

Misunderstanding

Sara was worried about **Harris** and **Nimra** because of issues between them. Nimra decide to resolve the issues between them and decided to make a plan.

As **Harris** find himself comfortable with mathematics and loves peoples who give him difficult mathematical scenario, for this **Sara** make an interesting mathematical problem and give it to **Nimra**. **Sara** asks **Nimra** to challenge on this. The problem is to find the value of the given expression:

$$\sum_{\text{prime} \leq p} \sum_{i=1}^n \sum_{j=1}^{\text{floor}(n/i)} \Phi(\text{prime} * j)$$

As **Sara** does not know how to solve the problem, your task is to help Sara so, that they verify the Harris submission.

floor(x): the greatest integer that is less than or equal to x. Φ is the Euler Totient Function.

Note: Since the answer can be very large, you need to print answer modulo 10^9+7 .

Input Format

First line contains the number of test cases **t**. Next t lines contain two space separated integers **p** and **n**

Constraints

$$1 \leq t \leq 5 \quad 1 \leq p \leq 10^6 \quad 1 \leq n \leq 10^{10}$$

Output Format

For each testcase, print a single line containing the required sum.

Sample Input 0

```
2
2 3
3 5
```

Sample Output 0

```
7
51
```

Explanation 0

The only prime ≤ 2 is 2 itself. Given $\Phi(2*1)+\Phi(2*2)+\Phi(2*3)+\Phi(2*1)+\Phi(2*1) = (1+2+2+1+1) = 7$.