5. Door Man

Program Name: Door.java **Input File: door.dat**

You must escape a burning house, and you know that opening doors can be very dangerous when a building is on fire. Given a map of the house and your starting location, determine the smallest number of doors that must be opened to allow for your escape.

Input
The first line will contain a single integer `n` that indicates the number of data sets in the input. Each data set will consist of:

- a line containing two integers, `r` & `c` (each between 1 and 50, inclusive), indicating the number of rows and columns in this house map
- `r` lines, each containing `c` characters, making up the map. Each character will be one of:
  - `#` - a wall
  - `.` (period) – empty space
  - `d` – a door
  - `S` - your starting location **inside the house**

Note that every house will have at least one door leading to the outside which is reachable from your starting location.

Output
For each data set in the input, output a single line "`X door(s)`", where `X` is the minimum number of doors required to escape the burning building.

Example Input File

```
2
5 5
#####
#...#
#.S.#
#...#
##d##
7 19
###################
#.................d
##.################
#...###............
#.S.d.d............
#...###............
#####..............
```

Example Output to Screen

```
1 door(s)
1 door(s)
```