

Problem 4: RandomWalkRobot Class

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Week 2 > Problem Set 2 > Problem 4: RandomWalkRobot Class

(10/10 points)

iRobot is testing out a new robot design. The proposed new robots differ in that they change direction randomly **after every time step**, rather than just when they run into walls. You have been asked to design a simulation to determine what effect, if any, this change has on room cleaning times.

Write a new class `RandomWalkRobot` that inherits from `Robot` (like `StandardRobot`) but implements the new movement strategy. `RandomWalkRobot` should have the same interface as `StandardRobot`.

Test out your new class. Perform a single trial with the `StandardRobot` implementation and watch the visualization to make sure it is doing the right thing. Once you are satisfied, you can call `runSimulation` again, passing `RandomWalkRobot` instead of `StandardRobot`.

Enter your code for classes `Robot` and `RandomWalkRobot` below.