

Your blood-thirsty “friend” Gnuffalo Bill wants to set the new world record to be published in the A.H.A. (American Hunters Association) Records Book. His idea is to use the brand new Barata gun to kill as many gnus as possible with a single shot. What a nice fellow Bill is! Well, he has not so kindly asked you to help him figure out, given a map of positions of gnus, how many he can kill at once. To avoid his wrath, you rush to your work table and start writing a program to fulfill Bill’s request.

Input

The first line of input gives the number of cases, T ($1 \leq T \leq 10$). T test cases follow. Each one contains a number N , such that $100 \geq N \geq 1$, followed by N lines describing the positions of the gnu. Each such line contains two numbers, with two decimal values, describing the cartesian coordinates X and Y of a gnu, such that $100.00 \geq X, Y \geq -100.00$. Positions may be repeated, but only count once.

Output

The output is comprised of one line for each input data set. The line identifies the data set with a number (starting from one and incrementing at each new data set), the number of gnus and the maximum number of aligned gnus. The exact format shall follow the sample output.

Sample Input

```
3
5
0.00 0.00
0.00 0.00
1.00 1.00
1.00 0.00
0.00 1.00
2
0.00 0.00
0.00 0.00
6
0.00 2.00
0.00 0.00
1.00 1.00
1.00 0.00
0.00 1.00
0.00 -2.00
```

Sample Output

```
Data set #1 contains 4 gnus, out of which a maximum of 2 are aligned.
Data set #2 contains a single gnu.
Data set #3 contains 6 gnus, out of which a maximum of 4 are aligned.
```