**Robot Simulator**

In Practice Mode

Introduction

Write a robot simulator.

A robot factory's test facility needs a program to verify robot movements.

The robots have three possible movements:

* turn right
* turn left
* advance

Robots are placed on a hypothetical infinite grid, facing a particular direction (north, east, south, or west) at a set of {x,y} coordinates, e.g., {3,8}, with coordinates increasing to the north and east.

The robot then receives a number of instructions, at which point the testing facility verifies the robot's new position, and in which direction it is pointing.

* The letter-string "RAALAL" means:
  + Turn right
  + Advance twice
  + Turn left
  + Advance once
  + Turn left yet again
* Say a robot starts at {7, 3} facing north. Then running this stream of instructions should leave it at {9, 4} facing west.

Getting Started

Make sure you have read the "Guides" section of the [C track](https://exercism.io/my/tracks/c) on the Exercism site. This covers the basic information on setting up the development environment expected by the exercises.

Passing the Tests

Get the first test compiling, linking and passing by following the [three rules of test-driven development](http://butunclebob.com/ArticleS.UncleBob.TheThreeRulesOfTdd).

The included makefile can be used to create and run the tests using the test task.

make test

Create just the functions you need to satisfy any compiler errors and get the test to fail. Then write just enough code to get the test to pass. Once you've done that, move onto the next test.

As you progress through the tests, take the time to refactor your implementation for readability and expressiveness and then go on to the next test.

Try to use standard C99 facilities in preference to writing your own low-level algorithms or facilities by hand.