

Sawyer's Singles

Filename: singles

Sawyer is making a dating website and he wants help writing some code to help people meet others nearby. Sawyer's only metric for rating people is their distance apart. Sawyer also restricts the number of men who can make dating profiles on his website to be only himself, so that he has the best chance of matching with people. A number of people signed up for the website and Sawyer wants to know who he will match with. Given the locations of everyone, as (x, y) coordinates, as well as the location of Sawyer, print out who Sawyer will match with. In the case that two people are equidistant from Sawyer, Sawyer prefers people whose names come alphabetically first so they should be chosen.

The Problem

Given the location of people on the dating website, print out who Sawyer will match with.

The Input

The first line of the input will contain a number n , indicating the number of dating websites that Sawyer will make. Following this will be the description of each site. Each site will start with a single integer, m , ($2 \leq m \leq 100$), indicating the number of people on the website. Following this will be m lines describing each person. A person's description starts with their name followed by their location with a pair of integers x and y ($-1000 \leq x, y \leq 1000$). The first person for each site is guaranteed to be Sawyer.

The Output

For each dating website output the person that Sawyer will be matched on a line by itself.

Sample Input

```
2
3
Sawyer 0 0
Sarah 10 10
Jane 5 5
3
Sawyer 0 0
Beth 1 1
Daniella 1 0
```

Sample Output

```
Jane
Daniella
```