2533. Number of Good Binary Strings

Description

You are given four integers `minLength`, `maxLength`, `oneGroup` and `zeroGroup`.

A binary string is **good** if it satisfies the following conditions:

- The length of the string is in the range `[minLength, maxLength]`.
- The size of each block of consecutive `1`'s is a multiple of `oneGroup`.
  - For example in a binary string `00 11 0 1111 00` sizes of each block of consecutive ones are `[2,4]`.
- The size of each block of consecutive `0`'s is a multiple of `zeroGroup`.
  - For example, in a binary string `00 11 0 1111 00` sizes of each block of consecutive zeros are `[2,1,2]`.

Return *the number of **good** binary strings*. Since the answer may be too large, return it **modulo** `10^9 + 7`.

Note that `0` is considered a multiple of all the numbers.

Example 1:

```
Input: minLength = 2, maxLength = 3, oneGroup = 1, zeroGroup = 2
Output: 5
Explanation: There are 5 good binary strings in this example: "00", "11", "001", "100", and "111".
It can be proven that there are only 5 good strings satisfying all conditions.
```

Example 2:

```
Input: minLength = 4, maxLength = 4, oneGroup = 4, zeroGroup = 3
Output: 1
Explanation: There is only 1 good binary string in this example: "1111".
It can be proven that there is only 1 good string satisfying all conditions.
```

Constraints:

- `1 <= minLength <= maxLength <= 10^5`
- `1 <= oneGroup, zeroGroup <= maxLength`