

Problem 6—Magical Protection

Here's the rundown. Harry is good, but he's just a kid, and his magic is weak. Voldemort is evil, and his magic is strong. Dumbledore is good, and his magic is the most powerful of all. Harry, Voldemort, and Dumbledore are in a square grid maze. Voldemort wants to move from his location to Harry's location. If he makes it to Harry's location, Voldemort can kill Harry. BUT if Voldemort ever visits Dumbledore's location *or* one of the up to eight squares adjoining Dumbledore's location (horizontally, vertically, or diagonally), Dumbledore will subdue Voldemort before Voldemort can kill Harry. Voldemort can move horizontally and vertically (but not diagonally). Harry and Dumbledore cannot move at all.

Given an input maze, you are to print out whether Voldemort can bypass Dumbledore to get to Harry. Voldemort is not an idiot; he will not go past Dumbledore if it is possible to get to Harry another way.

INPUT SPECIFICATION.

The input file will consist of series of mazes. Each maze will consist of r lines each containing c characters followed by `<EOLN>`. r and c will be inclusively between 2 and 20. Most of the characters will be either '1' (indicating a boundary) or '0' indicating a free square in the grid. There will be exactly one 'H', exactly one 'D', and exactly one 'V', corresponding to Harry's location, Dumbledore's location, and Voldemort's initial location. Each maze will be followed by an extra `<EOLN>` character (so that there will appear to be a skipped line between mazes in the input file). The last maze in the input file will be followed by a second extra `<EOLN>` character.

OUTPUT SPECIFICATION.

The output cases are to appear in the same order in which they appear in the input file. For each maze, you are to print either "Voldemort can kill Harry." or "Voldemort cannot kill Harry." whichever is appropriate. These sentences should each be terminated by exactly one `<EOLN>` character. As always, formatting counts! Make sure everything is spelled correctly!

SAMPLE INPUT.

```
000000<EOLN>
000000<EOLN>
0H0000<EOLN>
D00000<EOLN>
000V00<EOLN>
<EOLN>
00000D<EOLN>
000000<EOLN>
0H0000<EOLN>
000000<EOLN>
000V00<EOLN>
<EOLN>
<EOLN>
<EOF>
```

SAMPLE OUTPUT.

```
Voldemort cannot kill Harry.<EOLN>
Voldemort can kill Harry.<EOLN>
<EOF>
```