C - Range Set

Editorial

Time Limit: 2 sec / Memory Limit: 1024 MB

Score : 800 points

Problem Statement

Snuke has a string x of length N. Initially, every character in x is `'0'`.

Snuke can do the following two operations any number of times in any order:

- Choose A consecutive characters in x and replace each of them with `'0'`.
- Choose B consecutive characters in x and replace each of them with `'1'`.

Find the number of different strings that x can be after Snuke finishes doing operations. This count can be enormous, so compute it modulo $(10^9 + 7)$.

Constraints

- $1 \leq N \leq 5000$
- $1 \leq A, B \leq N$
- All values in input are integers.

Input

Input is given from Standard Input in the following format:

```
N A B
```

Output

Print the number of different strings that x can be after Snuke finishes doing operations, modulo $(10^9 + 7)$.

Sample Input 1

```
4 2 3
```

Sample Output 1

```
11
```

For example, x can be `'0011'` or `'1111'` in the end, but cannot be `'0110'`.

Sample Input 2

```
10 7 2
```

Sample Output 2

```
533
```

Sample Input 3

```
1000 100 10
```

Sample Output 3

```
828178524
```

Language: C++ (GCC 9.2.1)

Source Code

Open File Toggle Editor Auto Height

※ at most 512 KiB

※ Your source code will be saved as Main.*extension*.

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