

Problem 878: Nth Magical Number

Problem Information

Difficulty: Hard

Acceptance Rate: 36.20%

Paid Only: No

Tags: Math, Binary Search

Problem Description

A positive integer is *_magical_* if it is divisible by either *a* or *b*.

Given the three integers *n*, *a*, and *b*, return the *n*th magical number. Since the answer may be very large, *return it modulo* $10^9 + 7$.

Example 1:

Input: *n* = 1, *a* = 2, *b* = 3 **Output:** 2

Example 2:

Input: *n* = 4, *a* = 2, *b* = 3 **Output:** 6

Constraints:

$1 \leq n \leq 10^9$, $2 \leq a, b \leq 4 \cdot 10^4$

Code Snippets

C++:

```
class Solution {
public:
    int nthMagicalNumber(int n, int a, int b) {
```

```
}  
};
```

Java:

```
class Solution {  
    public int nthMagicalNumber(int n, int a, int b) {  
  
    }  
}
```

Python3:

```
class Solution:  
    def nthMagicalNumber(self, n: int, a: int, b: int) -> int:
```