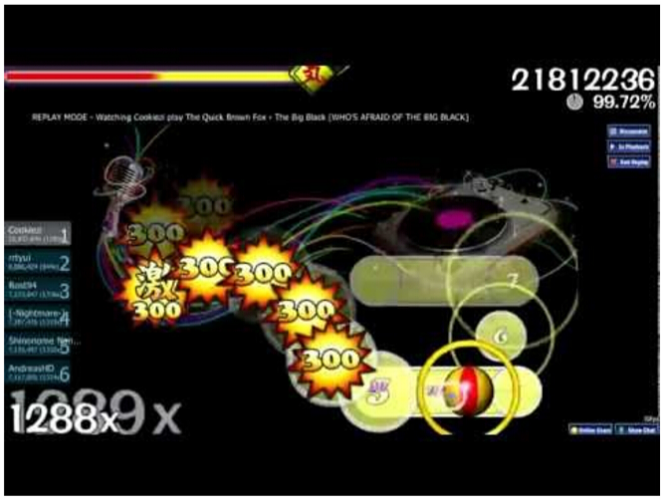
7054 Osu!



Osu! is a very popular music game. Basically, it is a game about clicking. Some points will appear on the screen at some time, and you have to click them at a correct time.

Now, you want to write an algorithm to estimate how diffecult a game is.

To simplify the things, in a game consisting of N points, point i will occur at time t_i at place (x_i, y_i), and you should click it exactly at t_i at (x_i, y_i). That means you should move your cursor from point i to point $i+1$. This movement is called a jump, and the difficulty of a jump is just the distance between point i and point $i+1$ divided by the time between t_i and t_{i+1}. And the difficulty of a game is simply the difficulty of the most difficult jump in the game.

Now, given a description of a game, please calculate its difficulty.

Input

The first line contains an integer T ($T \leq 10$), denoting the number of the test cases.

For each test case, the first line contains an integer N ($2 \leq N \leq 1000$) denoting the number of the points in the game. Then N lines follow, the i-th line consisting of 3 space-separated integers, t_i ($0 \leq t_i < t_{i+1} \leq 10^6$), x_i, and y_i ($0 \leq x_i, y_i \leq 10^6$) as mentioned above.

Output

For each test case, output the answer in one line.

Your answer will be considered correct if and only if its absolute or relative error is less than 1e-9.

Hint: In memory of the best osu! player ever Cookiezi.

Sample Input

```
2
5
2 1 9
3 7 2
5 9 0
6 6 3
7 6 0
10
11 35 67
23 2 29
29 58 22
30 67 69
36 56 93
```

```
62 42 11
67 73 29
68 19 21
72 37 84
82 24 98
```

Sample Output

```
9.2195444573
54.5893762558
```