

Shopping Fever

Problem name	Shopping Fever
Input file	standard input
Output file	standard output
Time limit	1 second
Memory limit	256 megabytes

Heidi is in a big store. She would like to purchase n items.

Today is her lucky day. The store runs a special sale: on every purchase, the customer receives one of the following two promotions:

1. When at least 3 items are bought together, the cheapest one is free.
2. When fewer than 3 items are bought together, the customer gets a $q\%$ discount on the purchase.

Heidi would like to buy all n items on her shopping list, each exactly once. She can make an arbitrary number of purchases. For each purchase she'll make, the appropriate promotion will apply.

What is the minimum total price she has to pay to buy all n items?

Input

The first line contains two single space-separated integers n ($1 \leq n \leq 100\,000$) and q ($0 \leq q \leq 100$) — the number of items Heidi wants to buy and the percentage discount she gains for purchases of fewer than three items.

The following line contains n single space separated integers p_1, \dots, p_n — the prices of the goods ($100 \leq p_i \leq 100\,000$, $1 \leq i \leq n$).

Additionally, it is guaranteed that each p_i will always be divisible by 100. Hence, the discounted price of each purchase will always be an integer.

Output

Output a single integer — the minimum total price Heidi has to pay in order to buy all

n items.

Scoring

Subtask 1 (8 points): $n = 3$ and $100 \leq p_i \leq 1000$ ($1 \leq i \leq 3$)

Subtask 2 (18 points): $q = 0$

Subtask 3 (16 points): $q = 40$

Subtask 4 (22 points): $100 \leq p_i \leq 1000$ ($1 \leq i \leq n$)

Subtask 5 (36 points): No additional constraints.

Examples

standard input	standard output
7 10 300 200 200 300 100 300 200	1090
3 20 1000 500 100	1280
4 0 200 100 300 200	600

Note

First, Heidi can buy the three items that cost 200 in a single transaction for 400 (she gets one of them for free). Then she can purchase the three items that cost 300 for 600 (again, one is free). Finally, she can purchase the last remaining item (with cost 100) with a 10% discount.

In the second example test, if Heidi buys all three items in a single transaction, she receives discount of 100. However, if she buys each item individually, her discount will be $(1000 + 500 + 100) \cdot 20/100 = 320$.