1.A company has a sales record of N products for M days. The company wishes to know the maximum revenue received from a given product of the N products each day. Write an algorithm to find the highest revenue received each day.

Input

The first line of the input consists of two space-separatedIntegers-days (M) and products(N), representing the days and the products in the sales record. The next M lines consist of N space-separated integers representing the sales revenue received from each product each day.

Output

Print M space-separated integers representing the maximum received each day.

Constraints

NA

Example

Input:

3 4

100 198 333 323

122 232 221 111

223 565 245 764

Output:

333 232 764

2. A company has launched a new text editor that allows users to enter English letters, numbers and whitespaces only. If a user attempts to enter any other type of character, it is counted as a miss. Given a string of text, write an algorithm to help the developer detect the number of misses by a given user in the given input.

Input

The input consists of a string textlnput, representing the text that is entered in the text editor by the user.

Output

Print an integer representing the number of misses by a given user in the given input.

Constraints

NA

Example

Input:

aa a234bc@ sad$ hsagd^

Output:

3

3.In a science research lab, combining two nuclear chemicals produces a maximum energy that is the product of the energy of the two chemicals. The energy values of the chemicals can be negative or positive. The scientist wishes to calculate the sum of the maximized energies of the two elements when the reaction happens. Write an algorithm to find the total energy produced by the chemicals when the reaction happens.

Input

The first line of the input consists of an integer numOfChem, representing the number of chemicals (N). The second line consists of N space-separated integers – enerp ener2, , enerN representing the energies of the chemicals.

Output

Print an integer representing the total energy produced by the chemicals when the reaction happens.

Constraints

0 <_ num0fChem 106

-106<ener<106

0 < i<numOfChem

Example
Input:
7
9-3 8-6-7 8 10

Output:
19

Explanation:
NA

4. A company wishes to transmit data to another server. The data consists of numbers only. To secure the data during transmission, they plan to reverse the data first. Write an algorithm to reverse the data.
Input
The input consists of an integer data, representing the data to be transmitted.
Output

Print an integer representing the given data in reverse form.

Constraints

NA

Example

Input:

5783789

Output:

9873875

5. An e-commerce company plans to give their customers a discount for the New Years holiday. The discount will be calculated on the basis of the bill amount of the order placed. The discount amount is the sum of all the odd digits on the customer's total bill amount. If no odd digit is present in the bill amount, then the discount will be zero. Write an algorithm to find a discount for the given total bill amount.

Input

The input consists of an integer bill amount, representing the customer's total bill amount.

Output

Print an integer representing the discount for the given total bill amount.

Constraints

0 <billAmount ≤ 109

Example

Input:

2514795

Output:

27

Explanation: