G - Moving Lines

Run-time Limit: 1 second
Memory Limit: 32 MB

DESCRIPTION

You are given two line segments A and B with **positive length** that lies on an infinite 2D Euclidean plane. You are allowed to "move" the line segment without changing its linear equation. Specifically, if a line segment A has the linear equation of $y = px + q$, the result of moving A, which is A', should also have the linear equation of $y = px + q$.

Your task is to determine whether it is possible to make the two line segments intersect each other.

INPUT FORMAT

The first line contains an integer T denoting the number of case ($1 \le T \le 10^4$)

Each case is consists of two lines. The first line contains 4 integers A_1, A_2, A_3, A_4 ($-10^5 \le A_1, A_2, A_3, A_4 \le 10^5$), denoting line A starts at point (A_1, A_2) to (A_3, A_4). The second line contains 4 integers B_1, B_2, B_3, B_4 ($-10^5 \le B_1, B_2, B_3, B_4 \le 10^5$), denoting line B starts at point (B_1, B_2) to (B_3, B_4).

OUTPUT FORMAT

For each case output in a line "Case #X:" where X is the case number, starts from 1. Then followed by one of the strings (without quotes):

- "collinear" if A and B are collinear (they lie in the same line);
- "parallel" if A and B are parallel (but not collinear) to each other;
- "none" if A and B already intersect each other without moving any of them;
- "move A" if you can make A and B intersect by only moving A;
- "move B" if you can make A and B intersect by only moving B;
- "move both" if you can make A and B intersect by moving both A and B.

SAMPLE INPUT

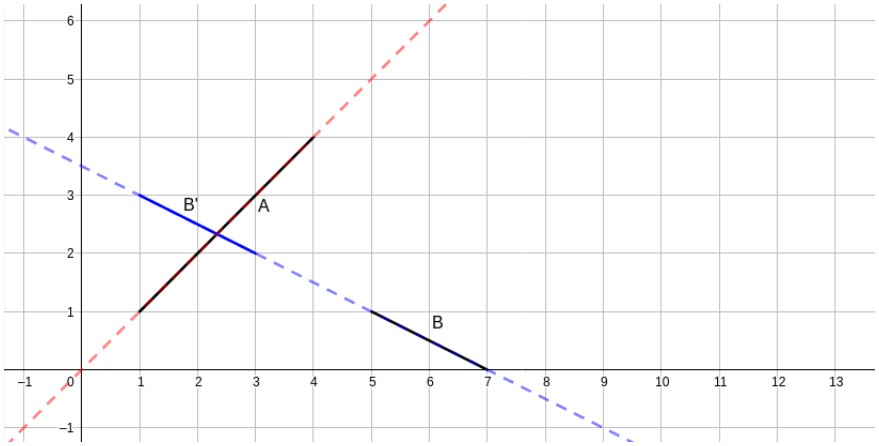
```
3
1 1 4 4
5 1 7 0
1 4 10 4
3 0 3 9
1 1 3 3
5 5 7 7
```

SAMPLE OUTPUT

```
Case #1: move B
Case #2: none
Case #3: collinear
```

EXPLANATION

The first case can be seen in the figure below. You can move B by following the blue dotted line and B' will intersect with A, without moving A.



In the second case, A and B already intersect each other so no need to move them.

In the third case, A and B are collinear, as depicted in the figure below.