

Problem W. W

Time limit 1000 ms

Mem limit 262144 kB

You are given two positive integers n ($1 \leq n \leq 10^9$) and k ($1 \leq k \leq 100$). Represent the number n as the sum of k positive integers of the same parity (have the same remainder when divided by 2).

In other words, find a_1, a_2, \dots, a_k such that all $a_i > 0$, $n = a_1 + a_2 + \dots + a_k$ and either all a_i are even or all a_i are odd at the same time.

If such a representation does not exist, then report it.

Input

The first line contains an integer t ($1 \leq t \leq 1000$) — the number of test cases in the input. Next, t test cases are given, one per line.

Each test case is two positive integers n ($1 \leq n \leq 10^9$) and k ($1 \leq k \leq 100$).

Output

For each test case print:

- YES and the required values a_i , if the answer exists (if there are several answers, print any of them);
- NO if the answer does not exist.

The letters in the words YES and NO can be printed in any case.

Examples

Input	Output
8	YES
10 3	4 2 4
100 4	YES
8 7	55 5 5 35
97 2	NO
8 8	NO
3 10	YES
5 3	1 1 1 1 1 1 1 1
1000000000 9	NO
	YES
	3 1 1
	YES
	111111110 111111110 111111110 111111110
	111111110 111111110 111111110 111111110
	111111120