Phitron io

5:21 PM

Test case 3 for problem D of Recap Contest:

Input

536870911 (=2^29 – 1) 2^28= 268435456 + rem= 268435455

2^29= 536870912

Output

29

.....

Input

343000816 2^28= 26,84,35,456 + rem= 7,45,65,360

2^27= 13,42,17,728

2^26= 6,71,08,864

Output

14