

Equation 2

Problem Statement:

Alim is a good programmer in his class. But this time he face a big problem . He couldn't find the power of the equation in **C** language. The equation is :

$$3*(2^{(X+4)}) = P$$



I know you are also a good programmer so can you find the value of **X** ?

Input

Input starts with a integer **T** ($0 < T < 1000$) that indicates a number of test cases. Each test line contains an integer **P** ($96 \leq P < 10^{19}$) that indicates the value of **P**.

Output

Print the case number and the value of **X** in this equation . Don't print the fraction value ceil the value if the fraction value > 0.49 . See the sample input/output for exact formatting.

Sample Input/Output:

Sample Input	Sample Output
3	Case 1: 1
96	Case 2: 3
288	Case 3: 13
450795	

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