Find Digits ★

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Problem Solving ★★★★★

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An integer d is a divisor of an integer n if the remainder of $n \div d = 0$.

Given an integer, for each digit that makes up the integer determine whether it is a divisor. Count the number of divisors occurring within the integer.

Example

$n = 124$

Check whether 1, 2 and 4 are divisors of 124. All 3 numbers divide evenly into 124 so return 3.

$n = 111$

Check whether 1, 1, and 1 are divisors of 111. All 3 numbers divide evenly into 111 so return 3.

$n = 10$

Check whether 1 and 0 are divisors of 10. 1 is, but 0 is not. Return 1.

Function Description

Complete the findDigits function in the editor below.

findDigits has the following parameter(s):

- int n: the value to analyze

Returns

- int: the number of digits in n that are divisors of n

Input Format

The first line is an integer, t, the number of test cases.

The t subsequent lines each contain an integer, n.

Constraints

$1 \leq t \leq 15$

$0 < n < 10^9$

Sample Input

```
2
12
1012
```

Sample Output

```
2
3
```

Explanation

The number 12 is broken into two digits, 1 and 2. When 12 is divided by either of those two digits, the remainder is 0 so they are both divisors.

The number **1012** is broken into four digits, **1**, **0**, **1**, and **2**. **1012** is evenly divisible by its digits **1**, **1**, and **2**, but it is not divisible by **0** as division by zero is undefined.

Change Theme Language Python 3

```
import os
import random
import re
import sys

#
# Complete the 'findDigits' function below.
#
# The function is expected to return an INTEGER.
# The function accepts INTEGER n as parameter.
#

def findDigits(n):
    # Write your code here
    count = 0
    s = str(n)
    for i in s:
        i = int(i)
        if i == 0:
            continue
        if n % i == 0:
            count += 1
    return count

if __name__ == '__main__':
    fptr = open(os.environ['OUTPUT_PATH'], 'w')

    t = int(input().strip())

    for t_itr in range(t):
        n = int(input().strip())

        result = findDigits(n)

```

EMACS Line: 26 Col: 17

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Problem Solving

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Test case 0

Test case 1

Compiler Message

```
Success
```

Input (stdin) Download

```
2
12
1012
```

Expected Output Download

```
2
3
```