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Programming Assignment 1 Outline

Import

* Random
* Tabulate
* Time

Functions

* One dimension
  + Initialize the particle location (@0)
  + Initialize the count (count = 0)
  + For loop for the number of steps the particle takes
  + Choose at random if the particle moves left or right
  + If the particle ends up at 0, return count = 1
* Two dimensions
  + Initialize particle location and count = 0
  + For loop for number of steps
  + Choose randomly if the particle moves left, right, up, down
  + If particle location is 0, return count = 1
* Three dimensions
  + Initialize particle location and count = 0
  + For loop for number of steps
  + Choose randomly if the particle moves left, right, up, down, in, out
  + If particle location is 0, return count = 1

Main Function

* Make list for the number of moves particle will step
* Create empty lists for each dimension to store probability of moves
* For loop for each dimension to count total number of times the particle returned to the origin for 100 runs
* Three-dimensional: time the for loop
* Create table using tabulate
* main()