

## NOSQ - No Squares Numbers

*no tags*

A square free number is defined as a number which is not divisible by any square number.

For example,

13, 15, 210 are square free numbers, where as 25 (divisible by  $5*5$ ), 108 (divisible by  $6*6$ ), 18 (divisible by  $3*3$ ) are not square free numbers.

However number 1 is not considered to be a square and is a squarefree number.

Now you must find how many numbers from number a to b, are square free and also have a digit d inside it.

For example for in the range 10 to 40 the squarefree numbers having digit 3 are

13, 23, 30, 31, 33, 34, 35, 37, 38, 39

### Input

The first line contains an integer T, which is the number of test-cases

Then follow T lines, each containing 3 integers a, b and d.

$1 \leq T \leq 20,000$

$1 \leq a \leq b \leq 100,000$

$0 \leq d \leq 9$

### Output

Print one integer which is the required number as described in the problem statement.


## Example

### Input:

```
3
10 40 3
1 100 4
1 100000 7
```

### Output:

```
10
9
26318
```

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saurabh jain (/users/saurabh3240): 2016-09-14 23:52:22  
nice problem



Govind Lahoti (/users/govind\_lahoti): 2015-12-16 07:11:49  
nice problem :)



Rishabh Joshi (/users/rishabh\_\_joshi): 2015-06-13 21:11:55  
Really nice trick to optimize time.  
Nice problem!



.:Mohib.: (/users/d14214): 2015-06-11 21:31:14  
Just need a better data structure....  
Ac in one go ;)



kartikay singh (/users/kart123): 2015-06-03 12:44:02  
Nice problem (y)



Sahil Sharma (/users/sahiliitm): 2015-05-15 16:16:17  
Weird thing just happened. Same solution gets AC in c++4.3 and gets Seg fault in c++ 4.9 :-O Anyone knows why?



karan (/users/karankapoor): 2015-04-22 13:58:57  
nice problem :)



Ashish Sareen (/users/aksareen): 2015-03-15 18:27:44  
good one... taught me a different approach than standard :-D




ROHAN GULATI (/users/rohangulati92): 2014-11-27 03:03:56

Should the bounds (a,b) be included in the answer?




Bharath Reddy (/users/bharath270392): 2014-09-25 05:20:57

A harder variation of this problem: SQFREE

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Added by:     :: Pratik :: (/users/pt1989)  
Date:         2011-03-07  
Time limit:    0.745s  
Source limit:   50000B  
Memory limit:  1536MB  
Cluster:       Cube (Intel G860) (/clusters/)  
Languages:     All except: ASM64

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