

Incrementing an array

Introduction

Your task would be to write a function and test code for functionality which will increment a 4 digit number representation by one, as specified below. Each digit of the four digit number is represented by one integer in an array of four values:

```
int number[4] = {0, 0, 0, 0};
```

where:

- number[0] is most significant digit in number.
- number[3] is least significant digit in number.
- One could say that this number can be decoded like this:

```
int value = 1000 * number[0] +  
            100 * number[1] +  
            10 * number[2] +  
            1 * number[3]
```

Number representation:

For example array of four integers [0, 3, 4, 1] represents number 341. Leading zeros are irrelevant.

Objective

1. Implement function inc_number(number).
 - a. Propose optimal solution implementation where 'optimal' is your understanding of well performing code.
 - b. **Do not use functions like sprintf, sscanf** for algorithm implementation. Please only manipulate on number & output table elements.
 - c. You can use sprintf, sscanf for your test code.
2. Write test code for all possible number inputs which will check if your solution is working correctly.
3. Please put attention to detail, comment your code, properly indent your code and use elegant coding style.
4. Please implement in C or C++.

If you have any questions before you begin, please contact us!