Victor is building a Japanese rock garden in his 24×24 square courtyard. He overlaid the courtyard with a Cartesian coordinate system so that any point (x, y) in the courtyard has coordinates $x \in [-12, 12]$ and $y \in [-12, 12]$. Victor wants to place 12 stones in the garden according to the following rules:

- The center of each stone is located at some point (x, y), where x and y are integers $\in [-12, 12]$.
- The coordinates of all twelve stones are pairwise distinct.
- The Euclidean distance from the center of any stone to the origin is *not an integer*.
- The sum of Euclidean distances between all twelve points and the origin is an almost integer, meaning the absolute difference between this sum and an integer must be $\leq 10^{-12}$.

Given the values of x and y for the first stone Victor placed in the garden, place the remaining 11 stones according to the requirements above. For each stone you place, print two space-separated integers on a new line describing the respective x and y coordinates of the stone's location.

Input Format

Two space-separated integers describing the respective values of x and y for the first stone's location.

Constraints

- $-12 \leq x, y \leq 12$

Output Format

Print 11 lines, where each line contains two space-separated integers describing the respective values of x and y for a stone's location.

Sample Input 0

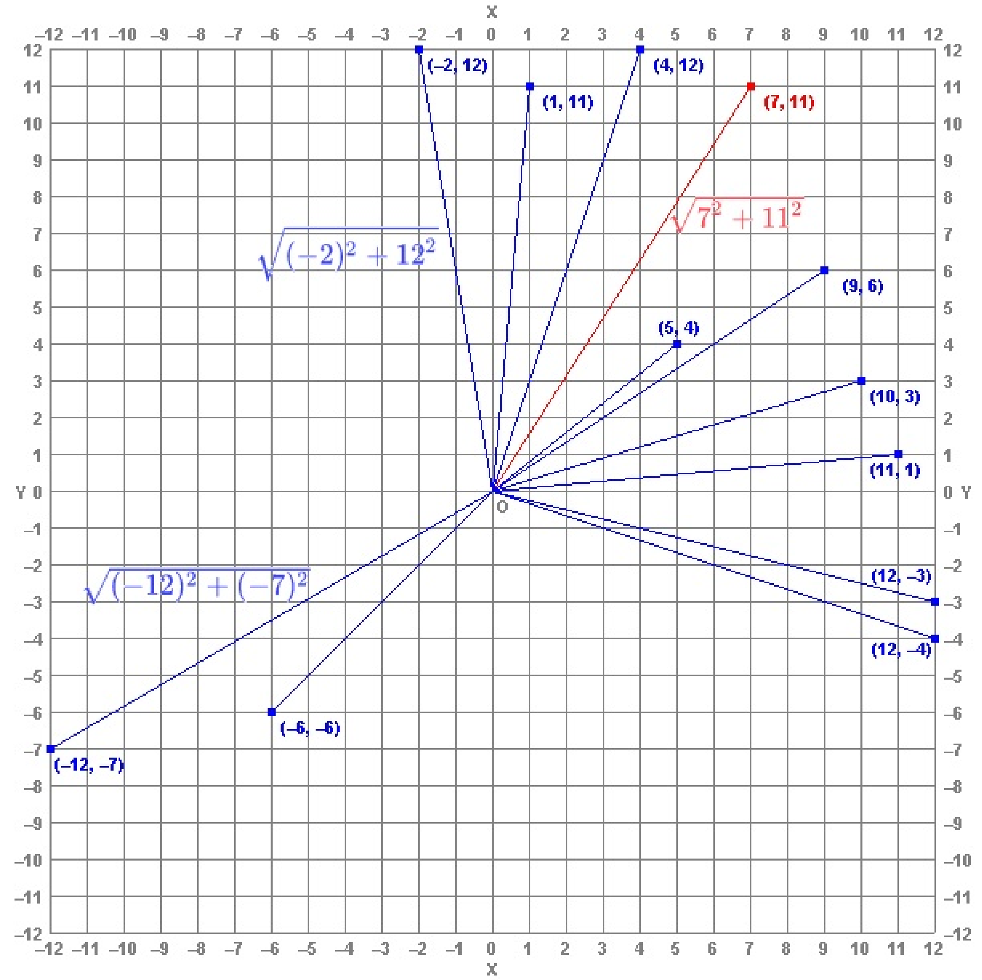
```
7 11
```

Sample Output 0

```
11 1
-2 12
5 4
12 -3
10 3
9 6
-12 -7
1 11
-6 -6
12 -4
4 12
```

Explanation 0

The diagram below depicts the placement of each stone and maps its distance to the origin (note that *red* denotes the first stone placed by Victor and *blue* denotes the eleven remaining stones we placed):



Now, let's determine if the sum of these distances is an almost integer. First, we find the distance from the origin to the stone Victor placed at $(7, 11)$, which is $\sqrt{7^2 + 11^2} \approx 13.038404810405297429165943114858$. Next, we calculate the distances for the remaining stones we placed in the graph above:

1. $\sqrt{11^2 + 1^2} \approx 11.045361017187260774210913843344$
2. $\sqrt{(-2)^2 + 12^2} \approx 12.165525060596439377999368490404$
3. $\sqrt{5^2 + 4^2} \approx 6.4031242374328486864882176746218$
4. $\sqrt{12^2 + (-3)^2} \approx 12.369316876852981649464229567922$
5. $\sqrt{10^2 + 3^2} \approx 10.440306508910550179757754022548$
6. $\sqrt{9^2 + 6^2} \approx 10.816653826391967879357663802411$
7. $\sqrt{(-12)^2 + (-7)^2} \approx 13.892443989449804508432547041029$
8. $\sqrt{1^2 + 11^2} \approx 11.045361017187260774210913843344$
9. $\sqrt{(-6)^2 + (-6)^2} \approx 8.4852813742385702928101323452582$
10. $\sqrt{12^2 + (-4)^2} \approx 12.649110640673517327995574177731$
11. $\sqrt{4^2 + 12^2} \approx 12.649110640673517327995574177731$

When we sum these eleven distances with the distance for the stone Victor placed, we get $\approx 135.000000000000016207888321012$. The nearest integer to this number is 135, and the distance between this sum and the nearest integer is $\approx 1.6 \times 10^{-14} \leq 10^{-12}$ (meaning it's an almost integer). Because this configuration satisfies all of Victor's rules for his rock garden, we print eleven lines of `x y` coordinates describing the locations of the stones we placed.