

Mod

Input file: **standard input**
Output file: **standard output**
Time limit: 6.5 seconds
Memory limit: 1024 megabytes

Give a strictly increasing sequence a of length n and a initial value v_0 .
For all $0 \leq v' \leq v_0$, find the number of permutations p of length n such that the following procedure yields final value $v = v'$:

- 1. Initialize $v \leftarrow v_0$;
- 2. For $i = 1, 2, \dots, n$, update $v \leftarrow v \bmod a_{p_i}$;

Output the answer modulo 998244353.

Input

The first line contains two integers n and v_0 ($1 \leq n < 2^{18}$, $1 \leq v_0 < 2^{18}$).
The second line contains n integers $a_1, a_2, \dots, a_n$ ($1 \leq a_1 < a_2 < \dots < a_n < 2^{18}$).

Output

Output $v_0 + 1$ integers, where the i -th integer ($1 \leq i \leq v_0 + 1$) represents the answer for $v' = i - 1$, modulo 998244353.

Examples

standard input	standard output
2 5 2 3	1 1 0 0 0 0
10 10 1 2 3 4 5 6 7 8 9 10	3628800 0 0 0 0 0 0 0 0 0 0