Day 1 Div C. Dynamic Programming

9 Mar 2019, 20:45:29
start: 9 Mar 2019, 17:00:00
finish: 9 Mar 2019, 21:00:00
till the end: 00:14:28
start: 9 Mar 2019, 17:00:00
end: 9 Mar 2019, 21:00:00
duration: 04:00:00

B.

Compiler	Time limit	Memory limit	Input	Output
All compilers	1 second	64Mb	standard input or input.txt	standard output or output.txt
Python 3.2	5 seconds	128Mb		
Python 2.7	5 seconds	128Mb		
Python 3.4.3	5 seconds	128Mb		

A calculator can do the following operations:

- to multiply x by 2;
- to multiply x by 3;
- to increment x (i.e. to add 1 to x).

Find the minimal number of operations to transform 1 to N.

Input format

The first line contains integer N ($1 \le n \le 10^6$).

Output format

Print the minimal number of operations to the first line. Print the sequence of numbers on the screen of the calculator in the optimal transformation: the first printed number should be 1, the last should be N. If there are multiple such sequences, print any of them.

Sample 1

Input	Output
1	0 1

Sample 2

Input	Output
5	3 1 3 4 5

Language GNU c11 4.9

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```
//CMU Qatar: Sparta
//INteractive number search
#include<stdio.h>
#include<string.h>

int problem1H(int index, int len,int check)
{
    if (index == len)
        return 1;
    if (check)
    {
        return problem1H(index +1 ,len,0);
    }
    else
    {
        return problem1H(index +1 ,len,1) + problem1H(index +1 ,len,0);
    }
}

void problem2()
{
    int n,count = 0;
    scanf("%d",&n);
    int temp = n;
    int op[n];
    while(n>1)
    {

            if(!((n-1) % 3))
            {
                op[count++] = n-1;
                //printf("%s %d\n","Herte",n);
                op[count++] = (n-1)/3;
                n = n/3;
            }
            else if(!(n%3))
            {
                op[count++] = n/3;
```

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