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SHawnHardy
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Buried memory

Time Limit: 2000/1000 MS (Java/Others)   Memory Limit: 32768/32768 K (Java/Others)
Total Submission(s): 3644   Accepted Submission(s): 1955

Problem Description

Each person had do something foolish along with his or her growth.But,when he or she did this that time,they could not predict that this thing is a mistake and they will want this thing would rather not happened.

The world king Sconbin is not the exception.One day,Sconbin was sleeping,then swakened by one nightmare.It turned out that his love letters to Dufein were made public in his dream.These foolish letters might ruin his throne.Sconbin decided to destroy the letters by the military exercises's opportunity.The missile is the best weapon.Considered the execution of the missile,Sconbin chose to use one missile with the minimum destruction.

Sconbin had writen N letters to Dufein, she buried these letters on different places.Sconbin got the places by difficult,he wants to know where is the best place launch the missile,and the smallest radius of the burst area. Let's help Sconbin to get the award.

Input

There are many test cases.Each case consists of a positive integer N(N<500,^V^,our great king might be a considerate lover) on a line followed by N lines giving the coordinates of N letters.Each coordinates have two numbers,x coordinate and y coordinate.N=0 is the end of the input file.

Output

For each case,there should be a single line in the output,containing three numbers,the first and second are x and y coordinates of the missile to launch,the third is the smallest radius the missile need to destroy all N letters.All output numbers are rounded to the second digit after the decimal point.

Sample Input

```
3
1.00 1.00
2.00 2.00
3.00 3.00
0
```

Sample Output

```
2.00 2.00 1.41
```

Source

2009 Multi-University Training Contest 11 - Host by HRBEU

Recommend

gaojie | We have carefully selected several similar problems for you: 3004 3001 3002 3003 3006

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Administration