

Programming Assignment 1: Squid Game

CECS 328

1 Deadline

THERE'S MORE HERE

2 Introduction

You have been recruited to play in the Squid Game. All n players are numbered in sequential order with a positive integer starting with 1. Players' numbers are sewn onto the front of their shirts.

The game is as follows. Players play the game in order: First, player 1, then player 2, then player 3, and so on. There are x lines that a player can choose to stand in. When it is a player's turn, he/she picks a line to stand in. If a player chooses to stand in a line, he/she must walk to the back of that line and remain standing in place there until the end of the game.

Rule: When a player chooses to stand in a line, the sum of his/her number and the number of the person that he/she is standing in back of must add up to a perfect square. (This rule does not apply to the first player in line because he/she is not standing in back of anyone.)

If it is a player's turn and he/she cannot choose a line while respecting the Rule, then that player and all players not in a line already are shot.

You will solve the following problem: Given a value for x and n , produce a configuration of the lines that will save every person.

3 Your code

If you are writing the file in Java: StudentSolver.java should have a function with the header `public static ArrayList<ArrayList<Integer>> solve(int x, int n)`

If you are writing the file in Python: studentsolver.py should have a function with the header `def solve(x,n):`

If you are writing the file in C++: StudentSolver.h should have a line with the header `static std::vector<std::vector<int>> solve(int x, int n);`



4 Example

Here is one way to solve the problem if $x=3$ and $n = 7$. (There will probably be more than one way to solve the problem. Any correct answer will be counted.)

1, 3, 6

2, 7

4, 5