

Problem I: Ignoble Imp

Time limit: 1 second



ONCE upon a time, the Queen was forced to make a very disadvantageous deal with a little man that spun straw into gold. For his service, the Queen had to promise to give her firstborn child to the little man.

Years later, when the Queen's first child is born, the little man returns and demands his payment. She of course wants to keep her child, and after much begging and bargaining, he finally agrees to leave her child if she can guess his name within three days.

In the final night, after all her failed guesses, she wanders into the woods and hears him sing:

Tonight, tonight, my plans I make.
Tomorrow, tomorrow, the baby I take.
The Queen will never win the game,
for hard to discover is my name.

Through endless nights I heard her plea,
she solves my riddle – she'll be free.
Two words I revealed to her in play,
for games delight me more than pay.

From my name those words are spun,
neither is farther than the other one.
Not twice a place is changed in both,
never or once, I swear an oath.

I'd like to follow the old tradition,
if they agree in one position,
then my name is there the same,
for not to make it an unfair game.

Finally, a clue! From what the little man sang, she concludes that she already heard two words of equal length n from which the man's name can be derived. Specifically, the maximum number of different positions between either word and the man's name should be minimal.

Input

The input consists of:

- One line with an integer n ($1 \leq n \leq 10^5$), the length of the two words.
- Two lines, each containing a word of length n , consisting only of English lowercase letters (a–z).

Output

Output a string of length n , consisting only of English lowercase letters (a–z), that could be the little man's name.

If there are multiple valid solutions, you may output any one of them.

<p>Sample Input 1</p> <p>7 chances charted</p>	<p>Sample Output 1</p> <p>charles</p>
<p>Sample Input 2</p> <p>3 aaa bbb</p>	<p>Sample Output 2</p> <p>abz</p>
<p>Sample Input 3</p> <p>1 a b</p>	<p>Sample Output 3</p> <p>b</p>
<p>Sample Input 4</p> <p>15 rumpelstiltskin rumpelstiltskin</p>	<p>Sample Output 4</p> <p>rumpelstiltskin</p>