Competitive Programming SS24

Submit until end of contest

Problem: thunder (1.0 second timelimit)

> "I mean, some people got guns, and some people got flashlights, and some people got batteries. These guys had all three."
>
> J. Michael Straczynski, "Jeremiah."

Markus is building an army to fight the evil Valhalla Sector, so he needs to move some supplies between several of the nearby towns. The woods are full of robbers and other unfriendly folk, so it's dangerous to travel far. As Thunder Mountain's head of security, Lee thinks that it is unsafe to carry supplies for more than $10\ km$ without visiting a town. Markus wants to know what is the farthest distance one would need to travel at least to get from one town to another.

Input The first line of input gives the number of cases, $1 \leq t \leq 200$. Each test case starts with a line containing $2 \leq n \leq 100$, the number of towns. The next n lines will give the xy-locations of each town in km (integers in the range $[0, 1023]$). Assume that the Earth is flat and the whole 1024×1024 grid is covered by a forest with roads connecting each pair of towns that are no further than $10\,km$ away from each other.

All distances are measured in the Euclidean metric, and there might be multiple towns in the same location.

Output For each test case, output the maximum of all minimum distances between pairs of towns. Round the answer to 4 decimal places. If it is impossible to get from some town to some other town, print "`Send Kurdy`" instead.

Sample input

```
2
5
0 0
10 0
10 10
13 10
13 14
2
0 0
10 1
```

Sample output

```
25.0000
Send Kurdy
```