Level 2 - Dividing angle

Task

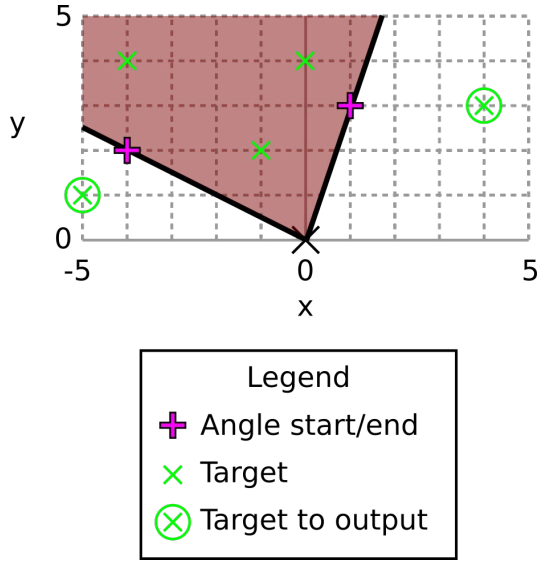
In this level only the area where Y is positive is used.

Two points will be given. Imagine drawing lines from the start point through these two points. Find the targets that are **not** between these two lines.

Output the relevant targets in the order given in the input.

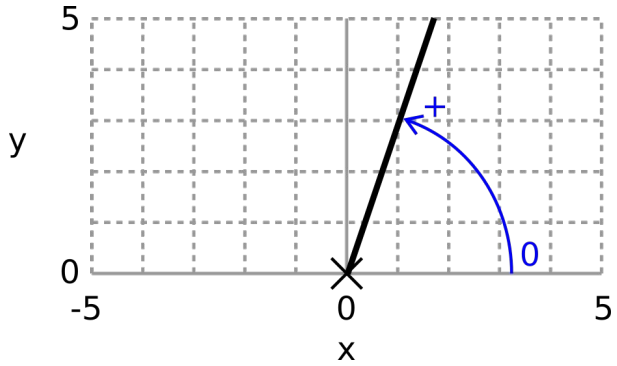
Notes

No targets will lie on the lines from the start point through the angle start/end points.



Hints

All commonly used programming languages have a function `atan2(y,x)` (also called `Atan2` or `arctan2`), which computes the angle of a point as shown:



Compare the angle of each target with the angles of the given angle start/end points.

Data format

Input

`<AngleX_1> <AngleY_1>` the coordinates of one of the angle start/end points
`<AngleX_2> <AngleY_2>` the coordinates of the other of the angle start/end points
`<T>` the number of targets
T lines: `<X> <Y>` the coordinates of a target

Output

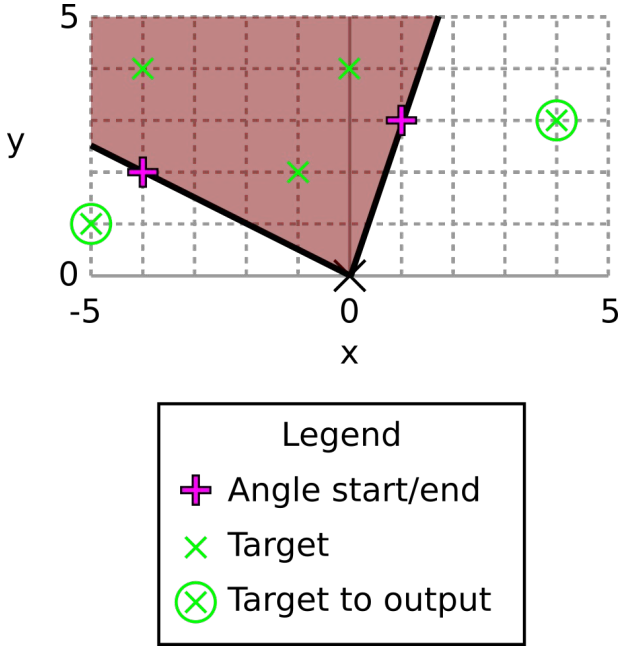
`<X_1> <Y_1> … <X_M> <Y_M>`

Level 2

Example

Input

```
-4 2
1 3
5
-4 4
0 4
4 3
-1 2
-5 1
```



Output

```
4 3 -5 1
```


Level 2