Discrete Roots

In this problem, we try to compute discrete k^{th} root modulo n; given n, k, a; find all the solutions for x such that $x^k = a \pmod{n}$ and x is coprime with n.

Input

For each input file, there are 3 space seperated integers n, k, a.

$n = p^e$ for some odd prime p, integer $e > 0$; $0 <= a < n <= 10^9$, $0 <= k < phi(n)$, where phi is Euler's totient function; the numbers n, a are coprimes.

Output

The first line of the output contains a single integer m, the number of solutions in the range [0, n - 1] that are coprimes with n, followed by m lines that contain the m solutions in ascending order. It is guranteed that $m <= 10^4$.

Example

Input:
5 1 3

Output:

1
3