Problem F - Flying Arrows

Daniel is done with swimming after nearly drowning, so he heads back into the arcade play a few more arcade games.

He's playing an archery game where he needs to shoot as many targets as he can with a single arrow. Daniel's character can stand **anywhere in the plane beneath the x-axis**, and needs to shoot targets that are x-axis aligned line segments.

As a master archer, his arrows fly perfectly straight for infinitely long and pierce through all targets it hits. Daniel will get points for each target hit equal to to the length of the target.

Help Daniel determine the maximum number of points he can get.

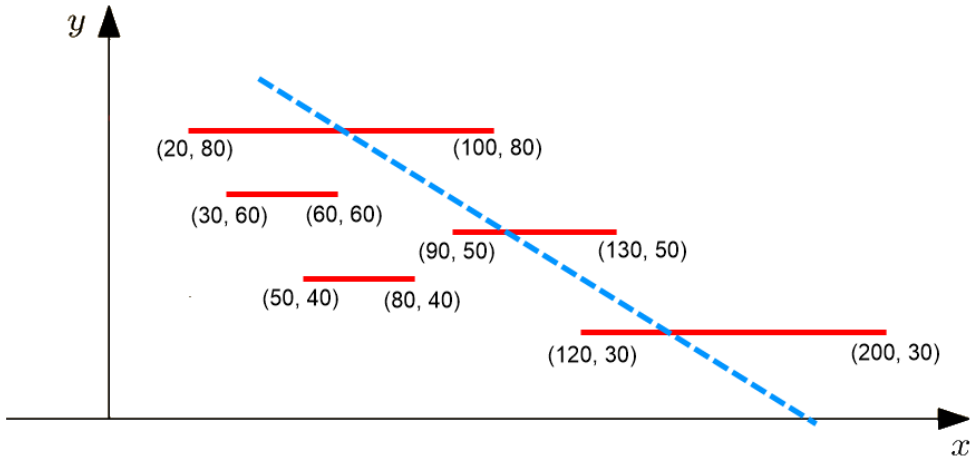

Figure 1: Illustration of the first sample input. Daniel should fire his arrow along the blue dashed line to get the most points

Input

The first line contains a single integer T denoting the number of test cases.

Each test case begins with a single integer n ($1 \leq n \leq 2000$) denoting the number of targets.

The next n lines contains 3 integers x_0, x_1, y_0 ($y_0 \geq 0$) denoting that the targets lie between x_0 and x_1 with y_0 as the y-coordinate of the target.

No two targets intersect, not even at a point.

All coordinates have absolute value less than 10^6.

Output

For each test case, output the maximum number of points Daniel can get while shooting one arrow. Daniel get's points equal to the length of the target for each target hit.

Sample Input

```
8
5
120 200 30
50 80 40
90 130 50
30 60 60
20 100 80
3
0 10 20
-92 -92 30
-25 -50 20
1
-100 180 40
1
-1000000 1000000 1
1
-1000000 1000000 1000000
1
-1000000 -999999 1000000
1
1000000 999999 1000000
2
-1000 0 200
1 1000 200
```

Sample Output

```
200
25
280
2000000
2000000
1
1
1000
```