ISLAMIC UNIVERSITY OF TECHNOLOGY (IUT)

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Department of Computer Science and Engineering (CSE)

Course: 4108, Lab Task 7-1b

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Wreck-it-Ralph is a game character who finally escaped from his game and hid somewhere in a puzzle game. The puzzle game is expressed as an array of characters, where '**#**' indicates a wall and '**.**' indicates an open space. '**R**' indicates Ralph himself hidden in the maze/puzzle. Define a **function** to find Ralph.

Task 1:

Input: It is a 4×4 maze, and Ralph can hide inside a wall too. Find Ralph and let the game developers deal with bringing him back to his zone. There can only be one Ralph in the grid. The input starts with **N** as the number of test cases followed by a 4×4 grid. Each input set is separated by a newline.

Output: If you find Ralph print "**Ralph is in x, y**", where **x** is the ordinate and **y** is the abscissa of his location, otherwise print "**Ralph is Good!**". For each case, print the case number with it. For output format and coordinate printing, check the sample Input and Output below.

Sample Input	Sample Output
2 ###. #..# ##.# #... ##.. ###. #R.. ….	Case 1: Ralph is Good! Case 2: Ralph is in 3, 2

Task 2: The maze game has started by itself! It is changing it's size frequently. Help the developers find Ralph and let them know if they can catch Ralph! If Ralph has all walls around him then the developers cannot catch him! Ralph has somehow learned to multiply himself so you might have to print multiple coordinates of Ralph :o .

Input: The input starts with **N** as the number of test cases followed by two integers **m** and **n** for each test case**.** After the integers there will be a **m**×**n** grid which is the current condition of the variable maze.

Output: If you find Ralph print "**Ralph is in x, y**", where **x** is the ordinate and **y** is the abscissa of his location, if even one Ralph is surrounded by walls, print "**Ralph is Good!**", otherwise if you cannot find him, print "**Ralph has escaped"**. For each case, print the case number with it. For output format and coordinate printing, check the sample Input and Output below.

Sample Input	Sample Output
3 4 4 ###. #..# ##.# #... 5 6 ##..#. #R#... ##...# ….## R##... 3 3 ### #R# ###	Case 1: Ralph has escaped! Case 2: Ralph is in 2, 2 and 5, 1 Case 3: Ralph is Good!