Encryption protocols

You are hired by big IT company to encrypt their sensitive data.

You will receive chunk of data represented as a **string**.

First, you need to separate the **letters** from the **digits** and **store** them in **two different collections**. Afterwards, you have to combine the two new collections into **new one**, but you have to get the **last item from the collection with digits** and then the **first item from the collection with letters**. If the digit is **even**, **subtract one** from it. Otherwise, the **digit is odd, add one to it**. Bear in mind that the collection with **digits** and the collection with **letters can be with different length**. Your program **must not** stop before you **combine all of the characters in both collections**

In the end you have to print the new collection as **one big string**.

Input

- You will receive **one** line, representing the chunk of data, as **string**.

Output

- Print the encrypted data on one line as a **sting**.

Constraints

- Input data length will be in the range **[2, 100].**
- Input data will contain only letters and digits.
- All of the number in the string will be **positive integers**.

Examples

Input	Output	Comment
1ab23cd4	3a4b1c2d	Fist, we separete digits from letters and we get the folloling collections. Digits: 1,2,3,4 Letters: a,b,c,d Next, we start to merge both collections. We start with last digit from digits collection – 4. 4 is even, so we subtract 1 from it and add it to the result. Then we get the first letter from letters collection and add it to the result. And so on. Finaly we print the result as String.
1ab2cd	1a2bcd	
123bd6	5b3d42	
123456789a	10a78563412	
abcdefg	abcdefg	