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Problem F
Pair Sorting
Time Limit: 1.0 Seconds

There are n bins arranged in a row and $2n$ balls on the ground. The balls are numbered from 1 to n and there are exactly two balls numbered i, for each i, $1 \le i \le n$. Also, for $1 \le i \le n$, the i-th bin is denoted by B_i and each bin B_i can contain at most two balls. Initially, the bin B_i contains both of ball $n+1-i$'s, for $1 \le i \le n$. See the Figure F.1 below for the initial configuration of bins.

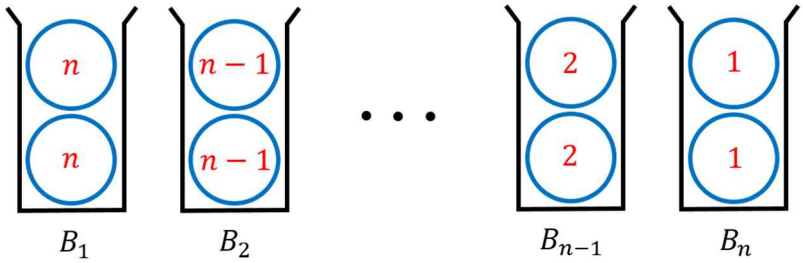


Figure F.1. The initial configuration of bins

You can swap two balls only from adjacent bins, which implies one swap operation. Note the bin is not a stack and for adjacent bins B_i and B_{i+1}, you can swap the one of two balls in B_i and the one in B_{i+1}. See the Figure F.2 below. The figure represents two swap operations.

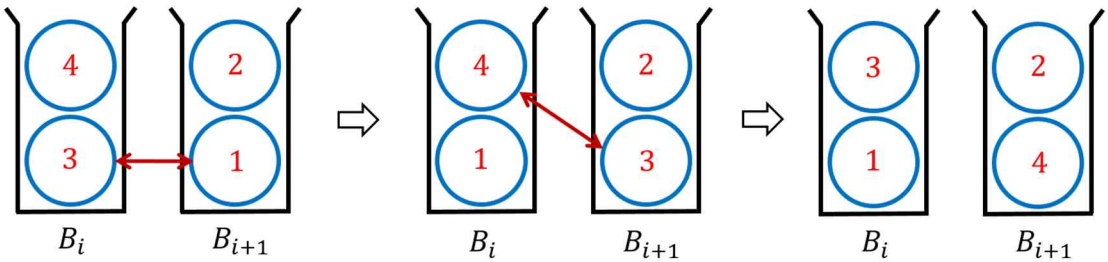


Figure F.2. The swap operations between adjacent bins

Through these swap operations, you should sort the balls. As a result of the sorting, the bin B_i must contain the both of ball i's, for $1 \le i \le n$. In particular, the total number of swap operations should be no more than $Bound$, when $Bound$ is given as a function of n, especially, $Bound = 0.7n^2$.

Given n bins and $2n$ balls, write a program to find a sorting method of balls such that the total number of swap operations is no more than $Bound = 0.7n^2$.

Input
Your program is to read from standard input. The input consists of exactly one line. The line contains an integer n ($3 \le n \le 100$), representing that there are n bins and $2n$ balls.

Output

Your program is to write to standard output. Let S be the total number of swap operations in your sorting method for the input. Print exactly $S + 1$ lines. The first line contains S. Each of the following S lines contains three integers j, a, and b, representing one swap operation between the ball a in the bin B_j and the ball b in B_{j+1}, where $1 \leq j \leq n - 1$ and $1 \leq a, b \leq n$. The swap operations in your sorting method should be printed in order, one per line. The number S must satisfy that $S \leq 0.7n^2$.

The following shows sample input and output for two test cases.

Sample Input 1	Output for the Sample Input 1
3	6 1 3 2 2 3 1 1 2 1 1 3 2 2 3 1 1 2 1

Sample Input 2	Output for the Sample Input 2
3	5 1 3 2 2 3 1 1 3 1 2 3 1 1 2 1