NPTEL (https://swayam.gov.in/explorer?ncCode=NPTEL) » Introduction to Programming in C (course)

Announcements (announcements)

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A8-Q2

Due on 2019-09-28, 23:59 IST
You are given a non-negative number less than or equal to 100000000 (1 followed by 8 zeroes). You have to divide the number into the following components, and print them in the following order.

1. The part of the number which is less than a thousand.
2. The part of the number which is between a thousand and a lakh
3. The part of the number which is between a lakh and a crore

and so on. You should terminate printing when no higher power of 10 is present to be printed.

For example, suppose the input number is

134847

Then the output should be

847
34
1

The question can be done with or without using arrays.

Hint: Using % (that is, the modulo operator) and / (the division operator on integers) is helpful in solving this question.

### Sample Test Cases

<table>
<thead>
<tr>
<th>Input</th>
<th>Output</th>
</tr>
</thead>
<tbody>
<tr>
<td>987654</td>
<td>654</td>
</tr>
<tr>
<td></td>
<td>87</td>
</tr>
<tr>
<td></td>
<td>9</td>
</tr>
<tr>
<td>1001</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>1</td>
</tr>
</tbody>
</table>
Test Case 3

| Number | Digit 1 | Digit 2 \\
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>1031</td>
<td>31</td>
<td>1</td>
</tr>
</tbody>
</table>

Test Case 4

<table>
<thead>
<tr>
<th>Number</th>
<th>Digit 1</th>
<th>Digit 2</th>
<th>Digit 3</th>
<th>Digit 4</th>
</tr>
</thead>
<tbody>
<tr>
<td>1000000</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>1</td>
</tr>
</tbody>
</table>

Test Case 5

<table>
<thead>
<tr>
<th>Number</th>
<th>Digit 1</th>
<th>Digit 2</th>
<th>Digit 3</th>
</tr>
</thead>
<tbody>
<tr>
<td>134847</td>
<td>847</td>
<td>34</td>
<td>1</td>
</tr>
</tbody>
</table>

The due date for submitting this assignment has passed.
As per our records you have not submitted this assignment.

Sample solutions (Provided by instructor)

```c
#include <stdio.h>

int main()
{
    int n; /* the upper limit is lower than the max int value, so no checks needed */
    int divisor;
    scanf("%d", &n);
    divisor=1000;
    printf("%d\n", n % divisor);
    n = n/divisor;
    divisor=100;
    while ( n != 0 ){
        printf ( "%d\n", n % divisor );
        n = n/divisor;
    }
    return 0;
}
```