Josephus Problem

Description

n individuals labeled from 1 to n form a circle, which means the next person of the n-th person is the first person. Counting begins at the first person, and the m-th person counted will go out. Then the counting restart at the next person of the one who went out, and still the m-th person counted will go out. Repeat the counting until all of the people have gone out.

It's a famous problem and you can seek for some detailed information on wikipedia.

In this problem, given n and m, please show the order they went out.

Input

A single line containing two integers n and m separated by a space.

Output

Print n integers in a single line denoting the labels of these n persons and indicating the order they went out. Please separate each two of these integers by a single space.

Sample Input/Output

Input

```
10 3
```

Output

```
3 6 9 2 7 1 8 5 10 4
```

Constraint

$1 \leq n, m \leq 10^4$.

Hint

$O(nm)$ algorithm can pass through all test cases.