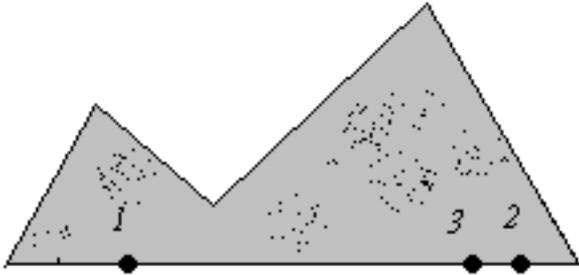# 10122   Mysterious Mountain

A group of M people is chasing a very strange ani-
mal. They believe that it will stay on a mysterious
mountain T, so they decided to climb on it and have
a loot. The mountain looks ordinary, shown below:

That is, the outline of the moutain consists of
$N+1$ segments. The endpoints of them are numbered
$0..N+1$ from left to right. That is to say, $x[i] < x[i+1]$
for all $0 \leq i \leq n$. And also, $y[0] = y[n + 1] = 0$,
$1 \leq y[i] \leq 1000$ for all $1 \leq y \leq n$.

According to their experience, the animal is most
likely to stay at one of the N endpoits numbered $1..N$.
And... funny enough, they soon discover that $M =$
N, so each of them can choose a different endpoint to seek for the animal.

Initially, they are all at the foot of the mountain. (i.e at $(s_i, 0)$) For every person i, he is planing to
go left/right to some place $(x, 0)$ (where x is an integer - they do not want to take time to work out an
accurate place) at the speed of w_i, then climb directly to the destination along a straight line(obviously,
no part of the path that he follows can be OVER the mountain - they can't fly) at the speed of c_i. They
don't want to miss it this time, so the teamleader wants the latest person to be as early as possible.
How fast can this be done?

Input

The input will contain no more than 10 test cases. Each test case begins with a line containing a
single integer $N(1leN \leq 100)$. In the following $N + 2$ lines, each line contains two integers x_i and
$y_i(0 \leq x_i, y_i \leq 1000)$ indicating the coordinate of the i-th endpoints. In the following N lines, each
line contains three intergers c_i, w_i and s_i describing a person $(1 \leq c_i < w_i \leq 100, 0 \leq s_i \leq 1000)$ - the
climbing speed, walking speed and initial position. The test case containing $N = 0$ will terminate the
input and should not be regarded as a test case.
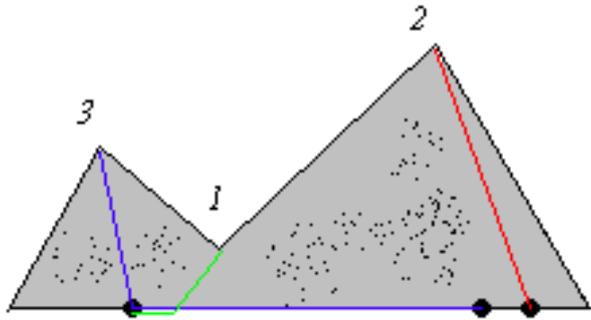
Output

For each test case, output a single line containing the least time that these people must take to complete
the mission, print the answer with two decimal places.

Note:

In this example, Person 1 goes to (5,0) and climbs
to endpoint 2, Person 2 climbs directly to endpoint
3. person 3 goes to (4,0) and climbs to endpoint 1.
Shown on the right:

Sample Input

```
3
0 0
3 4
6 1
12 6
```

The solution to the example

```
16 0
2 4 4
8 10 15
4 25 14
0
```

Sample Output

```
1.43
```