2. Monkeying Around (ahvid)

1 sec / 3 sec 30 points

N baby monkeys are playing in treetops. They all start from the same height, and each of them finishes where it started from. Each monkey makes M jumps, denoted by integers that show how many centimeters higher or lower the monkey moved with that jump. For each monkey, the height of one of the jumps in unknown and represented as zero in the input data. Find the monkey who was on the highest level on average (assuming the jumps take place after equal time intervals).

Input. The first line contains N ($1 \leq N \leq 100$), the number of monkeys, and M ($1 \leq M \leq 100$), the number of jumps. Each of the following N lines contains M space-separated integers A_i ($-200 \leq A_i \leq 200$) showing how many centimeters higher the corresponding monkey moved with the corresponding jump (negative values indicate moving lower). There is exactly one 0 on each line, indicating that we do not know how much higher or lower the monkey moved with that jump.

Output. Output exactly one integer, the index of the monkey who was on the highest level on average. The monkeys are indexed $1, \ldots, N$ in the order in which their data are given in the input. When computing the average, the common final height after the last jump is included, but the initial height before the first jump is excluded. If there are several monkeys with the maximal average level, output the index of any of them.

Example.

Input	Output
2 2 1 0 0 3	1

Two monkeys, each jumped twice. The first jump of the first monkey was 1 cm up. For the monkey to return to the initial position, the second jump must have been 1 cm down. The average height measured relative to the starting point was $(1 + 0)/2 = 0.5$.

The first jump of the second monkey must have been 3 cm down for it to return to the initial position with the second jump. The average height was $(-3 + 0)/2 = -1.5$.

So, the average height of the monkey number 1 was 0.5 and the average height of the monkey number 2 was -1.5. Thus, on the average, the monkey number 1 was on the highest level.

Example.

Input	Output
3 4 -2 4 0 6 -3 0 -8 9 4 5 -7 0	3

The "unknown" jumps of the monkeys are -8, 2, and -2 cm, respectively.

Their heights after each jump:
-2, 2, -6, 0;
-3, -1, -9, 0;
4, 9, 2, 0.

Their average heights:
$(-2 + 2 + (-6) + 0)/4 = -1.5$;
$(-3 + (-1) + (-9) + 0)/4 = -3.25$;
$(4 + 9 + 2 + 0)/4 = 3.75$.