



3 Questions

Total Marks: 300.0

3 Programming Questions

1. Perpendicular Lines + 100.0

2. Black and White + 100.0

3. A Game on Array + 100.0

and (x_3, y_3) , (x_4, y_4) are perpendicular to each other.

NOTE:

- It is **NOT** provided that the points are distinct i.e the first two or the last two points **may be equal** too!

INPUT FORMAT:

First line T is the number of test cases.

Each test case is followed by 2 lines.

The first line of every test case contains four integers (x_1, y_1) and (x_2, y_2) .

The second line contains four integers (x_3, y_3) and (x_4, y_4) .

OUTPUT FORMAT:

For every test case :

- print "YES" without quotes if the lines are perpendicular to each other
- print "NO" without quotes if the lines are not perpendicular
- print "INVALID" without quotes if there are less than 2 lines

CONSTRAINTS:

$$1 \leq T \leq 10^5$$

$$-10^{18} \leq x_i \leq 10^{18}$$

$$-10^{18} \leq y_i \leq 10^{18}$$

Sample Input 🔗

```
4
1 2 3 3
3 3 1 7
3 4 8 9
13 5 13 5
5 7 12 9
1 5 9 15
```

Sample Output 🔗

```
YES
INVALID
NO
NO
```