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The Virtual Learning Environment for Computer Programming

## Circles (3)

To solve this exercise you will need the definitions and the procedures of problems P46254, P84786 and P39799.
Write a function that prints the relationship that have two given circles $c 1$ and $c 2$ :

$$
\text { int relationship (const Circle \& } c 1 \text {, const Circle \& } c 2 \text { ); }
$$

Your function must return 1 if $c 1$ is inside $c 2,2$ if $c 2$ is inside $c 1,3$ if any circle in inside the other one but the circles intersect, and 0 otherwise (if the circles do not have any point in common).
Suppose that will never happen any of these extrem cases:

- The two circles intersect in a point.
- A circle is inside the other one, but shares a point with the border of the bigger circle.
- The two circles are equal.

Write a program that reads initial circles $c 1$ and $c 2$, followed by a series of orders, and prints which relationship have $c 1$ and $c 2$ in each step as it is shown in the examples.

## Input

Input starts with two lines, one for $c 1$, and the other one for $c 2$, each one with three reals (the third the radius, strictly positive). Then a sequence of lines comes, each one of them starts with an integer $i$ and ander $s: i$ is 1 or 2 , i indicates which circle must apply the order to; $s$ is "move" or "scale". If $s$ is "move", then two reals that indicate the increase of the coordinates come. If $s$ is "scale", then a real strictly positive that indicates scale factor comes.

## Output

Your program must print the relationship between the two circles at the beginning and in each step, as it is shown in the instance.

## Sample input

```
0 5
1 2
scale 10
move 20 0.5
2 move -5 -10
```


## Sample output

the second circle is inside the first one the first circle is inside the second one circles intersect
circles do not intersect

## Problem information

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