E. Sum and product

You are given integers N and D. Find N positive integers $x_1...x_N$ such that the difference of their product and their sum equals D.

Input

The only line of input contains integers N ($2 \leq N \leq 1000$) and D ($0 \leq D \leq 1000$).

Output

Output N integers that satisfy the given condition in non-decreasing order (in a single line, separated with spaces). Note that some numbers can be equal. Numbers printed by you must not exceed 10^6.

Examples

input
2 1

output
2 3

input
3 5

output
1 2 8