 Practice   **Compete**   **Jobs**   **Rank**   **Leaderboard**

Dashboard > Algorithms > Dynamic Programming > Xor and Sum

Badge Progress (Details)

Points: 126   Rank: 270330

Xor and Sum

 by **Gera1d**

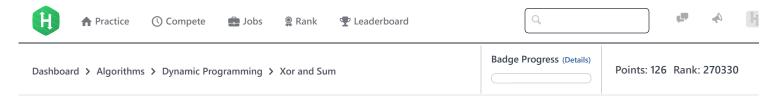| Problem | Submissions | Leaderboard | Discussions | Editorial 🔒 |

You are given two positive integers a and b in binary representation. You should find the following sum modulo $10^9 + 7$:

$$\sum_{i=0}^{314159} (a \; xor \; (b \; shl \; i))$$

where operation xor means exclusive OR operation, operation shl means binary shift to the left.

Please note, that we consider ideal model of binary integers. That is there is infinite number of bits in each number, and there are no disappearings (or cyclic shifts) of bits.

Input Format

The first line contains number $a \; (1 \le a < 2^{10^5})$ in binary representation. The second line contains number $b \; (1 \le b < 2^{10^5})$ in the same format. All the numbers do not contain leading zeros.

Output Format

Output a single integer — the required sum modulo $10^9 + 7$.

Sample Input

```
10
1010
```

Sample Output

```
489429555
```

f   y   in

Submissions:1436

Max Score:50
Difficulty: Medium

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More

Current Buffer (saved locally, editable)   Java 7

```
1  import java.io.*;
2  import java.util.*;
3  import java.text.*;
4  import java.math.*;
```

```java
 5  import java.util.regex.*;
 6
 7 ▼ public class Solution {
 8
 9 ▼     public static void main(String[] args) {
10 ▼         /* Enter your code here. Read input from STDIN. Print output to STDOUT. Your class should be named Solution. */
11      }
12  }
```

Line: 1 Col: 1

⬆ Upload Code as File   ☐ Test against custom input   Run Code   Submit Code

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```java
 5  import java.util.regex.*;
 6
 7 ▼ public class Solution {
```