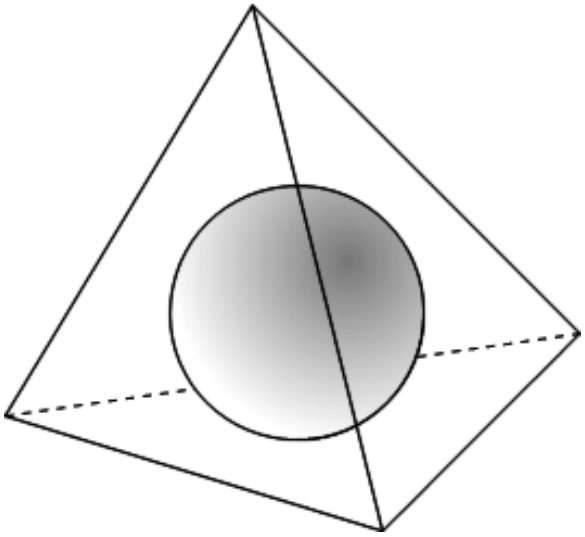
Problem C. The Ball



In the three dimensional Euclidean space (X, Y, Z), the intersection of several half spaces and $\{X \geq 0, Y \geq 0, Z \geq 0\}$ forms an area **with positive volume**.

Here each half space is represented as a linear inequation $AX + BY + CZ \leq D$. Our problem is to find the largest available ball **fully locating in the area**.

Input

The input contains several test cases. The first line of input contains an integer T ($1 \leq T \leq 160$) indicating the number of cases.

For each case, the first line contains an integer N ($1 \leq N \leq 100$) indicating the number of half spaces. Each of the following lines describes a half space given by four integers A, B, C and D corresponding to the linear inequation $AX + BY + CZ \leq D$, where $-100 \leq A, B, C, D \leq 100$. The summation of N in input is up to 6200.

Output

For each test case, output a line. If the size of available balls is unrestricted, output "Infinity". Else, output the largest radius of an available ball with the precision of 4 digits after the decimal point.

Sample

5 3 1 0 0 1 0 1 0 1 0 0 1 1 1 1 1 1 1 2 -1 -1 -1 -2 1 2 3 7 2 1 0 0 1 0 0 1 1 1 1 -1 0 0	0.5000 0.2113 0.5901 0.5000 Infinity