

Triangles

Input file: *standard input*
Output file: *standard output*
Time limit: 2 seconds
Memory limit: 1024 mebibytes

Consider n integer points on a plane, where n is divisible by 3. The x coordinates are a permutation of integers from 1 to n . The y coordinates are also a permutation of integers from 1 to n .

Construct a configuration of $n/3$ triangles with vertices in the given points: each point must appear as a vertex of one of the triangles. The triangles can be degenerate and can intersect freely.

The score of a configuration is the sum of the sizes of all triangles in it. The size of a triangle is the perimeter of its bounding rectangle. The bounding rectangle is the minimal rectangle with sides parallel to coordinate axes that contains the triangle.

Find a configuration that achieves the maximum possible score.

Input

The first line contains an integer n ($3 \leq n \leq 99\,999$; n is divisible by 3).

Each of the next n lines contains two integers x and y : the coordinates of one of the points. Each integer from 1 to n appears once among the x coordinates and once among the y coordinates.

Output

On the first line, print the maximum possible score.

Next, print any configuration that achieves this score. For that, print $n/3$ lines with three integers in each: the numbers of points in the input that are the vertices of a triangle. The points are numbered from 1 to n in the input order. Triangles and their vertices can be printed in any order.

Example

<i>standard input</i>	<i>standard output</i>	<i>explanation</i>
6 6 5 3 6 5 3 2 4 1 1 4 2	32 2 3 5 6 1 4	