World Wide Flyer (**WWF**) has landing rights at several airports throughout the world. They wish to place their central hub at the airport that minimizes the maximum direct flying distance from the hub to any other airport in the world.

Input

Input file contains several sets of input. Each set consists of a line containing $n \leq 1000$, the number of airports. n lines follow, each giving the latitude (between -90 and +90 degrees) and longitude (between -180 and +180 degrees) of an airport.

The input floating point numbers will not have more than two digits after the decimal point.

Input is terminated by end of file.

Output

For each set of input print the latitude and longitude of the airport that best serves as a hub in a single line. If there is more than one airport that best serves as a hub print the one that appears last in the input of the corresponding input set.

Your output should always contain two digits after the decimal point.

Sample Input

```
3
3.2 -15.0
20.1 -175
-30.2 10
3
3.2 -15.0
20.1 -175
-30.2 10
```

Sample Output

```
3.20 -15.00
3.20 -15.00
```