class Solution {

public String addBinary(String a, String b) {

StringBuilder res = new StringBuilder();

int i = a.length() - 1;

int j = b.length() - 1;

int carry = 0;

while(i >= 0 || j >= 0){

int sum = carry;

if(i >= 0){

sum += a.charAt(i) - '0';

i--;

}

if(j >= 0){

sum += b.charAt(j) - '0';

j--;

}

carry = sum > 1 ? 1 : 0;

res.append(sum % 2);

}

if(carry != 0){

res.append(carry);

}

return res.reverse().toString();

}

}