

Question 3

Given a sorted list of distinct positive integers and another integer A, your task is to find out if there are two elements in the list whose sum equals A.

You're supposed to print the position of the array elements and the corresponding values. If there are several pairs whose sum equals A, then print the pair with the largest difference. For example, if $A = 9$, and there are two pairs in arrays: $\langle 4, 5 \rangle$ and $\langle 3, 6 \rangle$, then print 3, 6.

If there is no such pair, then print 'NO'. Your algorithm should be $O(n)$.

Input:

The first line of the input will contain 2 space-separated numbers: N and A, where N represents the number of elements in the (sorted) array, and A represent the sum that needs to be found out.

It will be followed by N lines, where each line will contain integers $A[i]$: one integer per line. (list will be already sorted).

Output:

If a pair with $\text{sum} == A$ is present, then print 4 space-separated numbers: First number representing position of smaller element, second number representing position of larger element, third number representing the value of smaller element while the fourth number will represent value of larger element. Note: Arrays are 0-indexed.

If no such pair exists then: Print 'NO' (without the quotes)

Refer sample input/output.

Constraints:

$$1 \leq A \leq 10^9$$

$$1 \leq N \leq 10^6$$

$$1 \leq A[i] \leq 10^9$$

Sample Input 1:

6 9

1

2

3

4

5

6

Sample Output 1:

2 5 3 6

Sample Input 2:

3 9

2

6
8

Sample Output 2:

NO

Explanation:

In the first case, array contains 6 numbers: <1, 2, 3, 4, 5, 6> and the task is to print the pair with sum = 9. The pair <3,6> is the answer and position of 3 is 2 while that of 6 is 5.

In the second case, there is no pair with sum = 9.