Sherlock and Queries

HackerRank

Problem Statement

Watson gives to Sherlock an array: $A_1, A_2, \cdots, A_N$. He also gives to Sherlock two other arrays: $B_1, B_2, \cdots, B_M$ and $C_1, C_2, \cdots, C_M$.
Then Watson asks Sherlock to perform the following program:

```
for i = 1 to M do
   for j = 1 to N do
      if j % B[i] == 0 then
         A[j] = A[j] * C[i]
      endif
   end do
end do
```

This code needs to be optimised. Can you help Sherlock and tell him the resulting array A? You should print all the array elements modulo $(10^9 + 7)$.

Input Format
The first line contains two integer numbers N and M. The next line contains N integers, the elements of array A. The next two lines contains M integers each, the elements of array B and C.

Output Format
Print N integers, the elements of array A after performing the program modulo $(10^9 + 7)$.

Constraints
$1 \leq N, M \leq 10^5$
$1 \leq B[i] \leq N$
$1 \leq A[i], C[i] \leq 10^5$

Sample Input

```
4 3
1 2 3 4
1 2 3
13 29 71
```

Sample Output

```
13 754 2769 1508
```