133  The Dole Queue

In a serious attempt to downsize (reduce) the dole queue, The New National Green Labour Rhinoceros Party has decided on the following strategy. Every day all dole applicants will be placed in a large circle, facing inwards. Someone is arbitrarily chosen as number 1, and the rest are numbered counter-clockwise up to \( N \) (who will be standing on 1’s left). Starting from 1 and moving counter-clockwise, one labour official counts off \( k \) applicants, while another official starts from \( N \) and moves clockwise, counting \( m \) applicants. The two who are chosen are then sent off for retraining; if both officials pick the same person she (he) is sent off to become a politician. Each official then starts counting again at the next available person and the process continues until no-one is left. Note that the two victims (sorry, trainees) leave the ring simultaneously, so it is possible for one official to count a person already selected by the other official.

Input

Write a program that will successively read in (in that order) the three numbers \( (N, k \text{ and } m; k, m > 0, 0 < N < 20) \) and determine the order in which the applicants are sent off for retraining. Each set of three numbers will be on a separate line and the end of data will be signalled by three zeroes \( (0 \ 0 \ 0) \).

Output

For each triplet, output a single line of numbers specifying the order in which people are chosen. Each number should be in a field of 3 characters. For pairs of numbers list the person chosen by the counter-clockwise official first. Separate successive pairs (or singletons) by commas (but there should not be a trailing comma).

Note: The symbol \( \Box \) in the Sample Output below represents a space.

Sample Input

\[
10 \ 4 \ 3 \\
0 \ 0 \ 0 
\]

Sample Output

\[
4, 8, 9, 5, 3, 1, 2, 6, 10, \Box 7 
\]