

SpaceY has recently created a new department to build software/middleware for remote devices in space. SpaceY has developed a Mars Rover that runs on the .Net platform. This rover must navigate around a plateau of the planet Mars. SpaceY headquarters on Earth will send a command to the rover in Mars indicating the dimensions of the plateau and a movement sequence the rover must follow. If more than one rover is deployed, then the SpaceY command will contain more than one rover command.

Movement String

M: move to next grid location

L: turn left

R: turn right

Example SpaceY Command

5 5

1 2 N

LML

The “5 5” part of the string that indicates the size of the plateau. “1 2 N” indicates that the rover is positioned on grid square 1,2 and is pointing north. So, if the rover moved, it would move in the direction it was facing, in this case north. The last part of the command is the movement sequence. “LML” means, ‘turn left, move, turn left’.

Additionally, the rover must not drive off the plateau. Should a human error occur, e.g. should an operator try to drive the multi-million-dollar rover off the plateau, the rover should stop and await rescue.

There can also be two or more rovers, in which case the instructions for all rovers will be sent. Of course, the size of the exploration plateau will be the same. For example, the command below will instruct two rovers on the 5 by 5 plateau:

5 5

1 2 N

LML

3 3 E

MMR

Your task is to develop the software that will parse the command and move the rover(s).