7. Flower Power

Program Name: flower.java Input File: flower.in

When planning a garden, it's important to space plants far enough apart to keep their roots from interfering with one another (as well as the above ground portions). Each type of plant has a typical radius for its root structure and another typical radius for the above ground portion.

Write a program that, given a list of plants, their typical radii, and their positions in the garden, will determine whether or not all of the plants have enough room to grow.

Input

The first line of the input file will contain a single integer, *n,* indicating the number of gardens requiring analysis. For each garden, the first line will contain a single integer, *m*, indicating the number of plants in the garden. The following *m* lines each represent one plant in the garden with four non-negative integers, *a*, *b*, *x*, *y*, where *a* is the typical radius of the root system, *b* is the typical radius of the above ground portion, and the coordinates (*x*,*y*) denote the plant's position in the garden.

Output

For each garden in the input, determine whether or not all plants have sufficient room to grow (both above and below ground). If so, print, "yes". Otherwise, print, "no". After printing the verdict for each garden, output a string with the total count of "yes" gardens but encrypt the string using the algorithm given in problem 4.

Note: In the example, the unencrypted version of the last line would be the number 1.

Example Input File

```
3
3
5 5 0 0
1 1 6 0
12 1 0 16
3
5 5 0 0
1 1 6 0
1 12 0 16
2
5 1 0 0
1 5 6 0
```

Example Output To Screen

```
no
no
yes
ce
```