

Lucky Numbers



A number is called lucky if the sum of its digits, as well as the sum of the squares of its digits is a prime number. How many numbers between A and B(both inclusive) are lucky?

Lucky numbers are not to be confused with [Lucky Numbers](#)

Input Format

The first line contains the number of test cases T. Each of the next T lines contains two integers, A and B.

Constraints

- $1 \leq T \leq 10^4$
- $1 \leq A \leq B \leq 10^{18}$

Output Format

Output T lines. Each line contains the required answer for the corresponding test case.

Sample Input

```
2
1 20
120 130
```

Sample Output

```
4
1
```

Explanation

For the first case, the lucky numbers are 11, 12, 14, 16.

For the second case, the only lucky number is 120.