class Solution(object):

def addBinary(self, a, b):

"""

:type a: str

:type b: str

:rtype: str

"""

rest = False

if len(a) != len(b):

x = max(a,b,key=len)

y = min(a,b,key=len)

else:

x = a

y = b

x = x[::-1]

y = y[::-1]

result = ""

for i in range(len(x)):

temp = 0

if rest:

temp += 1

rest = False

if i < len(y):

if x[i] == "1" and y[i] == "1":

temp += 0

rest = True

elif (x[i] == "0" and y[i] == "1") or (x[i] == "1" and y[i] == "0"):

temp += 1

else:

temp += 0

else:

temp += int(x[i])

if temp == 0:

result = "0" + result

elif temp == 1:

result = "1" + result

elif temp == 2:

result = "0" + result

rest = True

if rest:

result = "1" + result

return result