Radio Blah-Blah

It's on the waves. It's in the air. It's carried by the breeze. *Radio Blah-Blah* is Silhouettown's newest and trendiest radio station (107-109 FM). They don't host breakfast shows: they have brunch shows instead. They don't have phone-ins, fans must handwrite letters instead.

To make sure everyone can tune-in to the latest hip-hop bops, power ballads, and pop anthems, *Radio Blah-Blah* have constructed **n** radio towers around the city to broadcast their shows. These towers have been constructed by a multitude of tech giants, and so each tower has its own effective range, r_i. The signal broadcast by a tower can only be received by an aerial within its effective range.

Your friend (it's definitely your friend, you wouldn't dream of listening to *Radio Blah-Blah*) can't get enough of their hip-swinging tunes. They want to listen to the station 24/7 at *full* volume... and for full volume, they need the strongest signal.

The signals broadcasted from the towers are cumulative — i.e. the signal is stronger if an aerial is in range of two towers. Thus, the strongest signal can be obtained at the position that is in range of the most towers. Your friend (yes, it's definitely your friend) has gathered a map of all the *Radio Blah-Blah* towers in Silhouettown and they have asked you to find the maximum number of towers their aerial can in range of for any given point. Due to technical limitations, the aerial may only be placed at integer positions.

INPUT   You will be given an integers, **n**, denoting the number of towers. This will be followed by three integers, x_i, y_i and r_i, which give the location and effective range of each tower.

$1 \leq$ **n** $\leq 5{,}000$
$-2{,}000{,}000 \leq x_i, y_i \leq 2{,}000{,}000$
$1 \leq r_i \leq 2{,}000{,}000$

OUTPUT   You should output a single integer, the maximum number of towers of which an aerial can be in range.

SAMPLE   For example, suppose there are five towers at positions (0,0), (1,2), (-2,1), (-2,2), and (2,-1), with effective ranges 1, 1, 2, 2, and 4, respectively. An aerial at position (0,2) is in range of 3 towers. An aerial at position (1,-1) is only in range of 1 tower. An aerial at position (-1,1) is also in range of 3 towers. This is the maximum number of towers of which an aerial can be in range.

INPUT	OUTPUT
5	3
0 0 1	
1 2 1	
-2 1 2	
-2 2 2	
2 -1 4	
8	8
1 2 3	
2 1 3	
1 -2 4	
2 -1 4	
-1 2 4	
-2 1 4	
-1 -2 3	
-2 -1 3	
3	1
1000 1000 20	
-2000 3000 30	
4000 -5000 10	