Checkers

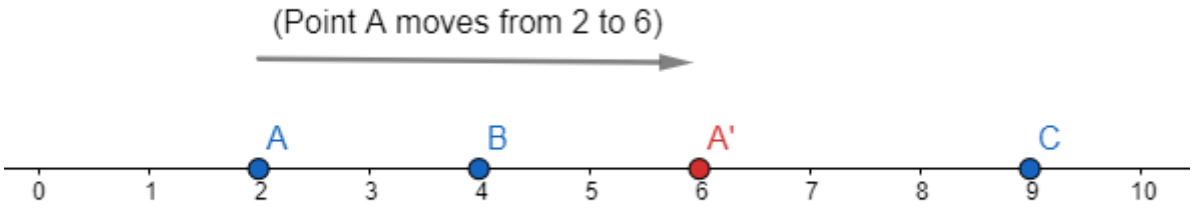
Input file:	`standard input`
Output file:	`standard output`
Time limit:	1 second
Memory limit:	256 megabytes

Checkers

Checkers, also known as draughts, is a group of strategy board games for two players which involve diagonal moves of uniform game pieces and mandatory captures by jumping over opponent pieces.

In this question we will consider a simplified version of the checkers game.

Assume there is a 1-D number line. Pieces can only be placed on the integers points. No more than one piece can be placed on each point.



Schematic for Simplified Checkers game

Let's play a simple game with checkers: assume there are 3 pieces on the board, in positions A, B and C. We want to move their positions to X, Y, Z with minimal 'jumping' required. (The pieces are indistinguishable)

The rules of 'jumping' are very simple:

1. Choose any piece
2. Select another piece to be your central axis.
3. Move the piece you choose to 'jump' over the central axis piece.
4. After the 'jump', the distance between the two pieces should remain the same.
5. During the whole process of 'jumping', you can 'jump' over one piece only, any move that involves jumping over more than one piece is prohibited.
6. No two pieces are allowed to be in a single point.

For example, point A is at $x = 2$, the central axis piece chosen is point B at $x = 4$. Thus, the distance is 2. Point A will moves from point 2 to point 6.

Can you write a program, first determine whether the task can be completed. If possible, output the minimum number of 'jumping' required.

Input

The first line contains 3 integers , A, B, C ($-10^8 \leq A, B, C \leq 10^8$). A, B, C are distinct. ($A \neq B \neq C$)

The second line contains 3 integers , X, Y, Z ($-10^8 \leq X, Y, Z \leq 10^8$). X, Y, Z are distinct. ($X \neq Y \neq Z$)

Output

If there is no solution, print "NO".

If it is possible to reach, print "YES"in the first line. Then print the minimum 'jumping' required in the second line.

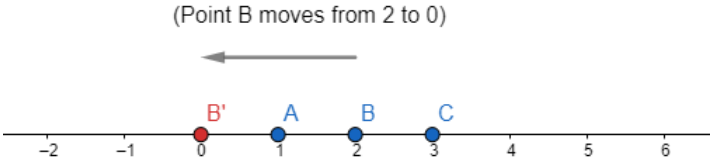
Examples

standard input	standard output
1 2 3 0 3 5	YES 2
1 5 10 -1 3 7	NO

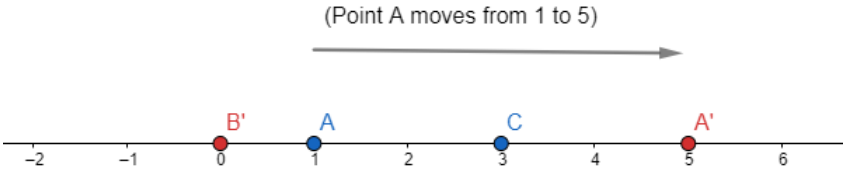
Note

The first example is illustrated as below.

1.



2.



(Note that the points are indistinguishable. A,B,C are labelled only for illustration purpose)