Problem H. Pyramid Decoration

Input file:	*standard input*
Output file:	*standard output*
Time limit:	1 second
Memory limit:	512 mebibytes

There are $L \times (L+1) \times (L+2)/6$ stones. Snuke stacked these stones like a tetrahedron (a 3D object that cosists of four triangular faces). The position of a stone is represented by a tuple of integers (i, j, k) $(1 \leq k \leq j \leq i \leq L)$. When $i < L$, the stone at (i, j, k) is stacked on top of three stones at $(i+1, j, k)$, $(i+1, j+1, k)$, and $(i+1, j+1, k+1)$.

Snuke colors these stones in the following way. First, he colors all stones in the bottommost layer. For each i $(1 \leq i \leq N)$, he colors the stone at (L, A_i, B_i) black, and colors the other stones on the bottommost layer white. Then, he colors the other stones from bottom to top. He colors the stone at (i, j, k) black if the number of black stones below it ($(i+1, j, k)$, $(i+1, j+1, k)$, and $(i+1, j+1, k+1)$) is either zero or two. Otherwise he paints this stone white.

Determine the color of the topmost stone.

Input

L N
A_1 B_1
$\vdots$
A_N B_N

- $2 \leq L \leq 10^9$
- $0 \leq N \leq min(1000, L \times (L+1)/2)$
- $1 \leq B_i \leq A_i \leq L$
- The tuples (A_i, B_i) are pairwise distinct.

Output

Print "`Iori`" if the topmost stone is black. Otherwise print "`Yayoi`".

Example

standard input	standard output
2 2 2 1 1 1	Iori
3 0	Yayoi