Women day

Women's day is coming soon, Beo wants to buy gifts for his mother and his sister. Beo want to buy two gifts with similar prices but he has only K VND. He went to the XYZ store,where there were N items.

Help Beo to choose gifts so that the total price is largest but does not exceed the amount of Beo has, and the difference between the two gifts is the smallest.

Input

The first line contains an integer N and K. N is the number of items in the store and K is the amount of money Beo has

The ith line of the next N lines contains an integer which are price of the items

$(0 < N <= 10^5, 1 <= K <= 10^9, 0 < a_i <= 10^5)$

Output

Output the total amount of money to be spent and the difference between the two gifts (non-negative). If it is not able to select gifts, output "-1 -1".

Example

Input:

5 100

10

50

60

40

50

Output:

100 0