Assignment 5

Design & Analysis of Algorithms Lab

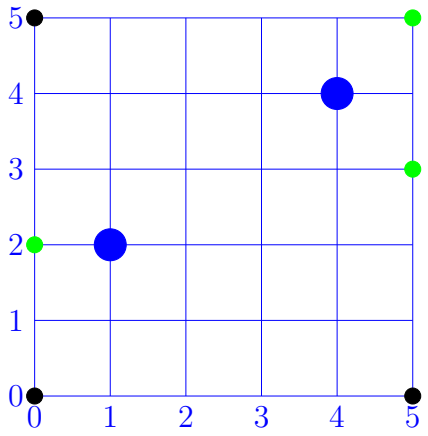
February 1, 2022

1. Suppose there are `n` rats out on the field. There is a hungry owl that is about to make a move to reach every single one of these rats. Further suppose that there are `h` holes scattered across the field, and that each hole h_i has a certain capacity c_i for the number of rats that can hide in it. Every rat n_i is capable of running a distance of r_i in any direction in a minute before being caught by the owl. The owl will attack the rats after `t` minute. Write a C/C++ program that determines the maximum number of rats that can hide safely into the holes before being caught by the owl.

   The input is given as follows. The first line contains three integers: the number of rats `n`, the number of holes `h`, and the time `t` after which the owl starts its attack. The next `n` lines contain information about the rats in the form (x_i, y_i, r_i), which says i-th rat is at position (x_i, y_i) at the beginning, and it can run r_i distance in a minute. The next h lines contain information about the holes in the form (x_i, y_i, c_i), which says i-th hole is at position (x_i, y_i), and it can accommodate c_i rats.

   Input:
   6 2 1
   0 5 1
   0 2 3
   0 0 1
   5 5 4
   5 0 3
   5 3 2
   1 2 3
   4 4 2

   Output: 3



Submission Instruction:

File Name: A5_RollNo.c/cpp
Email to: *pds2016autumn@gmail.com* with **subject line**: A5_RollNo