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# Taum and B'day

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Problem

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Taum is planning to celebrate the birthday of his friend, Diksha. There are two types of gifts that Diksha wants from Taum: one is black and the other is white. To make her happy, Taum has to buy  $B$  number of black gifts and  $W$  number of white gifts.

- The cost of each black gift is  $X$  units.
- The cost of every white gift is  $Y$  units.
- The cost of converting each black gift into white gift or vice versa is  $Z$  units.

Help Taum by deducing the minimum amount he needs to spend on Diksha's gifts.

## Input Format

The first line will contain an integer  $T$  which will be the number of test cases.

There will be  $T$  pairs of lines. The first line of each test case will contain the values of integers  $B$  and  $W$ . Another line of each test case will contain the values of integers  $X$ ,  $Y$ , and  $Z$ .



## Constraints

$$1 \leq T \leq 10$$

$$0 \leq X, Y, Z, B, W \leq 10^9$$

## Output Format

$T$  lines, each containing an integer: the minimum amount of units Taum needs to spend on gifts.

## Sample Input

```
5
10 10
1 1 1
5 9
2 3 4
3 6
9 1 1
7 7
4 2 1
3 3
1 9 2
```

## Sample Output

```
20
37
12
35
12
```

## Explanation

- Sample Case #01:**  
There is no benefit to converting the white gifts into black or the black gifts into white, so Taum will have to buy each gift for 1 unit. So cost of buying all gifts will be:  $10 * 1 + 10 * 1 = 20$ .
- Sample Case #02:**  
Again, we can't decrease the cost of black or white gifts by converting colors. We will buy gifts at their original price. So cost of buying all gifts will be:  $5 * 2 + 9 * 3 = 10 + 27 = 37$ .

- *Sample Case #03:*

We will buy white gifts at their original price, **1**. For black gifts, we will first buy white one and color them to black, so that their cost will be reduced to  $1 + 1 = 2$ . So cost of buying all gifts will be:  $3 * 2 + 6 * 1 = 12$ .

- *Sample Case #04:*

Similarly, we will buy white gifts at their original price, **2**. For black gifts, we will first buy white one and color them to black, so that their cost will be reduced to  $2 + 1 = 3$ . So cost of buying all gifts will be:  $7 * 3 + 7 * 2 = 35$ .

- *Sample Case #05:* We will buy black gifts at their original price, **1**. For white gifts, we will first black gifts worth **1** unit and color them to white with another **2** units, so cost for white gifts is reduced to **3** units. So cost of buying all gifts will be:  $3 * 1 + 3 * 3 = 3 + 9 = 12$ .

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Difficulty: Easy

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Current Buffer (saved locally, editable)

C#



```

1 using System;
2 using System.Collections.Generic;
3 using System.IO;
4 using System.Linq;
5 class Solution {
6
7     static void Main(String[] args) {
8         int t = Convert.ToInt32(Console.ReadLine());
9         for(int a0 = 0; a0 < t; a0++){
10             string[] tokens_b = Console.ReadLine().Split(' ');
11             long b = Convert.ToInt64(tokens_b[0]);
12             long w = Convert.ToInt64(tokens_b[1]);
13             string[] tokens_x = Console.ReadLine().Split(' ');
14             long x = Convert.ToInt64(tokens_x[0]);
15             long y = Convert.ToInt64(tokens_x[1]);
16             long z = Convert.ToInt64(tokens_x[2]);
17
18
19             long p1 = b * x + w * y;
20             long p2 = b * (y + z) + w * y;
21             long p3 = b * x + w * (x + z);
22
23             Console.WriteLine(new long[] { p1, p2, p3 }.Min());
24         }
25     }
26 }
27

```

Line: 24 Col: 10

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☐ Test against custom input

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Congrats, you solved this challenge!

✓ Test Case #0

✓ Test Case #3

✓ Test Case #6

✓ Test Case #9

✓ Test Case #12

✓ Test Case #1

✓ Test Case #4

✓ Test Case #7

✓ Test Case #10

✓ Test Case #13

✓ Test Case #2

✓ Test Case #5

✓ Test Case #8

✓ Test Case #11

Next Challenge

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