Taum and B'day

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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 black gifts and w white gifts.

- The cost of each black gift is bc units.
- The cost of every white gift is wc 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.

For example, if Taum wants to buy $b = 3$ black gifts and $w = 5$ white gifts at a cost of $bc = 3, wc = 4$ and conversion cost $z = 1$, we see that he can buy a black gift for 3 and convert it to a white gift for 1, making the total cost of each white gift 4. That matches the cost of a white gift, so he can do that or just buy black gifts and white gifts. Either way, the overall cost is $3 * 3 + 5 * 4 = 29$.

Function Description

Complete the function taumBday in the editor below. It should return the minimal cost of obtaining the desired gifts.

taumBday has the following parameter(s):

- b: the number of black gifts
- w: the number of white gifts
- bc: the cost of a black gift
- wc: the cost of a white gift
- z: the cost to convert one color gift to the other color

Input Format

The first line will contain an integer t, the number of test cases.

The next t pairs of lines are as follows:

- The first line contains the values of integers b and w.
- The next line contains the values of integers bc, wc, and z.

Constraints

$1 \leq t \leq 10$

$0 \leq b, w, bc, wc, z \leq 10^9$

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

- Test Case #01:
  Since black gifts cost the same as white, there is no benefit to converting the gifts. Taum will have to buy each gift for 1 unit. The cost of buying all gifts will be: $b * bc + w * wc = 10 * 1 + 10 * 1 = 20$.
- Test Case #02:
  Again, we can't decrease the cost of black or white gifts by converting colors. z is too high. We will buy gifts at their original prices, so the cost of buying all gifts will be: $b * bc + w * wc = 5 * 2 + 9 * 3 = 10 + 27 = 37$.
- Test Case #03:
  Since $bc > wc + z$, we will buy $b + w = 3 + 6 = 9$ white gifts at their original price of 1. $b = 3$ of the gifts must be black, and the cost per conversion, $z = 1$. Total cost is $9 * 1 + 3 * 1 = 12$.
- Test Case #04:
  Similarly, we will buy $w = 7$ white gifts at their original price, $wc = 2$. For black gifts, we will first buy white ones and color them to black, so that their cost will be reduced to $wc + z = 2 + 1 = 3$. So cost of buying all gifts will be: $7 * 3 + 7 * 2 = 35$.
- Test Case #05: We will buy black gifts at their original price, $bc = 1$. For white gifts, we will first black gifts worth $bc = 1$ unit and color them to white for $z = 2$ units. The cost for white gifts is reduced to $wc = bc + z = 2 + 1 = 3$ units. The cost of buying all gifts will be: $3 * 1 + 3 * 3 = 3 + 9 = 12$.

Change Theme C

```
1  #include <assert.h>
2  #include <ctype.h>
3  #include <limits.h>
4  #include <math.h>
5  #include <stdbool.h>
```

```
#include <stddef.h>
#include <stdint.h>
#include <stdio.h>
#include <stdlib.h>
#include <string.h>

char* readline();
char* ltrim(char*);
char* rtrim(char*);
char** split_string(char*);

int parse_int(char*);

/*
 * Complete the 'taumBday' function below.
 *
 * The function is expected to return a LONG_INTEGER.
 * The function accepts following parameters:
 *  1. INTEGER b
```

Line: 22 Col: 1

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Next Challenge

Test case 0
Test case 1
Test case 2
Test case 3
Test case 4
Test case 5
Test case 6

Compiler Message

Success

Input (stdin) Download

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