

Problem

Result



Passing the Number

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Harshit is given a number 'n'. He has to calculate the happiness of this number. The happiness value is defined as: Harshit will take product of all the non-zero digits of number 'n' and multiply all of them and receive another number. He recursively performs this operation till this number gets less than 10. In short, the happiness of a number can be only less than 10 i.e. in the range 1 to 9 (both included).

He will receive 'q' queries. Each query will have a range of numbers 'l' to 'r' and an integer 's'. He has to tell the count of numbers in the range having the happiness equal to 's'.

Input Format:

First line will have an integer 'q' denoting the number of queries Harshit will receive.

Next 'q' lines will have three space separated integers 'l', 'r', and 's' denoting the range of numbers and the happiness required respectively.

Constraints:

 $1 \leq q \leq 10^5$ $1 \leq l \leq r \leq 10^6$

```
1 #include<bits/stdc++.h>
2 using namespace std;
3 int main()
4 {
5
6     return 0;
7 }
8
```

Problem Result

Constraints:

$1 \leq q \leq 10^5$
 $1 \leq l \leq r \leq 10^6$
 $1 \leq s \leq 9$

Output Format:

Print 'q' lines, each denoting the count of numbers in range having happiness equal to 's'.

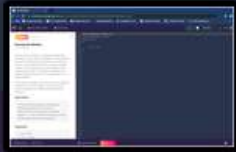
Sample Input:

4
22 73 9
45 64 6
47 55 7
2 62 4

Sample Output:

1
4
0
8

```
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2 using namespace std;
3 int main()
4 {
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7 }
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ProblemResult

Sample Output:

```
1
4
0
8
```

Explanation:

In 1st query, only 33 (happiness=9) satisfies.
In 2nd query, 47, 48, 60, 61 (happiness=6) satisfies.
In 3rd query, no integer in range satisfies.
In 4th query, 4, 14, 22, 27, 39, 40, 41, 58 (happiness=4) satisfies.

Note:

Calculating happiness of 39:
39 -> 27 -> 14 -> 4
Happiness = 4

```
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```