

Problem A. Alien invaders

Input file: *standard input*
Output file: *standard output*
Time limit: 7.8 seconds
Memory limit: 512 mebibytes

The aliens from outer space have (finally!) invaded Earth. Defend yourself, or be disintegrated! Or assimilated. Or eaten. We are not yet sure.

The aliens follow a known attack pattern. There are n attackers, the i -th one appears at time a_i , at distance d_i from you. He must be destroyed no later than at time b_i , or else he will fire his weapon, which will definitely end the fight.

Your weapon is an area-blaster, which can be set to any given power. If fired with power R , it momentarily destroys all aliens at distance R or smaller. It also consumes R fuel cells.

Determine the minimal cost (measured in fuel cells) of destroying all the aliens, without being killed.

Input

The first line of input contains the number of test cases T . The descriptions of the test cases follow:

Each test case starts with a line containing the number of aliens n ($1 \leq n \leq 300$). Of the next n lines, the i -th one contains three integers a_i, b_i, d_i , ($1 \leq a_i < b_i \leq 10\,000$; $1 \leq d_i \leq 10\,000$). The i -th alien appears at time a_i , is idle until b_i , and his distance from you is d_i .

Output

For each test case, output one line containing the minimum number of cells needed to destroy all the aliens.

Example

standard input	standard output
1	7
3	
1 4 4	
4 7 5	
3 4 7	