# Prefix Product Sequence

time limit per test

1 second

memory limit per test

256 megabytes

input

standard input

output

standard output

Consider a sequence [*a*1, *a*2, ... , *an*]. Define its prefix product sequence http://codeforces.com/predownloaded/4e/0e/4e0e6124f6c5038893ba7efbe2eff2ab65689f21.png.

Now given *n*, find a permutation of [1, 2, ..., *n*], such that its prefix product sequence is a permutation of [0, 1, ..., *n* - 1].

**Input**

The only input line contains an integer *n* (1 ≤ *n* ≤ 105).

**Output**

In the first output line, print "YES" if such sequence exists, or print "NO" if no such sequence exists.

If any solution exists, you should output *n* more lines. *i*-th line contains only an integer *ai*. The elements of the sequence should be different positive integers no larger than *n*.

If there are multiple solutions, you are allowed to print any of them.

**Examples**

**input**

**Copy**

7

**output**

**Copy**

YES  
1  
4  
3  
6  
5  
2  
7

**input**

**Copy**

6

**output**

**Copy**

NO

**Note**

For the second sample, there are no valid sequences.

# Two Arithmetic Progressions

time limit per test

1 second

memory limit per test

256 megabytes

input

standard input

output

standard output

You are given two arithmetic progressions: *a*1*k* + *b*1 and *a*2*l* + *b*2. Find the number of integers *x* such that *L* ≤ *x* ≤ *R* and *x* = *a*1*k*' + *b*1 = *a*2*l*' + *b*2, for some integers *k*', *l*' ≥ 0.

**Input**

The only line contains six integers *a*1, *b*1, *a*2, *b*2, *L*, *R* (0 < *a*1, *a*2 ≤ 2·109,  - 2·109 ≤ *b*1, *b*2, *L*, *R* ≤ 2·109, *L* ≤ *R*).

**Output**

Print the desired number of integers *x*.

**Examples**

**input**

**Copy**

2 0 3 3 5 21

**output**

**Copy**

3

**input**

**Copy**

2 4 3 0 6 17

**output**

**Copy**

2