# Problem 2 – Durts

Nakov and SoftUni team were bored and they decided to make a special game, called “Durts”. The rules of the game were easy: all players throw one dart and if the dart get into the figure, the player takes a point. The shape of the figure represents a cross like the picture on the right. Your task is to write a program that calculates if the dart is in the figure.

Each game starts with given **coordinates of the center (CX, CY)** of the figure, the **size r,** the **count n**, and **n coordinates (X, Y)** of the darts. See the figure with center (5, 5), r=2, and 7 darts to get a better idea.

### Input

The input comes from the console. The first and the second numbers hold the coordinates **CX and CY** of the center of the figure. The next two numbers are **r of figure** and the **count n**, followed by **n** coordinates **X** and **Y** of the thrown darts. All input numbers will be separated one from another by whitespace (one or more spaces / new lines). The input data will always be valid and in the format described. There is no need to check it explicitly.

### Output

Print at the console the result “**yes**” or “**no**” for each dart in the same order, each at a separate line.

### Constraints

* The coordinates **CX** and **CY** of the **center** and **darts** coordinates (**X**, **Y**) will be integers in range [-1000…1000].
* The **r** will be positive integer in the range [0…500].
* The **count n** will be **positive** integer in the range [0…20].
* Time limit: 0.3 sec. Memory limit: 16 MB.

### Examples

|  |  |  |
| --- | --- | --- |
| **Input** | **Output** | **Comments** |
| 5 5  2  7  2 8 2 3 4 5 5 2 5 6 7 4 9 4 | no  no  yes  no  yes  yes  no | center = (5, 5)  r = 2  n = 7  (2, 8) 🡪 no; (2, 3) 🡪 no;  (4, 5) 🡪 yes; (5, 2) 🡪 no;  (5, 6) 🡪 yes; (7, 4) 🡪 yes;  (9, 4) 🡪 no |
| -3 6  5  8  -5 2 -5 1 10 1 9 1 1 4 6 6  -100 100 3 -3 | yes  yes  no  no  yes  no  no  no | **center = (-3, 6)**  **r = 5**  **8 = 7**  **(-5, 2)** 🡪 yes; (-5,1) 🡪 yes;  (10, 1) 🡪 no; (9,1) 🡪 no;  (1, 4) 🡪 yes; (6, 6) 🡪 no;  (-100, 100) 🡪 no; (3, -3) 🡪 no |
| 5 16  2  4  3 3 5 14 6 7 8 6 | no  yes  no  no | center = (5, 16)  r = 2  n = 4  (3, 3) 🡪 no; (5, 14) 🡪 yes;  (6, 7) 🡪 no; (8, 6) 🡪 no |