

# Bubble Cup V8 D Tablecity


**Time limit:** 0.1s    **Memory limit:** 64M

There was a big bank robbery in Tablecity. In order to catch the thief, the President called none other than Albert – Tablecity's Chief of Police. Albert does not know where the thief is located, but he does know how he moves.

Tablecity can be represented as  $1000 \times 2$  grid, where every cell represents one district. Each district has its own unique name " $(X, Y)$ ", where  $X$  and  $Y$  are the coordinates of the district in the grid. The thief's movement is as follows:

**Every hour** the thief will **leave** the district  $(X, Y)$  he is currently hiding in, and **move** to one of the districts:  $(X - 1, Y)$ ,  $(X + 1, Y)$ ,  $(X - 1, Y - 1)$ ,  $(X - 1, Y + 1)$ ,  $(X + 1, Y - 1)$ ,  $(X + 1, Y + 1)$  as long as it exists in Tablecity.

Below is an example of the thief's possible movements if he is located in district  $(7, 1)$ :

|        |        |        |        |        |        |                                                                                   |        |        |     |
|--------|--------|--------|--------|--------|--------|-----------------------------------------------------------------------------------|--------|--------|-----|
| (1, 2) | (2, 2) | (3, 2) | (4, 2) | (5, 2) | (6, 2) | (7, 2)                                                                            | (8, 2) | (9, 2) | ... |
| (1, 1) | (2, 1) | (3, 1) | (4, 1) | (5, 1) | (6, 1) |  | (8, 1) | (9, 1) | ... |

Albert has enough people so that **every hour** he can pick any **two** districts in Tablecity and fully investigate them, making sure that if the thief is located in one of them he will get caught. Albert promised the President that the thief will be caught in **no more** than 2015 hours and needs your help in order to achieve that.

## Constraints

$$1 \leq N \leq 2015$$

$$1 \leq X \leq 1000$$

$$1 \leq Y \leq 2$$

## Input Specification

There is no input for this problem.

## Output Specification

The first line of output contains integer  $N$  – duration of police search in hours. Each of the following  $N$  lines contains exactly 4 integers  $X_{i1} Y_{i1} X_{i2} Y_{i2}$  separated by spaces that represent 2 districts  $(X_{i1}, Y_{i1})$  and  $(X_{i2}, Y_{i2})$  which got investigated during  $i^{th}$  hour. Output is given in **chronological** order ( $i^{th}$  line contains districts investigated during  $i^{th}$  hour) and should **guarantee** that the thief is caught in no more than 2015 hours, **regardless of thief's initial position and movement**.

## Sample Output

2

5 1 50 2

8 1 80 2

## Explanation for Sample Output

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The sample output is not guaranteed to catch the thief and is not correct. There exists a combination of an initial position and a movement strategy such that the police will not catch the thief.

Consider the following initial position and thief's movement:

In the first hour, the thief is located in district  $(1, 1)$ . Police officers will search districts  $(5, 1)$  and  $(50, 2)$  and will not find him.

At the start of the second hour, the thief moves to district  $(2, 2)$ . Police officers will search districts  $(8, 1)$  and  $(80, 2)$  and will not find him.

Since there is no further investigation by the police, the thief escaped!