Project Euler #71: Ordered fractions

Consider the fraction, $\frac{a}{b}$, where a and b are positive integers. If $a < b$ and $GCD(a, b) = 1$, it is called a reduced proper fraction.

If we list the set of reduced proper fractions for $d \leq 8$, (where d is the denominator) in ascending order of size, we get:

$$\frac{1}{8}, \frac{1}{7}, \frac{1}{6}, \frac{1}{5}, \frac{1}{4}, \frac{2}{7}, \frac{1}{3}, \frac{3}{8}, \mathbf{\frac{2}{5}}, \frac{3}{7}, \frac{1}{2}, \frac{4}{7}, \frac{3}{5}, \frac{5}{8}, \frac{2}{3}, \frac{5}{7}, \frac{3}{4}, \frac{4}{5}, \frac{5}{6}, \frac{6}{7}, \frac{7}{8}$$

It can be seen that $\frac{2}{5}$ is the fraction immediately to the left of $\frac{3}{7}$.

By listing the set of reduced proper fractions for $d \leq N$ in ascending order of size, find the numerator and denominator of the fraction immediately to the left of $\frac{a}{b}$.

Input Format

First line of input contains an integer T, number of test cases.
Next T lines contain a b N separated by space.

Constraints

$1 \leq T \leq 100$
$1 \leq a < b <= 10^9$
$GCD(a, b) = 1$
$b < N <= 10^{15}$

Output Format

Print the numerator and denominator separated by a space corresponding to each test case on a new line.

Sample Input

```
5
3 7 8
3 5 8
4 5 8
6 7 8
1 5 8
```

Sample Output

```
2 5
4 7
3 4
```

```
5 6
1 6
```