Code : OVERW Problem 8 Score :

200

# Overwatch

## Problem :

There are exactly X*Y places in the Marvel Kingdom: For each pair of integers (x, y) such that 0 <= x < X and 0 <= y < Y there is a place with coordinates (x, y). When a citizen of the kingdom wants to move from (x1, y1) to (x2, y2), the required time is |x1 - x2| + |y1 - y2| (where |t| denotes the absolute value of t).

In order to improve stability in the kingdom, the police wants to introduce a specific patrol route. The route will contain exactly three places A, B, and C. A policeman will visit these three places and verify that everything is as it should be.

The three places that determine a valid route must satisfy the following criteria::

- X coordinates of A, B and C are pairwise distinct.
- Y coordinates of A, B and C are pairwise distinct.
- Let T be the total time required to follow along the route: first from A to B, then from B to C and finally from C back to A. T must be between minT and maxT, inclusive.

Two routes are considered to be different if there is a place that belongs to one of them, but does not belong to the other one.

## Input :

The first line of the input contains an integer T denoting the number of test cases. The description of T test cases follows. The input will constitute 4 values :

- X
- Y
- minT
- maxT

## Output :

The output will be the total routes possible.

## Sample :

**Input :**

1 //Number Of Test Cases

3

3

1

20000

**Output :**

6

## Explanation :

For the above case ,the time requirement is very flexible in this case. There are 6 patrol routes where both x and y coordinates of places are pairwise distinct.

## Scoring :

There will be 1 test case, valued 200 points.