

Problem D. Histogram Sequence 4

Time limit: 1 second

You had a histogram made of N axis-parallel rectangles sharing a common baseline: the i -th rectangle from the left had a width 1 and an integer height H_i .

Sadly, you lost your histogram! Moreover, you even forgot what your histogram looked like — the heights of the rectangles of the histogram. What you remember is the maximum area A of the axis-parallel rectangle inside the histogram, and the fact that $L \leq H_i \leq R$ for every H_i .

Your goal is to recover the histogram by finding any histogram satisfying all the requirements that you remember. As your memory might not be perfect, there may be no histogram satisfying the requirements.

Input

The first and only line contains four space-separated integers, N , A , L , R .

Output

If there is no histogram satisfying the requirements, output NO.

Otherwise, output YES in the first line. In the second line, output N integers in a single line, where the i -th value is the height H_i of the i -th rectangle. If there are multiple answers, print any.

Constraints

- $1 \leq N \leq 500\,000$
- $0 \leq A \leq 10^{18}$
- $0 \leq L \leq R \leq 10^{18}$

Examples

standard input	standard output
6 25 2 10	YES 3 7 6 8 5 5
1 0 0 1000000000000000000	YES 0
1 8213912883 0 28318	NO

Note

A histogram with heights 3, 7, 6, 8, 5, 5 is shown below. The maximum area rectangle inside the histogram has an area of 25.

