

I: Color Intensities

A line of color pixels is to be examined. Each pixel is capable of representing 256 different R (red), G (green), and B (blue) values. Your task is to identify the (non-empty) line segment for which the sum of the intensities of any one of the colors exceeds the combined sums of the other two colors by the maximum amount. Note that “exceeds” could be negative! In case of ties, choose the earliest (leftmost) starting segment, then the longest.

Input

Input may consist of multiple cases. Each case begins on a new line with an integer indicating the number of pixels (no more than 100). Following this and possibly continuing on additional lines are the triples of R, G, and B for each pixel, each ranging from 0 (no intensity) to 255 (full intensity). A count of 0 indicates the end of input. Arbitrary white space may be used to delimit the input.

Output

For each case, display the case number followed by the answer, formatted as in the sample. The answer consists of the index of the leftmost pixel of the maximum intensity segment (zero indexing) followed by the length of the segment. Use single spaces as delimiters.

Sample Input

4	10	20	40	10	30	40
	5	20	30	30	10	10
2	100	100	100	100	100	100
0						

Sample Output

Case 1:	0	3
Case 2:	0	1
