# Energy Stones

## Problem

Duda the rock monster lives in the enchanted forest and has collected **N** *energy stones* for lunch. Since he has a small mouth, he eats energy stones one at a time. Some stones are tougher than others! The i-th stone takes him $S_i$ seconds to eat.

Duda eats energy stones to get *energy*. Different stones give him different amounts of energy. Furthermore, the stones lose energy over time. The i-th stone initially contains $E_i$ units of energy and will lose $L_i$ units of energy each second. When Duda starts to eat a stone, he will receive all the energy the stone contains immediately (no matter how much time it takes to actually finish eating the stone). The stone's energy stops decreasing once it hits zero.

What is the largest amount of energy Duda could receive from eating his stones?

## Input

The first line of the input gives the number of test cases, **T**. **T** test cases follow. Each test case starts with a line containing the integer **N**, the number of energy stones Duda has. Then, there are **N** more lines, the i-th of which contains the three integers $S_i$, $E_i$ and $L_i$, as described above.

## Output

For each test case, output one line containing `Case #x: y`, where `x` is the test case number (starting from 1) and `y` is the maximum amount of energy Duda could receive from eating stones.

## Limits

Time limit: 30 seconds per test set.
Memory limit: 1GB.
$1 \le T \le 100$.
$1 \le N \le 100$.
$1 \le S_i \le 100$.
$1 \le E_i \le 10^5$.
$0 \le L_i \le 10^5$.

**Test set 1 (Visible)**

All stones take the same amount of time to eat. That is: $S_i = S_j$ for all i and j.

**Test set 2 (Hidden)**

There are no additional constraints beyond the general Limits.

## Sample

*Note: there are additional samples that are not run on submissions down below.*

<table>
<tr><td>

**Sample Input**

```
2
3
10 4 1000
10 3 1000
10 8 1000
2
10 2 0
10 3 0
```

</td><td>

**Sample Output**

```
Case #1: 8
Case #2: 5
```

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</table>

In Sample Case #1, there are **N** = 3 stones. No matter which stone Duda eats, the other two will have no energy left once he is done eating. So he should eat the third stone, giving him 8 units of energy.

## Additional Sample - Test Set 2

*The following additional sample fits the limits of Test Set 2. It will not be run against your submitted solutions.*

<table>
<tr><td>

**Sample Input**

```
2
4
20 10 1
5 30 5
100 30 1
5 80 60
2
12 300 50
5 200 0
```

</td><td>

**Sample Output**

```
Case #1: 105
Case #2: 500
```

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In Sample Case #1, there are **N** = 4 stones. One possible order Duda can eat stones is:

- Eat the fourth stone. This takes 5 seconds and gives him 80 units of energy.
- Eat the second stone. This takes 5 more seconds and gives him 5 units of energy (the second stone started with 30 energy, and over 5 seconds, has lost 25 units of energy).
- Eat the third stone. This takes 100 more seconds and gives him 20 units of energy (the third stone started with 30 energy, and over 10 seconds, has lost 10 units of energy).
- Eat the first stone. This takes 20 more seconds and gives him 0 units of energy (the first stone started with 10 units of energy, and over 110 seconds, has lost all of its energy).

This gives him 105 units of energy, which is the best he can do. So the answer is 105.

In Sample Case #2, there are **N** = 2 stones. Duda can:

- Eat the first stone. This takes 12 seconds and gives him 300 units of energy.
- Eat the second stone. This takes 5 seconds and gives him 200 units of energy (the second stone does not lose any energy over time!).

So the answer is 500.