

Insert and Search

Professor Arnab is hiding some gold coins in a field. Students are required to find the gold coins. Since the professor is very busy person, he assigns you the task of hiding the coins. Since, you are a student, you will help your friends by telling them if there is a coin at the coordinate given by your friends.

Formally, you will be given 2 types of queries : Insert (0) and Search (1).

Input:

0 x y : Insert a coin at (x,y)

1 x y : Report if there is a coin at (x,y)

Output:

For every query, print the query statement as it is.

For Search query, print "Yes" or "No" (quotes only for clarity) accordingly

For every query, print a blank line at the end

Notes:

* The coordinates (x,y) will be such that both x and y have atmost 6 digits after the decimal. Output format as sir told.

Constraints

$x \geq 0, x \leq 1$

$y \geq 0, y \leq 1$

Total Queries $\leq 1e5$

Sample Input

0 0.2777 0.0886

0 0.8335 0.7793

1 0.6649 0.0492

0 0.0027 0.2362

0 0.7763 0.0059

0 0.3426 0.0540

0 0.5211 0.5736

0 0.6429 0.2567

1 0.2777 0.0886

1 0.3426 0.0540

Sample Output

0 0.277700 0.088600

0 0.833500 0.779300

1 0.664900 0.049200

No

0 0.002700 0.236200

0 0.776300 0.005900

0 0.342600 0.054000

0 0.521100 0.573600

0 0.642900 0.256700

1 0.277700 0.088600

Yes

1 0.342600 0.054000

Yes

Credits : Saurav Kumar for writing story.

As this is tutorial problem , try to solve this problem using quadtrees and kd trees to learn about them.