Turtle in the Pond

# Description

* The application is a simulation of a turtle moving around its pond, of dimensions 5 units x 5 units.
* There are no other obstructions in the pond.
* The turtle is free to roam around the surface of the pond, but must be prevented from touching the walls surrounding the pond (anything outside of the 5 x 5 grid). Any movement that would result in the turtle leaving the pond must be prevented, however further valid movement commands must still be allowed.

Create an API that can read in commands of the following form:

PLACE X,Y,F

MOVE

LEFT

RIGHT

REPORT

* PLACE will put the turtle into the pond in position X,Y and facing NORTH, SOUTH, EAST or WEST.
* The origin (0,0) can be considered to be the SOUTH WEST most corner.
* The first valid command to the turtle is a PLACE command, after that, any sequence of commands may be issued, in any order, including another PLACE command. The application should discard all commands in the sequence until a valid PLACE command has been executed.
* MOVE will move the turtle one unit forward in the direction it is currently facing.
* LEFT and RIGHT will rotate the turtle 90 degrees in the specified direction without changing the position of the turtle.
* REPORT will announce the X,Y and F of the turtle to the console.
* Input should be from the input text box seen in the design, or from a set of actions:
  + A turtle can be PLACEd (facing the previous direction) by clicking on a cell in the pond
  + A turtle can be MOVEed by pressing the "up arrow" key on the keyboard
  + A turtle can be turned LEFT by pressing the "left arrow" key on the keyboard
  + A turtle can be turned RIGHT by pressing the "right arrow" key on the keyboard
  + A turtle will REPORT it's position to the console by pressing the "down arrow" key on the keyboard
* Provide test data to exercise the application.

# Constraints

* The turtle must not touch the walls of the pond during movement. This also includes the initial placement of the turtle.
* Any move that would cause the turtle to touch the walls must be ignored.

# Example input and output

Example a

PLACE 0,0,NORTH

MOVE

REPORT

Expected output

Example b

0,1,NORTH

Expected output

PLACE 0,0,NORTH

LEFT

REPORT

0,0,WEST

Example c

PLACE 1,2,EAST

MOVE

MOVE

LEFT

MOVE

REPORT

Expected output

3,3,NORTH