

Problem L. Harmonic Number (II)

Time limit 2000 ms

Mem limit 65536 kB

I was trying to solve problem [1234. - Harmonic Number](#), I wrote the following code

```
long long H( int n ) {  
    long long res = 0;  
    for( int i = 1; i <= n; i++ )  
        res = res + n / i;  
    return res;  
}
```

Yes, my error was that I was using the integer divisions only. However, you are given n , you have to find $H(n)$ as in my code.

Input

Input starts with an integer T (≤ 1000), denoting the number of test cases.

Each case starts with a line containing an integer n ($1 \leq n < 2^{31}$).

Output

For each case, print the case number and $H(n)$ calculated by the code.

Sample

Input	Output
11	Case 1: 1
1	Case 2: 3
2	Case 3: 5
3	Case 4: 8
4	Case 5: 10
5	Case 6: 14
6	Case 7: 16
7	Case 8: 20
8	Case 9: 23
9	Case 10: 27
10	Case 11: 46475828386
2147483647	