

Increment Large Number Array Representation

Problem Description:

Given a large number represented as an array of digits, where each digit is stored in an individual element, increment the number by 1 and return the resulting array.

Python Code:

```
def increment_number(digits):  
    n = len(digits)  
  
    for i in range(n - 1, -1, -1):  
        if digits[i] < 9:  
            digits[i] += 1  
            return digits  
        digits[i] = 0  
  
    return [1] + digits  
  
# Test cases  
  
print(increment_number([1, 2, 3])) # Output: [1, 2, 4]  
print(increment_number([4, 3, 2, 1])) # Output: [4, 3, 2, 2]  
print(increment_number([9])) # Output: [1, 0]
```

Explanation:

1. Start from the last digit and try to add 1.
2. If the digit is not 9, increment it and return the array.
3. If it is 9, set it to 0 and move to the previous digit.

4. If all digits are processed and a carry remains, prepend 1 to the array.