Pui and Sequences

Assignment 3
Computer Programming
Due date: ————————

Problem: Pui is fascinated by recursive sequences but his small brain cannot process more than a simple fibonacci sequence. Pui asks for your help to solve this recursion $a_j = \sum_{i=1}^{k} c_i * a_{j-i}$

Input
First line contains 3 integers: n, k, m.
Second line contains k integers: $c_1, c_2, c_3, ..., c_k$.
Third line contains k integers: $a_1, a_2, a_3, ..., a_k$.

Output
Print the nth number of the sequence. As the answer can be very large output the answer modulo m.

Constraints
$1 <= n <= 10^{18}$
$1 <= k <= 100$
$1 <= m <= 10^9$
$0 <= a_i, c_i <= 10^9$

Sample Test Case

Input	Output
3 2 10 1 1 1 1	 3

Input	Output
7 2 10 1 1 1 1	 3