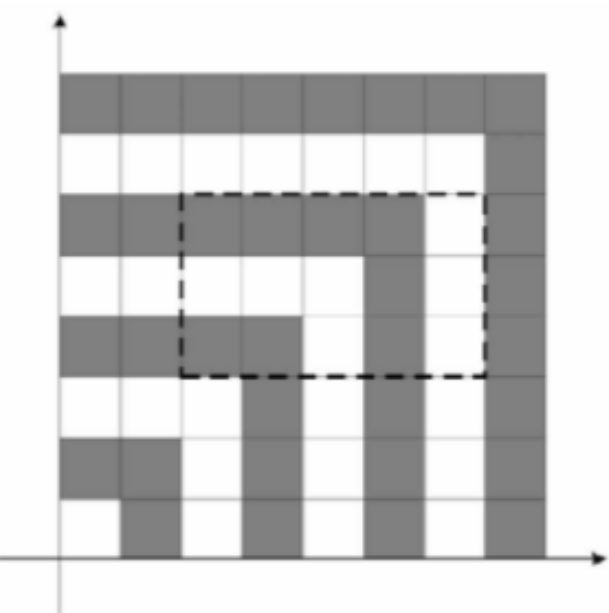


Statement

On the Oxy plane, there is a square of size 1000, with 4 vertices at 4 points: $(0, 0)$, $(0, 1000)$, $(1000, 0)$ and $(1000, 1000)$. We color the regions inside the square like below:



Consider a rectangle with opposite corners at (x_1, y_1) and (x_2, y_2) , where x_1 , y_1 , x_2 , y_2 are integers. Obviously, this rectangle lies completely inside our given square.

Each pair of integer points: (x, y) and $(x+2, y+2)$ (where $\min(x_1, x_2) \leq x < x+2 \leq \max(x_1, x_2)$ and $\min(y_1, y_2) \leq y < y+2 \leq \max(y_1, y_2)$) forms a 2×2 square that lies completely inside this rectangle. Count the number of 2×2 squares that contains 2 black cells and 2 white cells.

For example, consider the rectangle with opposite corners $(2, 3)$ and $(7, 6)$ (marked with dash-line in the figure above). It contains six 2×2 squares containing 2 black cells and 2 white cells:

- $(2, 3) - (4, 5)$
- $(4, 3) - (6, 5)$
- $(5, 3) - (7, 5)$
- $(2, 4) - (4, 6)$
- $(3, 4) - (5, 6)$
- $(5, 4) - (7, 6)$

Constraints:

- $0 \leq X1, Y1, X2, Y2 \leq 1000$.

Input

- 1st line: T - number of test cases.
- Next T lines: each line contains X1, Y1, X2, Y2

Output

- For each test case, print the result

Example

Input

```
1
2 3 7 6
```

Output

```
6
```