

1278 - Sum of Consecutive Integers

Given an integer N , you have to find the number of ways you can express N as sum of consecutive integers. You have to use at least two integers.

For example, $N = 15$ has three solutions, $(1+2+3+4+5)$, $(4+5+6)$, $(7+8)$.

Input

Input starts with an integer T (≤ 200), denoting the number of test cases.

Each case starts with a line containing an integer N ($1 \leq N \leq 10^{14}$).

Output

For each case, print the case number and the number of ways to express N as sum of consecutive integers.

Sample Input	Output for Sample Input
5	Case 1: 1
10	Case 2: 3
15	Case 3: 1
12	Case 4: 2
36	Case 5: 47
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