**Who Gets the Most Candies?**

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| --- | --- | --- |
| **Time Limit:** 5000MS |  | **Memory Limit:** 131072K |
|  |  |  |
| **Case Time Limit:** 2000MS | | |

**Description**

*N* children are sitting in a circle to play a game.

The children are numbered from 1 to *N* in clockwise order. Each of them has a card with a non-zero integer on it in his/her hand. The game starts from the *K*-th child, who tells all the others the integer on his card and jumps out of the circle. The integer on his card tells the next child to jump out. Let *A* denote the integer. If *A* is positive, the next child will be the *A*-th child to the left. If *A* is negative, the next child will be the (−*A*)-th child to the right.

The game lasts until all children have jumped out of the circle. During the game, the *p*-th child jumping out will get *F*(*p*) candies where *F*(*p*) is the number of positive integers that perfectly divide *p*. Who gets the most candies?

**Input**

There are several test cases in the input. Each test case starts with two integers *N* (0 < *N* ≤ 500,000) and *K* (1 ≤ *K* ≤ *N*) on the first line. The next *N* lines contains the names of the children (consisting of at most 10 letters) and the integers (non-zero with magnitudes within 108) on their cards in increasing order of the children’s numbers, a name and an integer separated by a single space in a line with no leading or trailing spaces.

**Output**

Output one line for each test case containing the name of the luckiest child and the number of candies he/she gets. If ties occur, always choose the child who jumps out of the circle first.

**Sample Input**

4 2

Tom 2

Jack 4

Mary -1

Sam 1

**Sample Output**

Sam 3

**Source**

[POJ Monthly--2006.07.30](http://poj.org/searchproblem?field=source&key=POJ+Monthly--2006.07.30), Sempr