

## 3945 Catch the Ants

Everybody knows that *xxx* loves eating ants. Today, *xxx* is lucky to find a crowd of  $n$  ants at a time. *xxx* thinks of a great method to catch all ants. He applies the glue on a disk and uses the disk with glue face downwards to catch all ants. In this way, he can catch all ants at a time with just a slap. *xxx* has all sizes of disks, but the glue is quite expensive and also has to be painted on the disks evenly. So *xxx* wants to choose the smallest disk so that he can save some glue. Write a program to help the poor *xxx*.

### Input

The input file contains multiple test cases. Each test case contains an integer, the number of ants, followed by  $n$  pairs of numbers  $(x_i, y_i)$ , the coordinates of the location where the  $i$ -th ants is ( $1 < n, x_i, y_i < 500000$ ). Proceed to the end of the input file.

### Output

For each test case, output one number, the radius of the smallest disk. Keep 4 decimals after the decimal point. Please output the result as that in the Sample Output.

### Sample Input

```
2
1 1
1 2
```

### Sample Output

```
Case 1: 0.5000
```