Develop Group Competition 2

Office Movement

Input：standard input
Output：standard output

Nokia has a round building, which has n office rooms in each floor, 1≤n≤30000.

Room i (1<i<n) is adjacent to room i-1 and i+1; room 1 is adjacent to room 2 and room n; room n is adjacent to room 1 and room n-1.

Room i (1≤i≤n) is good to serve from Min_i to Max_i person, (0≤Min_i ≤ Max_i).

Initially there are $Init_i$ person in the room i, (0≤$Init_i$).

You task is to move a person from a room to its adjacent room each step, and use the less steps to make finally the person in room i ($Final_i$) is in a good condition, (Min_i≤$Final_i$≤Max_i).

Input

The first line contains one integer n (1≤n≤30000).

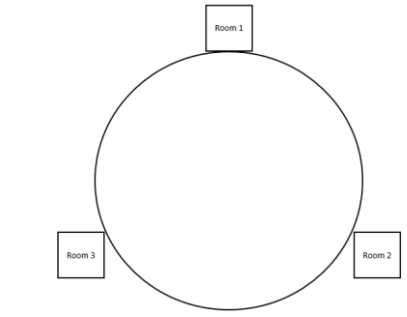
Each of next n lines has three integers. The line i contains integers Min_i, Max_i and $Init_i$.

Output

The first line contains one integer m, the number of steps in your movement.

Each of next m lines have two integers x, y, means moving one person from room x to room y. Please make sure the room x and room y are adjacent.

Example

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

（中文版）开发组比赛题 2

办公室搬家

输入：standard input
输出: standard output

诺基亚有一个环形楼, 每层有 n 间办公室（1≤n≤30000）。

房间 i （1<i<n） 与房间 i-1 和 i+1 相邻；房间 1 与房间 2 和 n 相邻； 房间 n 与房间 1 和 n-1 相邻。

房间 i （1≤i≤n) 可容纳从 Min_i 到 Max_i 名员工 （0≤Min_i ≤ Max_i）。

刚开始房间 i (1≤i≤n) 有 $Init_i$ 名员工 (0≤$Init_i$).

你的任务是一次只能从一个房间移动一名员工到其相邻房间，使用最少的移动步数，最终使任意房间 i（1≤i≤n)的员工数（$Final_i$）在 Min_i 和 Max_i 之间，（Min_i≤$Final_i$≤Max_i）。

输入

第一行只有一个整数 n (1≤n≤3000)

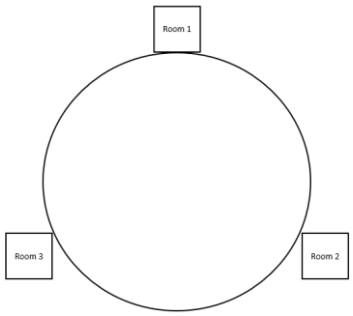
接下来的 n 行，每行有 3 个数字，分别为 Min_i, Max_i and $Init_i$，三者皆以一个空格分隔。

输出

第一行应该只包含一个数字 m，表示你移动的总步数。

接下来的 m 行，每行有 2 个数字 x，y（以一个空格分隔），表示这一步你从房间 x 移动了一名员工到房间 y，请确保房间 x 和 y 是相邻的。

举例

输入: 3 1 3 5 2 4 3 3 3 0	
输出: 3 1 3 1 3 1 3	