Election

0.5 second, 32 megabytes

Joey's class-leader has moved to a new school. So they need to choose a new leader. The teacher, Jessy Opera, has chose 10 student to be a leader including Joey. Jessy let the students vote. Joey was selected!

Now, the first task that Joey has to do is to collect the monthly fee from each student. He has collected the money from everybody already, except Sury. Joey and Sury often have a fight together. The will choose the winner for each fight by playing a game.

The game rule is that each fight, they will each have to think of a set of n numbers. a is the set of numbers that Joey created. Conversely, b is the set of numbers Sury created. Both a and b is an permutation of [1, 2, 3,..., n].

Then they will remove k adjacent numbers. Joey will win if the average of the set of numbers after removing k adjacent numbers is greater than Joey's. Otherwise, Sury wins.

They fought for t times. Please output the result that who will win with a new line.

Input

First line An integer t: The number of fights they did $(1 \leq t \leq 500)$
For each fight Input an integer n, k $(2 \leq n \leq 10,000, 1 \leq k < n)$. Then the set of numbers a and b with size of n.

Output

For each fight Output the winner with a newline - "Joey" or "Sury".

Input and Output Example

Input Example	Output Example
1 4 2 1 3 2 4 4 2 1 3	Sury
1 6 2 6 1 3 4 5 2 2 6 5 1 4 3	Joey