

Barrel Theory

Input file: **standard input**
Output file: **standard output**
Time limit: 2 seconds
Memory limit: 512 megabytes

Chinese children have more or less heard of the word “barrel theory” — the barrel’s capacity is determined not by the longest wooden bars but by the shortest, as illustrated below.



Teachers and parents prefer to use this theory to tell the importance of all-round development, quality education, or collectivism. However, Little Desprado2 and Foolish Timsei disagree with this theory. In their opinion, a good barrel depends not only on large capacity but also on attractive looking.

According to barrel theory, if a barrel consists of n wooden bars of with positive integral length a_1, a_2, \dots, a_n , the *capacity* of the barrel is $\min_{i=1}^n a_i$. They define the *ugliness* of the barrel is $a_1 \oplus a_2 \oplus \dots \oplus a_n$. Here \oplus denotes bitwise XOR (exclusive-or). They consider a barrel *good* if and only if its *ugliness* is **less than** its *capacity*.

Now Foolish Timsei and Little Desprado2 have a long wooden bar of length m , and they want to cut it into an n -pieces *good* barrel while the total length remains unchanged. Help them find a good scheme!

Input

The first line contains one integer T ($1 \leq T \leq 10^5$), denoting the test cases.

Each test case contains two integers n and m ($1 \leq n \leq 10^5$, $n \leq m \leq 10^7$) in a single line, denoting the number of wooden bars after cutting and the length of the initial wooden bar.

It is guaranteed that sum of n over all test cases is not greater than 3×10^5 ; the sum of m over all test cases is not greater than 10^7 .

Output

For each test case,

- If a cutting scheme exists, print “YES” in one line, followed by a line of n integers a_1, a_2, \dots, a_n separated by spaces as the lengths of the n wooden bars. If there are multiple solutions, print any.
- Otherwise, print “NO” in one line.

Example

standard input	standard output
3	NO
6 7	YES
5 17	2 2 2 4 7
4 4	YES
	1 1 1 1