A + B = C Problem

Input file:	`standard input`
Output file:	`standard output`
Memory limit:	1024 megabytes

Given three positive integers p_A, p_B, p_C, Bobo challenges you to find out three infinite binary strings A, B, C with period p_A, p_B and p_C respectively satisfying $A \oplus B = C$, or determine it is impossible to do so.

Please refer to the Note section for the formal definition of period and exclusive or.

Input

The first line of the input contains a single integer T ($1 \le T \le 10^4$), denoting the number of test cases. The description of the test cases follows.

The first and the only line of each test case contains three integers p_A, p_B and p_C ($1 \le p_A, p_B, p_C \le 10^6$).

It is guaranteed that the sum of $\max(p_A, p_B, p_C)$ over all test cases does not exceed 10^6.

Output

For each test case, output "`NO`" (without quotes) in one line if no solution exists. Otherwise, output "`YES`" (without quotes) in one line. Then, output three binary strings of length p_A, p_B and p_C in three lines, denoting the first p_A, p_B, p_C character(s) of the infinite strings A, B, C respectively.

You can output "`YES`" and "`NO`" in any case (for example, strings "`yES`", "`yes`", and "`Yes`" will all be recognized as a positive response).

Example

standard input	standard output
2 2 3 6 2 3 5	YES 01 011 001110 NO

Note

Let $s = s_1 s_2 s_3 \ldots$ and $t = t_1 t_2 t_3 \ldots$ be infinite binary strings.

The period of s is the smallest positive integer k satisfying $s_i = s_{i+k}$ for all $i \ge 1$.

The exclusive or of strings s and t is given by $s \oplus t$ satisfying $(s \oplus t)_i = s_i \oplus t_i$ for all $i \ge 1$.