Problem D Linear recursive sequence

A well-known linear recursive sequence $f(n)$ is defined as follows.

- For $k \leq 0$, $f(k) = 1$
- For $k \geq 1$, $f(k) = a \cdot f(k-p) + b \cdot f(k-q)$.

Given n, a, b, p, q, find the value of $f(n)$ modulo 119.

Input

5 integers n, a, b, p, q ($1 \leq n \leq 10^9, 0 \leq a, b \leq 10^9, 1 \leq p < q \leq 10^4$).

Output

A single integer $f(n)$.

Sample input 1

```
1 1 1 1 2
```

Sample output 1

```
2
```

Sample input 2

```
1000000000 1 2 3 4
```

Sample output 2

```
30
```