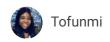
## FACEBOOK Coding Competitions

FB Hack > 2021 > EMEA Coding Challenge 2021



Scoreboard

Tends in 23s

**Score:** 75 / 1090 points **Rank:** 17th out of 21

PROBLEMS Keymaster	
A1: Easy	10 pt
A2: Medium	20 pt
A3: Hard	50 pt
Dots and Dashes	
B1: Easy	10 pt
B2: Medium	15 pt
B3: Hard	40 pt
CI Pipelines	
C1: Easy	5 pt
C2: Medium	15 pt
C3: Hard	50 pt
Data Centers	
D1: Easy	10 pt
D2: Medium	20 pt
D3: Hard	65 pt

Problem A1: Keymaster -Easy

**Download Input & Submit** 

10 points

**Problem** 

My Submissions

You're trying to find where the swag is kept in the Facebook office and, as expected, all the best stuff is hidden in hard to reach places. Fortunately, you manage to make your way to one of the screens on the wall that shows you the map of the floor and the location of the most coveted swag (a Wayfinder).

Since swag is such a valuable commodity at Facebook, a number of doors, D, stand between you and your goal. Doors are opened using tokens and luckily for you, the map also shows you where they have been left in the office.

Your task is to determine whether it is possible to reach your goal (the swag) by using tokens to open the doors in your way, in each of the N maps in your input.

Your office consists of a  $W \times H$  grid, filled with the following elements:

- Empty space, represented by .
- Walls, represented by #
- Doors, represented by D
- Tokens, represented by T
- Your starting position, represented by S
- Your goal (the swag!), represented by G

Each map has at most **one door** and **one token**. The token can be picked up by walking into it, and the door can be unlocked by walking into it while holding the token. You can move orthogonally (up, down, left or right) but not diagonally, and you can't walk into a wall at any point, or the locked door unless you are holding the token.

#### **Constraints**

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**Data Centers** 

D1: Easy

D3: Hard

D2: Medium

10 pt

20 pt

65 pt

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C3: Hard	50 pt

- · Each map will contain at most one door and token
- $0 \le W \le 50$
- $0 \le H \le 50$
- $0 \le N \le 100$
- $0 \le D \le 1$

### Input

Your input file consists of N,  $W \times H$  maps, separated by blank lines, and encoded using the characters described above (., #, D, T, S, G).

## **Output**

Your output should be a file containing a single line consisting of N characters, separated by spaces:

$$O_0 \ O_1 \ \dots \ O_{N-1}$$

where  $O_i$  should be **P** if it is possible to reach the swag in the i-th map and I **otherwise**.

## **Explanation of Sample**

- In the first map, it is possible to walk to the token, then to the door to unlock it, gaining access to the room containing the swag.
- In the second example, the swag is already in the room you started in, so it is possible to access without opening any doors.
- In the last example, there is no way for you to unlock the door as your access to the token is also blocked by the door it is meant to open!

# Sample Input

## Sample Output



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#### **PROBLEMS**

Keymaster

**A1: Easy** 10 pt

A2: Medium 20 pt

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Dots and Dashes

B1: Easy 10 pt

B2: Medium 15 pt

B3: Hard 40 pt

**CI Pipelines** 

C1: Easy 5 pt

C2: Medium 15 pt

C3: Hard 50 pt

**Data Centers** 

D1: Easy 10 pt

D2: Medium 20 pt

D3: Hard 65 pt

####D#####
....S.....G
.....G
....T......
####D#####

**Download Input & Submit**