

Problem HOMERBART: Homer vs. Bart

Bart has broken the TV (Krusty has been canceled). Homer gets angry and wants to choke him. But Bart transforms into Bartman and flies away in a straight line. Homer has learned to cope with Bart's superpowers: he heats up his new nuclear-driven stun laser and shoots it at Bartman (the laser beam is another straight line). Has Homer a chance to stun Bartman and punish him until he is unconscious (i.e. do the two lines intersect) or will Bart escape and make fun of his dad ever after?

Input

The first line of the input holds the number of testcases. There is one testcase per line. Each line holds the equation of the two straight line formulas g_{Homer} and g_{Bart} . As Homer hopes to catch Bart, the input is formulated optimistically and therefore the two formulas are separated by white spaces and a = character. Each straight-line formula consists of a starting point \vec{a} + or - the direction vector lambda \vec{b} . Each vector consists out of three integer values separated by ',' and a white space. See the sample input for details.

Output

For each testcase print one output line. If there is a unique intersection point for the two given straight lines print "Homer got Bart at" followed by the intersection point. The intersection vector must be given as a vector of integer numbers. If the coordinates cannot be represented as an integer, a reduced mixed fraction must be printed. If the two lines are parallel or collapse output "Fly Bart. Fly! (parallel)". In all other cases output "Fly Bart. Fly! (skew)". See the sample output for details.

Sample Input 1

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5
(9, 7, 9) + lambda (31, 38, 1) = (8, 9, 2) - lambda (10, 5, 16)
(4, 7, 2) + lambda (1, 8, 18) = (8, 3, 2) + lambda (12, 6, 0)
(1, 1, 1) + lambda (-6, 15, -10) = (0, 0, 0) + lambda (0, 21, -4)
(1, 2, 3) + lambda (1, 2, 3) = (1, 2, 3) + lambda (1, 2, 3)
(0, 1, 0) + lambda (0, 1, 0) = (-1, 0, 0) + lambda (1, 0, 0)
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Sample Output 1

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Homer got Bart at (12 4/9, 11 2/9, 9 1/9)
Fly Bart. Fly! (skew)
Homer got Bart at (0, 3 1/2, -2/3)
Fly Bart. Fly! (parallel)
Homer got Bart at (0, 0, 0)
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