer Programming Contest, January 2008, Problem 5**

This should be fun – this is another one of the *maze* questions, but this round it's set in 4D. *Woah!* Alright, don't freak out – the depth is a constant 1, so you could think of it as a typical 2D maze that changes over time.

Each maze is a static  $5 \times 5$  and uses pound signs # for walls and periods  $\odot$  for empty spaces. A for start, B for exit. Each time a step is made, the maze changes to the next frame, as specified in the input file. The valid directions are up/down, left/right + staying in place (skip to next frame); as long as there is no wall in space being moved to, in the next frame. Here's an example of a  $2 \times 2$  maze:

```
4 frames
A# #. ##
## ## #B
```

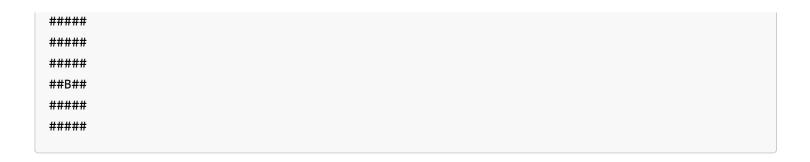
The solution is: right, wait, down. Notice how in the first and last steps the maze closes down, forcing a move, while on the 2nd one must wait for a new path to open up. The entire maze expires as the frames end, so 4-1=3 is the maximum number of steps to a solution.

The input will contain 5 sets. The first line will specify the number of frames to a maze  $1 \le N \le 25$ . The next 5N lines will describe N frames of the maze, as explained above.

The output file will contain 5 lines – the shortest path from (A) to (B).

## **Sample Input**

7 ##### ##.## А...В ##### ##### ##### ##.## #...B ##### ##### ##### ##.## ##..B ##### ##### ##### ##.## ##### ##### ##### ##### ##.## ...В ##### ##### ##### ##.## ...В ##### ##### ##### ##.## ...В ##### ##### 3 ##### ##### ##A## ##### ##### ##### #...# #.#.# #...#



## **Sample Output**

6 2

Problem Resource: **DWITE**