

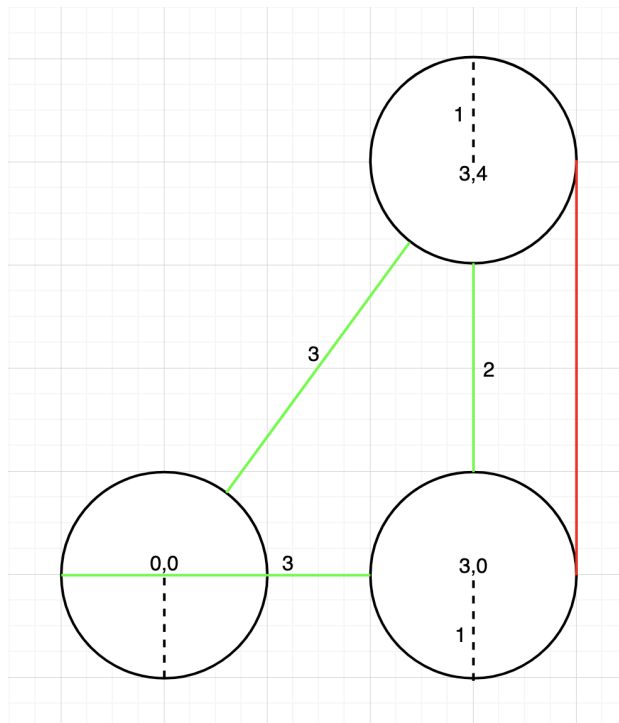
Suppandi And Building Bridges

Suppandi after trying a lot has finally become an engineer. After getting a job he has been given the task of building bridges. The bridges are to be built between multiple islands so that they can be connected together.

There are T circular islands in the construction area with different radii R_i ($i=\{1,2,3,...T\}$) and center (P_i, Q_i) ($i=\{1,2,3,...T\}$). And the islands are arranged in such a way that no two islands are touching each other and no two islands coincide. (i.e. there is always a gap between any two islands).

Suppandi being Suppandi, unwilling to work, bought N ready-made bridges of length L . Since his boss does not want to waste any building material he has now been given a task to **find out the maximum pair of islands that can be directly connected together using those bridges**.

The only way to connect two islands is to place a bridge between them such that **both ends of the bridge connect the islands at the border along the line joining the centers of the two islands**(in the diagram given below the red line is an invalid bridge since it isn't along the center). There should be **no overlap** between the island and the bridge **except** when the bridge **crosses over** the island and touches the other end of it. (See diagram). You **cannot cut a bridge** into multiple bridges of different sizes, although multiple bridges **can be joined together** to form longer bridges (for example 2 bridges of length L when joined together become a single bridge of length $2L$)



Since Suppandi is lazy and you are his best friend, he has asked you to help him while he enjoys a plate of steaming momos. He has offered you some if you finish the task before he finishes the plate.

Input Format:

Each input contains the following :

- **T**: The number of islands in the area of construction ($0 < T \leq 1000$)
- **L**: The length of bridges purchased by Suppandi ($0 < L \leq 5000$)
- **N**: The number of bridges bought by Suppandi ($0 < N \leq 200$)
- **T** lines each containing **P Q R**: The x and y coordinate of the **center** and the radius of the island where P Q & R are space separated ($-500 \leq P, Q \leq 500$) ($0 \leq R \leq 1000$)

Output Format:

- A single integer containing the **maximum** number of directly connected pairs of islands

Example Test Case:

Input:

```
3
1
10
0 0 1
3 0 1
3 4 1
```

Output:

```
3
```

Explanation:

All three islands can be connected, see the image for reference