

## C. White Sheet

time limit per test: 1 second

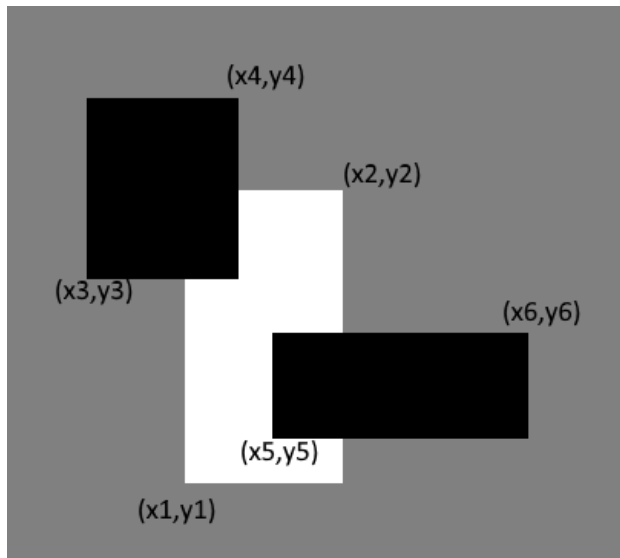
memory limit per test: 256 megabytes

input: standard input

output: standard output

There is a white sheet of paper lying on a rectangle table. The sheet is a rectangle with its sides parallel to the sides of the table. If you will take a look from above and assume that the bottom left corner of the table has coordinates  $(0, 0)$ , and coordinate axes are left and bottom sides of the table, then the bottom left corner of the white sheet has coordinates  $(x_1, y_1)$ , and the top right —  $(x_2, y_2)$ .

After that two black sheets of paper are placed on the table. Sides of both black sheets are also parallel to the sides of the table. Coordinates of the bottom left corner of the first black sheet are  $(x_3, y_3)$ , and the top right —  $(x_4, y_4)$ . Coordinates of the bottom left corner of the second black sheet are  $(x_5, y_5)$ , and the top right —  $(x_6, y_6)$ .



Example of three rectangles.

Determine if some part of the white sheet can be seen from the above after the two black sheets are placed. The part of the white sheet can be seen if there is at least one point lying **not strictly inside** the white sheet and **strictly outside** of both black sheets.

### Input

The first line of the input contains four integers  $x_1, y_1, x_2, y_2$

$(0 \leq x_1 < x_2 \leq 10^6, 0 \leq y_1 < y_2 \leq 10^6)$  — coordinates of the bottom left and the top right corners of the white sheet.

The second line of the input contains four integers  $x_3, y_3, x_4, y_4$

$(0 \leq x_3 < x_4 \leq 10^6, 0 \leq y_3 < y_4 \leq 10^6)$  — coordinates of the bottom left and the top right corners of the first black sheet.

The third line of the input contains four integers  $x_5, y_5, x_6, y_6$

$(0 \leq x_5 < x_6 \leq 10^6, 0 \leq y_5 < y_6 \leq 10^6)$  — coordinates of the bottom left and the top right corners of the second black sheet.

**The sides of each sheet of paper are parallel (perpendicular) to the coordinate axes.**

### Output

If some part of the white sheet can be seen from the above after the two black sheets are placed, print "YES" (without quotes). Otherwise print "NO".

### Examples

### Codeforces Round #587 (Div. 3)

Finished

Practice



### → Virtual participation

Virtual contest is a way to take part in past contest, as close as possible to participation on time. It is supported only ICPC mode for virtual contests. If you've seen these problems, a virtual contest is not for you - solve these problems in the archive. If you just want to solve some problem from a contest, a virtual contest is not for you - solve this problem in the archive. Never use someone else's code, read the tutorials or communicate with other person during a virtual contest.

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### → Practice

You are registered for practice. You can solve problems unofficially. Results can be found in the contest status and in the bottom of standings.

### → Clone Contest to Mashup

You can clone this contest to a mashup.

[Clone Contest](#)

### → Submit?

 Language: GNU G++11 5.1.0





 Choose file: 选择文件 未选择任何文件
[Submit](#)

### → Problem tags

[geometry](#) [math](#)

No tag edit access

### → Contest materials

- Announcement #1 (en) 
- Announcement #2 (ru) 
- Tutorial #1 (en) 
- Tutorial #2 (ru) 

input	Copy
<pre>2 2 4 4 1 1 3 5 3 1 5 5</pre>	
output	Copy
NO	

input	Copy
<pre>3 3 7 5 0 0 4 6 0 0 7 4</pre>	
output	Copy
YES	

input	Copy
<pre>5 2 10 5 3 1 7 6 8 1 11 7</pre>	
output	Copy
YES	

input	Copy
<pre>0 0 1000000 1000000 0 0 499999 1000000 500000 0 1000000 1000000</pre>	
output	Copy
YES	

**Note**

In the first example the white sheet is fully covered by black sheets.

In the second example the part of the white sheet can be seen after two black sheets are placed. For example, the point  $(6.5, 4.5)$  lies not strictly inside the white sheet and lies strictly outside of both black sheets.

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