Problem D - Divisors

Let us define the functions $d(n)$ and $\sigma(n)$ as

$$d(n) = \text{number of divisors of } n$$

$$\sigma(n) = \text{summation of divisors of } n$$

Here divisors of n include both 1 and n. For example divisors of 6 are 1, 2, 3 and 6. So $d(6) = 4$ and $\sigma(6) = 12$

Now let us define two more function $g(a,b,k)$ and $h(a,b,k)$ as

$$g(a,b,k) = \sum_i d(i)$$

$$h(a,b,k) = \sum_i \sigma(i)$$

Where $a \leq i \leq b$ and i is divisible by k.

For example, $g(5,12,3) = d(6) + d(9) + d(12) = 4 + 3 + 6 = 13$ and $h(5,12,3) = \sigma(6) + \sigma(9) + \sigma(12) = 12 + 13 + 28 = 53$. Given a,b,k you have to calculate g(a,b,k) and h(a,b,k).

Input

The first line of the input file contains an integer T (T ≤ 75) which denotes the total number of test cases. The description of each test case is given below:

Three integers in a line. First integer is contains a, second integer is b and third integer is k. You may assume $0 < a \leq b \leq 10^5$, $0 < k < 2000$.

Output

For each test case print one line containing g(a,b,k) and h(a,b,k) separated by a space as defined above.

Sample Input

```
2
5 12 3
1 100 3
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Sample Output

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13 53
217 3323
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Next Generation Contest 6