Problem B
Skysplitter

You are working on a painting of the night sky. The painting is divided into N segments, numbered from 1 to N from left to right. You would like to draw a number of stars in each segment.

Let A_i denote the number of stars in segment i. An index t, where $1 \leq t \leq N-1$, is **fair** if and only if the first t segments and the remaining $N-t$ segments have the same average number of stars per segment.

In other words, t is fair if and only if

$$\text{average}(A_1, A_2, \ldots, A_t) = \text{average}(A_{t+1}, A_{t+2}, \ldots, A_N),$$

where $\text{average}(x_1, x_2, \ldots, x_n) = \frac{1}{n}(x_1 + x_2 + \cdots + x_n)$ is the average of the n integers $x_1, x_2, \ldots, x_n$. Note that the averages are not necessarily integers.

Given two integers N and K, construct any sequence of integers $(A_1, A_2, \ldots, A_N)$ such that:

- $0 \leq A_i \leq 10^9$ for every $1 \leq i \leq N$, and
- there are **exactly** K fair indices.

It can be proven that a sequence satisfying these conditions always exists under the constraints given below.

Input

Two space-separated integers N and K ($2 \leq N \leq 100\,000$, $0 \leq K \leq N-1$), denoting the number of segments and the number of fair indices.

Output

Output a single line containing N space-separated integers $(A_1, A_2, \ldots, A_N)$ satisfying the conditions in the problem statement.

Sample 1

Sample Input	Sample Output
3 1	3 9 6

Explanation of Sample 1: Index 2 is the only fair index, as $\text{average}(3, 9) = \text{average}(6) = 6$.

Index 1 is not fair because $\text{average}(3) = 3$, whereas $\text{average}(9, 6) = 7.5$.

Therefore, the output sequence has exactly one fair index. Another valid sequence is $(23, 24, 22)$.

Sample 2

Sample Input	Sample Output
4 3	0 0 0 0

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